

PRESS RELEASE

Delhi's air quality early warning system could forecast 'Very Poor and Above' pollution episodes with over 80% accuracy: CEEW

- ◆ *Delhi's AQEWS predicted AQI >300 episodes ~80% of the time.*
- ◆ *'Severe' AQI >400 forecasts improved in 2024–25.*
- ◆ *Updated emission inventories, all-season DSS, and open-access air pollution data are crucial.*

New Delhi, 1 October 2025: Delhi could forecast its **'very poor and above' air pollution days with over 80 per cent accuracy** in winter months (October-February) in 2023-24 and 2024-25, according to a new independent study released today by the Council on Energy, Environment and Water (CEEW). The CEEW study finds that the city's Air Quality Early Warning System (AQEWS) could predict 83 out of 92 'very poor and above' episodes (AQI >300) in winter 2023-24 and 54 out of 58 such episodes in 2024-25. Accurate forecasts empower policymakers, authorities, and citizens to act early—on actions such as transport and construction restrictions, and school activities—and safeguard public health.

The CEEW study, ***How Well Can Delhi Predict Air Quality? Insights for India's Decision Support Systems*** further finds that the system's ability to predict the most **severe days (AQI >400) improved nearly five-fold in 2024–25**, from only 1 of 15 days in 2023–24 to 5 of 14 days.

Dr Mohammad Rafiuddin, Programme Lead, CEEW, said, "India has made important strides under the National Clean Air Programme, with better monitoring networks and early warning systems now operational in several Indian cities. Forecasts and attribution science mean little unless they trigger timely, sector-proportionate action. The high accuracy of Delhi's early warning systems is a positive sign. Updated emission inventories can improve the accuracy further. It would enable us to have a better understanding of what pollutes Delhi's air and in what quantities. India must scale up these systems with science, funding, and transparency. Doing so will not only strengthen public trust but also ensure that Delhi's Mitigation Plan 2025 is backed by the best available evidence."

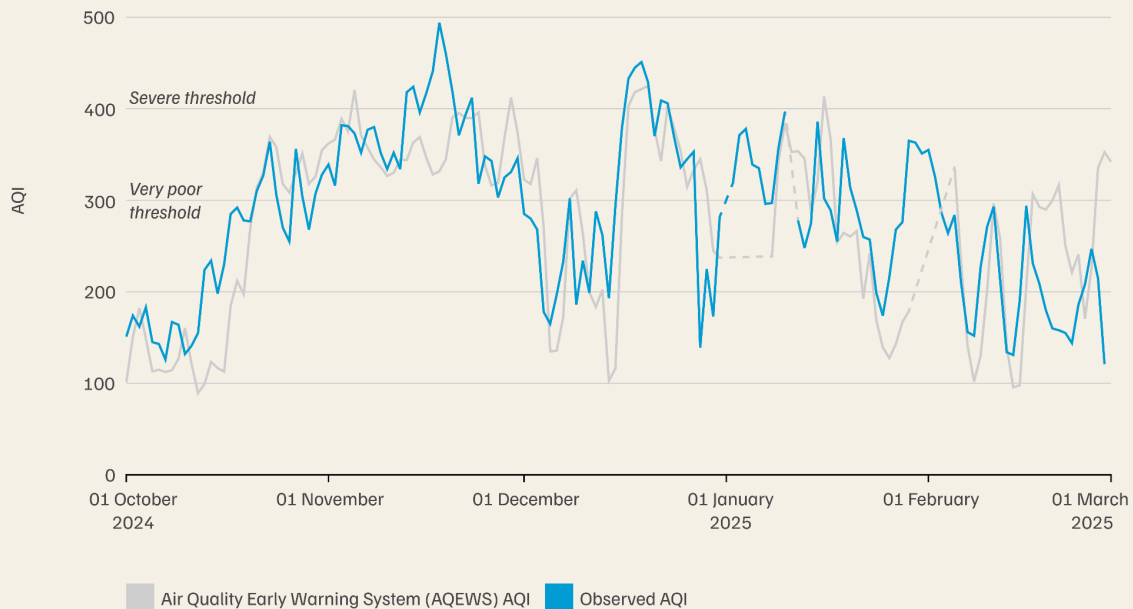
Eight Indian cities, including Ahmedabad, Pune, and Jaipur, already run an Air Quality Early Warning System (AQEWS), with several more set to be established under the National Clean Air Programme (NCAP) in the coming years. In 2018, after severe smog and dust storms in Delhi, the Ministry of Earth Sciences (MoES) launched the AQEWS, run by IITM and IMD, to provide forecasts three to ten days ahead. Following this, IITM and IMD introduced a Decision Support System (DSS) in 2021 to attribute sectoral and regional pollution sources to the predicted pollution levels.

The CEEW study found that these tools already meet many benchmarks of an effective Air Quality Decision Support System by integrating diverse datasets and presenting them in accessible formats. However, Delhi's DSS currently operates only in winter, limiting its usefulness for tracking pollution sources throughout the year. To be fully effective, it should run year-round and incorporate modelling scenarios, such as the impact of restricting certain vehicle types or the potential air quality improvements from enhanced public transportation.

The CEEW study recommends a systemic upgrade of Delhi's forecasting tools and a roadmap for national replication. India must develop a national emission inventory updated every 2–3 years. Public access to data would build citizen trust and enable researchers to carry out independent assessments. With targeted investment in high-resolution modelling and computing, Delhi's AQEWS and DSS could shift from predicting poor air quality to actively preventing it.



Delhi's AQEWS could predict most 'very poor and above' air pollution days in winter 2024-25



Source: How Well Can Delhi Predict Air Quality? Insights for India's Decision Support Systems
 Note: Dashed lines indicate missing data

Limitations: The study relied on data scraped from the AQEWS portal. Data gaps existed for certain periods, and this should be accounted for when interpreting results.

Read the full study, 'How Well Can Delhi Predict Air Quality? Insights for India's Decision Support Systems' by Sneha Maria Ignatious and Mohammad Rafiuddin [here](#).

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About CEEW

The [Council on Energy, Environment and Water \(CEEW\)](#) — a homegrown institution with headquarters in New Delhi — is among the **world's leading climate think tanks**. The Council is also often ranked among the **world's best-managed and independent think tanks**. It uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research and strives to **impact sustainable development at scale** in India and the Global South. In over 14 years of operation, CEEW has impacted over 400 million lives and engaged with over 20 state governments. Follow us on X (formerly Twitter) [@CEEWIndia](#) or on LinkedIn for the latest updates.