Confederation of Indian Industry

PASCHEEM

CII WESTERN REGION MAGAZINE | VOLUME 12 | NO. 02 | JUNE 2024

LAUNCH OF THE CENTRE OF EXCELLENCE ON SKILLS: THE CII RAHUL BAJAJ INSTITUTE, PUNE

Action for a Healthier Future: Collaborating to Combat Air Pollution

Air quality management is a challenge that requires a multi-stakeholder approach for developing innovative solutions. CII's national initiative, Cleaner Air-Better Life, by leveraging the expertise and resources of Academia & Industry, along with the support of Civil Society and Government, has the potential to drive significant improvements in air quality and at the same time, build collaborative frameworks for a sustainable and healthier future.

The air we breathe is far from pristine. Every year, depleting air quality claims nearly 7 million lives[1] worldwide, making it the world's biggest environmental health risk. The World Health Organization estimates that 99 per cent[2] of the world's population lives in areas exceeding safe air quality limits, costing a total of USD 8.1 trillion a year, or 6.1 per cent of global GDP[3].

Poor air quality impacts not just human health but also disrupts economies, affects agricultural yields & ecosystem services, and contributes to climate change. It is a formidable challenge for both people and Industry, negatively affecting productivity, exacerbating diseases, and imposing staggering economic costs.

As per the CII-Clean Air Fund assessment, the economic burden of air pollution in India is substantial, costing the nation 3.5 per cent of its GDP annually[4] . The business landscape suffers immensely, with lower labor productivity, dwindling consumer footfall, employee absenteeism, and higher healthcare costs leading to a colossal loss of USD 95 billion (INR 7 lakh crore) annually[5].

The Government of India, recognizing this critical issue, launched a dedicated programme, National Clean Air Programme (NCAP) in 2019. The long-term, time-bound initiative targets a significant reduction in particulate matter (PM_{10}) concentrations, aiming for a 20 – 40 per cent decline by 2024-2026, based on 2017 levels, across 131 cities.

To achieve these targets, NCAP allocates critical financial resources to city-specific Clean Air Action Plans (CAPs), which focus on local sources of air pollution such as construction dust, vehicle emissions, and industrial pollution. By tailoring solutions to the unique challenges of each city, NCAP ensures a targeted and effective approach to improving air quality.

CII's Collective Initiative for Cleaner Air

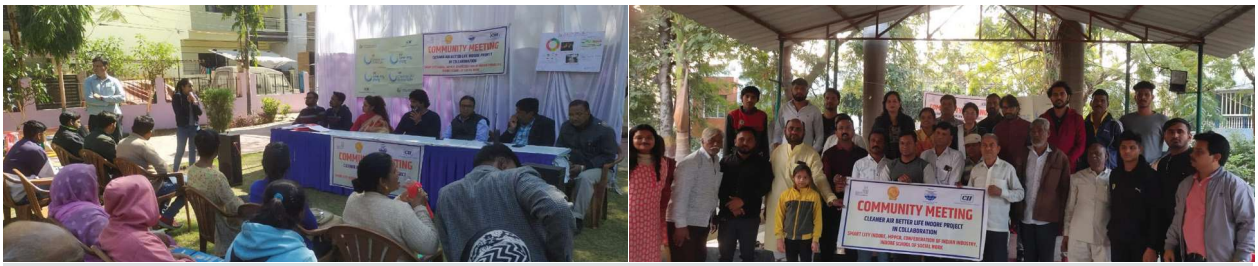
The CII-ITC Centre of Excellence for Sustainable Development (CESD) is the ecosystem creator for sustainable development in India. As an 18-year-old industry-led institution within CII, the Centre drives sustainable, environmental, inclusive and climate friendly transformation among stakeholders through research, data-driven digital tools, frameworks, collaborative initiatives, and capacity development.

CESD, through various collective efforts, attempts to ensure air quality management for a healthier today and for more prosperous future. The national initiative, CII - Cleaner Air Better Life (CII-CABL), demonstrates the crucial role of collaborations for the successful implementation of innovative clean air interventions and effective pollution reduction strategies. Anchored at CESD, the initiative has developed and implemented unique interventions such as the City Air Quality Management (CAQM) and the Crop Residue Management (CRM) programme.

Strengthening Air Quality Monitoring

In Indore, the Industry-led multi-stakeholder initiative focuses on deploying effective solutions, building long-term capacity, and providing science-based evidence for proactive action on clean air by the Indore Municipal Corporation (IMC). The project is working towards developing an efficient and cost-effective air quality monitoring technique, by leveraging machine learning model to provide insights basis data from air quality sensors and satellite.

Through this solution, the Centre is able to provide micro level insights on air quality, which in turn, enables IMC to make data-driven decisions, identify pollution hotspots, track progress, and adjust strategies as needed, thereby facilitating a targeted and effective fight against air pollution.



Community engagement activities: zonal meetings (right) and capacity building workshop (left) for residents of Indore

To identify local pollution sources, a survey involving 5,000 citizens was conducted across the city. Basis the citizen survey, motor vehicles & traffic (30 per cent) and construction activities (22 per cent) were identified as the most significant local sources of air pollution. The data also highlighted that majority prefer clean fuel for cooking, with LPG being the most popular choice (74 per cent), followed by induction cooktops (11 per cent) and electric heaters (5 per cent). Engaging for the survey also helped raise awareness within the community.

The multi-stakeholder project is a collaborative initiative by the Indore Smart City Development Office; Madhya Pradesh Pollution Control Board; Indian Institute of Technology-Delhi; Indore School of Social Work; California Air Resource Board and Air Voice. The project's 50 real-time air quality sensors deployed across the city share continuous data on $PM_{2.5}$.

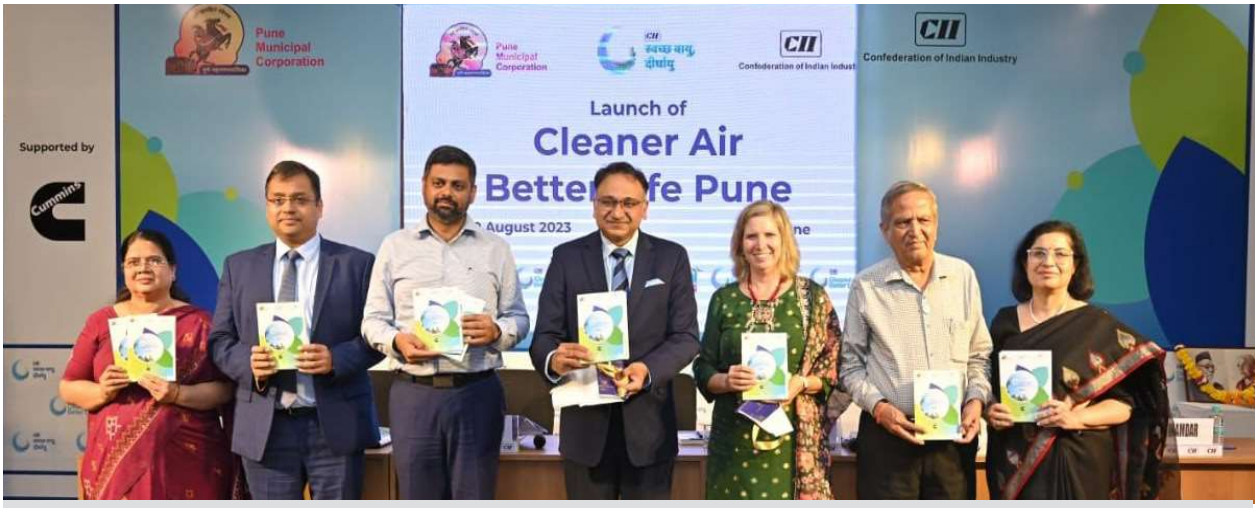
Apart from providing data-driven insights on local air quality, the project also undertakes extensive awareness generation activities; till date, 19 zonal meetings; 11 awareness workshops; 85 ward-level field surveys and numerus consultations with community leaders have been undertaken.

These community engagements are crucial in building understanding of local pollution sources. A social impact study that assessed the effects of these workshops, reveals that there was an 8 per cent increase in sustainable transportation use; 6.7 per cent increase in waste segregation; 5 per cent switched to LPG gas and 3 per cent upgraded to BS6 vehicles.

Generating Actionable Insights for Air Quality Management

To effectively tackle air pollution in Pune and Pimpri Chinchwad, CESD leverages the existing infrastructure established by Maharashtra Pollution Control Board to improve AQ prediction accuracy through machine learning techniques. The project envisages creating ultra-high-resolution air quality maps by integrating data from the pre-installed low-cost air quality sensors, continuous ambient air monitoring stations.

Another important feature of the project is the development of an integrated dashboard which will offer real-time visualization of air quality data, providing user-friendly access to detailed information. The dashboard will enable identification of pollution hotspots for targeted mitigation action and support policymakers with comprehensive scientific data.



CII-CABL Programme launched in Pune by Cummins Global CEO Jennifer Rumsey at Cummins College of Engineering, Pune

Additionally, the project envisions implementing innovative solutions such as low-zero emission zones and smart technologies, positioning Pune as a pioneer in clean air solutions. For effective co-ordination and proactive action, a multi-stakeholder platform has been created in Pune. The pilot project will be evaluated for scalability across Pune and other National Clean Air Program (NCAP) cities.

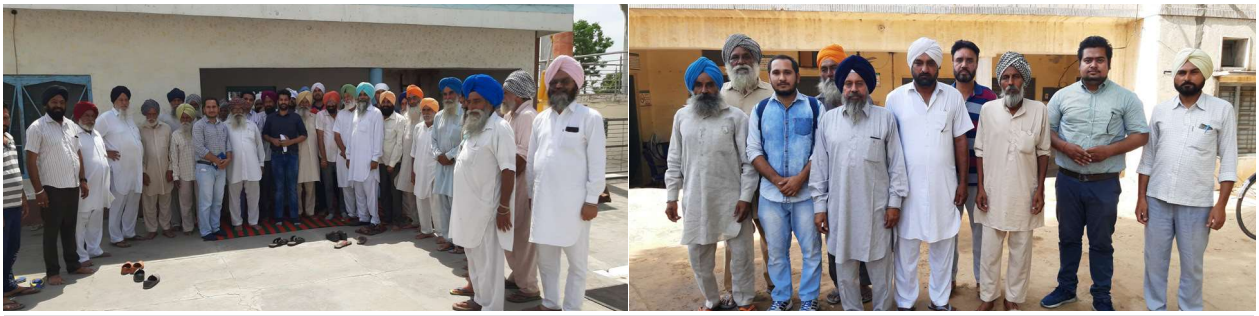
Facilitating Crop Stubble Management

The Crop Residue Management programme, executed by CII Foundation and CII CESD addresses rice straw burning practice in the states of Punjab and Haryana. Starting with a pilot in 19 villages in 2018, the programme is now scaled to 436 villages across 12 affected districts in this region in 2023, covering over 195-thousand-hectare rice growing area and 86 thousand rice cultivators or farmers.

As a result of its innovative and participatory approach engaging State Agricultural Universities and Krish Vigyan Kendras for farmer training and over 100 farmer groups (Farmer co-operative societies & Farmer producer organizations) to mobilise needed resources on ground, the Crop Residue Management Programme is recognized by the UNDP SDG Action Award and the Global Development Network for bringing community level change for sustainable crop residue management in the region.

Through dedicated efforts, the programme has been successful in achieving community level adoption, resulting in avoidance of 11 lakh tonne of rice straw from burning- leading to air pollution savings of 5.4 thousand tonne $PM_{2.5}$ and climate savings of 2.42 lakh tonne of CO_2e.

The cumulative climate change saving from the efforts from 2018-19 till 2023-24 comes out to be almost 6.27 lakh tonne of CO_2e and 110 billion litre worth of irrigation water savings, due to increased water holding capacity of organic matter rich soils. A total 1000 new villages are targeted to be covered under the programme in the next 3 years.



Farmer awareness and capacity building workshop on air pollution and sustainable rice straw management in Ludhiana

New CII-CABL Initiatives

Cluster-level Initiatives: To address the issue of air pollution within industrial clusters, CESD has initiated a program for the Micro, Small, and Medium Enterprises (MSMEs) in the identified clusters. The program empowers MSMEs through targeted support from Industry, helping them effectively manage emissions, comply with regulations, and adopt good management practices for clean air. The objectives of the program are:

- Training and Need Assessment Workshops: Conduct workshops to assess the specific needs of MSMEs and provide them with training on air quality management.
- Detailed Guidance on Regulatory Mechanisms: Offer comprehensive guidance on existing regulatory frameworks and compliance requirements to ensure that MSMEs are fully informed and able to meet legal standards.
- Viable Clean Air Projects & Opportunities: Assist MSMEs in identifying viable business opportunities that contribute to cleaner air and prepare compelling business case for investment in clean technologies.

Innovation Hubs: Another area that can encourage innovation solutions in AQM at city level is the creation of innovation hubs that can serve as incubators for clean air solutions. The hub, by bringing together start-ups, researchers, international experts and established organizations, can foster the development of new technologies and practices to combat air pollution. City authorities can support these hubs through infrastructure and regulatory support.

1. *World Health Organisation (WHO). 2022. "Ambient (outdoor) air pollution." Last modified 19 December, 2022. https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health*
2. *World Health Organisation (WHO). 2022. "Billions of people still breathe unhealthy air." Last modified 4 April, 2022. https://www.who.int/news/item/04-04-2022-billions-of-people-still-breathe-unhealthy-air-new-who-data*
3. *World Bank. 2022. The Global Health Cost of PM2.5 Air Pollution: A Case for Action Beyond 2021. In International Development In Focus. Washington, DC: World Bank. https://openknowledge.worldbank.org/entities/publication/c96ee144-4a4b-5164-ad7974c051179eee*
4. *Air pollution in India and the impact on business, 2021, https://www.cleanairfund.org/resource/air-pollution-in-india-and-the-impact-on-business/*
5. *Air pollution in India and the impact on business, 2021, https://www.cleanairfund.org/resource/air-pollution-in-india-and-the-impact-on-business/*

Stakeholder Views on CII's Cleaner Air Better Life' Initiative

Ashwath Ram
Chairman,
CII – Cleaner Air Better Life
and Managing Director,
Cummins India Ltd

"Air pollution is pervasive and affects everyone, necessitating a unified front and concerted efforts from every single one of us to combat this challenge. As a proud founding member of the CII's 'Cleaner Air Better Life' initiative, I am deeply committed to collaborative action that transcends industries, governments and academia.

By championing clean technologies, raising awareness, and supporting grassroots efforts, we can usher in an era of cleaner air and better quality of life for all. Let us take a bold stance and work together to drive a transformative change that advances our nation toward a future of prosperity and sustainability."

Shekhar Singh
Municipal Commissioner,
Pimpri Chinchwad

"Pimpri Chinchwad is fast growing and is one of the most industrialised cities in the state. However, progress and development has led to various factors affecting the air quality over the years. Air pollution is a multi-faceted issue, requiring a multi-pronged approach. Pimpri Chinchwad Municipal Corporation (PCMC) is actively working with various partners to address the issue.

Our collaboration with CII will help the city leverage Industry's expertise through active involvement of Member organizations operating in the city and jointly work towards clean air. We are dedicated to work with partners to make PCMC a cleaner and more sustainable city."

Dr Mathew C P
Principal, Indore
School of Social Work

"The partnership between Confederation of Indian Industry (CII), Indore School of Social Work (ISSW), Madhya Pradesh Pollution Control Board (MPPCB), and the Smart City in the CII CABL-Indore project showcases how collective action can lead to significant advancements in air quality and the overall well-being of Indore's citizens.

At ISSW, the Clean Air Champions (CACs) work closely with the local community, equipping them with the knowledge and tools to fight for cleaner air, thereby paving the way for a healthier future."

Seema Arora
Deputy Director General,
Confederation of Indian Industry

"The time for collective action on clean air has never been more critical. Clean air can save Indian businesses INR 7 Lakh crore or 3 per cent of Gross Domestic Product every year. The CII Cleaner Air Better Life initiative, through the India CEO Forum for Clean Air, unites over 100+ businesses committed to championing the clean air agenda.

As we move forward, businesses take center stage, showcasing their commitment to a healthier environment and underscoring the pivotal role they play in driving sustainable growth. Let us rally together, aligning our efforts to realize cleaner air, better lives, and a thriving economy."