

Empowering Citizen Scientists: A Collaborative Effort to Combat Air Pollution in Gurugram



Air Quality Monitoring Sensor (IoT)

In a collaborative effort to address air pollution and greenhouse gas (GHG) emissions in Gurugram, Development Alternatives, in partnership with UNDP-India and the Gurugram Metropolitan Development Authority (GMDA), conducted a comprehensive training program for citizen scientists in Gurugram. Held at the Haryana Training Research Institute, Nature Camp Bhondsi, the event aimed to empower local residents with the knowledge and tools to monitor and mitigate air pollution in their community.

This training initiative is a crucial step towards enhancing citizens' understanding of air pollution and their role in monitoring and mitigating its effects. The project seeks to foster a community-driven approach to tackling air pollution by equipping locals with low-cost air quality sensors and a user-friendly app for real-time data collection and visualisation. The sensors measure key pollutants, including PM10, PM2.5, NO₂, CH₄, CO, and CO₂.

Participants began the day with registration, followed by tea, providing an opportunity for networking and initial discussions about the day's agenda. Dr. Arun Kumar from UNDP India delivered the welcome note, setting the stage for the day's training activities and emphasising the importance of community involvement in environmental monitoring.

The session officially started with a detailed presentation by Development Alternatives, covering the basics of air pollution and an overview of the air quality mapping exercise. This presentation laid the groundwork for the practical aspects of the training, ensuring that participants had a solid understanding of the topic.



In frame - Left to Right - Dr. Sandeep Shukla (Assistant Professor, Gurugram University), Dr. Soumen Maity, DA, Mr. Subhash Yadav, IFS (Chairman, GMDA), Dr. Arun Yadav (Project Coordinator, UNDP-India)

Shri Subhash Yadav, IFS, Additional Chief Executive Officer of the Urban Environment Division at GMDA, shared his insights through a detailed presentation on the various environmental issues faced in Gurugram. His address highlighted the local government's initiatives and the collaborative efforts required to tackle air pollution and other environmental issues effectively.

Ishani Sachdeva from Development Alternatives continued the session with an introduction to air pollution, its sources, and its effects. She elaborated on the critical role that citizen scientists can play in air quality monitoring, emphasising the importance of accurate data collection.

Mr. Saurabh Srivastava from Airshed conducted a demonstration of the air quality sensors. Participants were shown how to handle and operate the devices effectively. This was followed by a small exercise on using the app for data collection, ensuring that attendees were well-prepared for practical implementation.

Development Alternatives provided essential guidelines on data collection, emphasising data privacy and photography ethics. This session ensured that participants were aware of the ethical considerations involved in their work as citizen scientists.

The event concluded with closing remarks from Dr. Soumen Maity, Associate Vice President of Development Alternatives, marking the beginning of a new phase in local air quality monitoring efforts.

The training program marks a pivotal moment in community-led environmental monitoring. By transforming volunteers into citizen scientists equipped with the skills and tools for hyperlocal air pollution mapping, this initiative fosters a collaborative effort to map and improve air quality. This initiative emphasises the power of citizen science, where local knowledge and participation are crucial in identifying and addressing pollution hotspots. By involving community members directly in scientific research, the program ensures that science is guided by those who experience its impact firsthand. This approach not only raises awareness about air pollution but also empowers residents to take informed action, playing an essential role in shaping scientific decisions and improving environmental health.



A group photo of all the participants post the workshop