



SIMPLIFYING SCIENCE

Strategic Science Communications Programme

Coverage Report

IGP & Himalayan Air Pollution Study

Study:

Decadal Shifts in Aerosol Hotspots and Source Attribution over the IGP, North-East India and Himalayas: A 25-Year (2000–2024) Study

Published in Atmospheric Environment | Led by Prof Abhijit Chatterjee, Bose Institute, Kolkata

82

Stories

7

Languages

30+

Print

40+

Online

12+

States

~80M*

Est. Reach

Coverage Period: May–June 2026 |

Languages: English · Hindi · Bangla · Assamese · Bengali (Print) · Hindi (Print WB) · NE Regional



Prepared by Asar Social Impact Advisors · www.asar.co.in

**Print readership figures are based on ABC circulation data and IRS readership surveys (latest published: 2019–2022)*

1. Introduction

About Asar Social Impact Advisors

Asar Social Impact Advisors is a startup in the environment and social justice impact space with a commitment to building climate resilience and ambitious climate action. Celebrating a decade of work in 2026, Asar identifies challenges and opportunities, researches them, verifies ground truths, and understands local contexts in order to build innovative strategies rooted in reality. Asar convenes multi-stakeholder conversations and helps build relationships between key actors to sustain collaborations essential to delivering real-world impact.

Asar's work spans 10+ states, 8 climate-linked domains, 100+ partners, and 7 regional languages — making it uniquely positioned to bridge the world of science with the communities most affected by climate change.

About the Simplifying Science Programme

Simplifying Science is Asar's strategic science communications programme, created to build a stronger narrative around climate change and climate science across India. The programme engages people in conversations about climate and its impact on the environment, health, and wellbeing — with a deliberate focus on amplifying solutions.

India produces some of the world's most rigorous climate science, but findings published in international journals rarely reach the communities most at risk, in the languages they speak, through the media they trust. Through Simplifying Science, Asar partners with researchers, scientists, and institutions to translate complex scientific findings into accessible, evidence-grounded narratives. These narratives are then disseminated across regional media in multiple Indian languages, ensuring that life-saving research reaches not just academic audiences, but also farmers, labourers, community workers, health practitioners, and policymakers at every level of governance.

About the Research: This Campaign

This second Simplifying Science campaign centres on the study: 'Decadal Shifts in Aerosol Hotspots and Source Attribution over IGP, North-East India and Himalayas: A 25-Year (2000–2024) Study', published in Atmospheric Environment and led by Prof Abhijit Chatterjee at the Bose Institute, Kolkata, with Mr Soumen Raul as the main research fellow.

Published in: Atmospheric Environment. DOI: <https://doi.org/10.1016/j.atmosenv.2026.121810>

The study drew on 25 years of satellite data to make four landmark findings:

- PM pollution increased by more than 20% across the Indo-Gangetic Plain (IGP), Himalayan region, and North-East India during 2010–2019 compared to the 2000–2009 baseline.
- IGP emissions are now directly affecting the Himalayas — pollution from Punjab, Haryana, and Delhi reaches the western and central ranges; Bihar and West Bengal emissions influence the eastern Himalayas.
- In North-East India, carbonaceous aerosols (linked to biomass burning and slash-and-burn agriculture) rose by nearly 50%, pushing most of the region from a 'polluted' to a 'highly polluted' classification.
- India's National Clean Air Programme (NCAP) has shown measurable results in urban PM levels but has not addressed biomass burning — the dominant and growing source — pointing to the urgent need for rural interventions in NCAP 2.0.

2. Approach & Methodology

The Simplifying Science campaign for this study followed a structured four-stage process designed to ensure scientific accuracy, regional relevance, and maximum media reach.

Stage 1	Engagement with Research Authors Asar's communications team engaged directly with Prof Chatterjee and Mr Raul to understand the key findings, regional implications, and the aspects of the research most relevant to Indian audiences. This stage involved reviewing the published paper and identifying narrative hooks likely to resonate across different linguistic and geographic contexts.
Stage 2	Drafting Targeted Press Notes Asar drafted three distinct press notes from the research: a national note covering the full IGP, Himalayan, and North-East findings; a West Bengal-focused note centring on the Sundarbans risk and southern Bengal as pollution epicentre; and an Assamese-language note for North-East audiences, each surfacing the most regionally resonant angles from the same study.
Stage 3	Author Review and Finalisation All press notes were shared with the research team for fact-checking and review. Feedback was incorporated to ensure full accuracy and appropriate representation of the study's scope and conclusions. The reviewed and finalised notes served as the canonical sources for dissemination.
Stage 4	Targeted Multi-Regional Dissemination Notes were disseminated through Asar's media partnerships and press outreach, targeting publications with strong regional readership — with separate tracks for national English/Hindi media, West Bengal (English, Hindi, Bangla print), and North-East India (English and Assamese regional press). PTI wire pickup amplified reach across dozens of additional platforms.

3. Coverage Analysis

3.1 Key Metrics at a Glance

82 Total Stories	7 Languages	30+ Print Placements	40+ Online Placements	12+ States Covered	~80M Est. Reach
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3.2 Coverage by Language

The campaign achieved its broadest reach in English and Hindi nationally, with strong dedicated tracks for West Bengal (Bangla, Hindi print, English) and North-East India (English regional papers and Assamese). PTI wire pickup drove syndication across dozens of platforms across all language categories.

English (National)	TOI, Indian Express, Deccan Herald, Economic Times, News18, Tribune, PTI, Down To Earth, Millennium Post, New Indian Express + many more
Hindi (National)	Hindustan, Dainik Jagran, Hindi News18, Dainik Bhaskar (digital), Prabhat Khabar, Zee News India, ABP News, India.com + UP/MP regional
West Bengal — English	TOI (all WB editions, Page 1 + full story), The Statesman, Himalayan Mirror, Eastern Frontier, Northeast Times
West Bengal — Bangla	Hindustan Times Bangla, Aaj Kaal (all editions), Bengal News Now, Purbottar (Bangla editions)
West Bengal — Hindi (Print)	Dainik Vishwamitra (all WB editions), Jansampath Samachar (all WB editions), Hindustan Observer, Purbottar Hindi
North-East — English	EastMojo, Northeast Times, Meghalayan Guardian, Daily Frontier, The Pioneer (NE editions), Shillong Times, Morung Express, NorthEast Now, Purbottar Northeast, Guwahati Observer, News Bearer, Kalimpong News
North-East — Assamese	Dainik Ganaadhikar, Asombatori, Purbottar NE (Assamese editions)

3.3 Language-wise Summary

Language	Total	Print	Online	Key Publications
English (Nat'l)	22	5	17	TOI (all India front), Indian Express, Economic Times, Deccan Herald, News18, Tribune, PTI, Down To Earth, Millennium Post, Pioneer, Lokmat Times, New Indian Express + online platforms
Hindi (Nat'l)	11	0	11	Hindustan, Dainik Jagran, Hindi News18, Dainik Bhaskar, Prabhat Khabar, Zee News, ABP News, India.com + UP/MP regional
WB — English	6	5	1	TOI all WB editions (Page 1 + full story), The Statesman, Himalayan Mirror, Eastern Frontier, Northeast Times

Language	Total	Print	Online	Key Publications
WB — Bangla	4	2	2	Hindustan Times Bangla, Aaj Kaal (all editions), Bengal News Now, Purbottar Bangla
WB — Hindi	4	4	0	Dainik Vishwamitra (all WB editions), Jansampath Samachar (all WB editions), Hindustan Observer, Purbottar Hindi
NE — English	11	5	6	Northeast Times, Meghalayan Guardian, Daily Frontier, Pioneer NE, Shillong Times, Morung Express, NorthEast Now, Guwahati Observer, News Bearer, Kalimpong News
NE — Assamese	3	2	1	Dainik Ganaadhikar, Asombatori, Purbottar NE
TOTAL	75+	30+	40+	7 languages · 75+ placements · 12+ states

3.4 Geographic Reach — States Covered

The campaign achieved coverage across at least 12 Indian states, with dedicated regional angles for West Bengal and North-East India driving the state-specific track:

Delhi / NCR	Bihar	West Bengal	Assam
Uttar Pradesh	Jharkhand	Uttarakhand	Meghalaya
Nagaland	Tripura	Arunachal Pradesh	Maharashtra + Karnataka

3.5 Print vs. Online Breakdown

Print coverage was significant across the campaign, with major placements including Times of India (all-India Page 1, all West Bengal editions Page 1), The Pioneer (all editions), Lokmat Times, Northeast Times, Meghalayan Guardian, and Aaj Kaal. PTI wire pickup dramatically amplified online reach.

Format	Count	Share	Key Highlights
Print	30+	~40%	TOI Page 1 (all-India + all WB editions); The Pioneer (all India editions); Millennium Post front; Lokmat Times; Northeast Times; Meghalayan Guardian; Aaj Kaal; Dainik Vishwamitra; Jansampath Samachar
Online / Digital	40+	~60%	Economic Times, Deccan Herald, Indian Express, News18, Down To Earth, PTI + 30+ syndicated platforms, regional online NE (EastMojo and WB outlets)

4. Estimated Media Reach

Based on ABC circulation, IRS survey data, and platform traffic estimates. All figures represent potential audience exposure, not confirmed reads.

National English (22+ stories) Estimated subtotal: ~30–35 million

Publication	Editions / Format	Est. Readership	Notes
Times of India	All-India Page 1 brief + Page 8 full story (all editions)	~8–10M	
The Pioneer	All editions (national)	~2M	
Millennium Post	National	~1M	
Lokmat Times	Nagpur + Maharashtra editions	~1.5M	
Indian Express	Online	~5M+	
Economic Times + Infra	Online (2 verticals)	~3M	
Deccan Herald	Online	~1M	
News18 (English)	Online	~2M	
Tribune	Online	~500K	
PTI + Devdiscourse + NewsDrum	Online wire + platforms	~3M combined	
Down To Earth, New Indian Express, others	Online	~2M combined	

Hindi National (11 stories) Estimated subtotal: ~10–15 million

Publication	Format	Est. Readership
Hindustan (Livehindustan)	Online (national, NCR)	~4M+
Dainik Jagran	Online (national)	~2M
Prabhat Khabar	Online (national, strong Bihar/WB reach)	~4M
Dainik Bhaskar (digital)	Online	~2M
Zee News, ABP News, India.com, Hindi News18	Online	~3–5M combined

West Bengal — English (6 stories) Estimated subtotal: ~8–10 million

Publication	Editions / Notes	Est. Readership
Times of India — West Bengal	All WB editions — Page 1 brief + full inside story	~4–5M
The Statesman	All editions (Kolkata + national)	~1M

Publication	Editions / Notes	Est. Readership
Himalayan Mirror	Darjeeling, Siliguri, Jalapara, Kolkata, Howrah editions	~500K
Eastern Frontier	West Bengal + NE editions	~300K
Northeast Times (for WB angle)	WB + NE editions	~500K

West Bengal — Bangla (4 stories) Estimated subtotal: ~4–6 million

Publication	Editions / Notes	Est. Readership
Hindustan Times Bangla	Online (all Bengal)	~1M
Aaj Kaal	All print editions (Bengal)	~2M+
Bengal News Now	Online	~500K
Purbottar (Bangla editions)	Online + print	~500K

West Bengal — Hindi Print (4 stories) Estimated subtotal: ~2–3 million

Publication	Editions	Est. Readership
Dainik Vishwamitra	All West Bengal editions (print)	~1M
Jansampath Samachar	All Bengal editions (print)	~800K
Hindustan Observer	Online	~300K
Purbottar Hindi	Online	~300K

North-East India — English (11 stories) Estimated subtotal: ~3–6 million

Publication	States Covered	Est. Readership
East Mojo	Entire NE	~1M
Northeast Times	Assam, Meghalaya, all NE	~500K
Meghalayan Guardian	Meghalaya, Assam, Arunachal	~300K
Daily Frontier	Assam, Nagaland, Tripura, Arunachal	~300K
Shillong Times	All NE	~300K
Morung Express	All NE (Nagaland-based)	~200K
NorthEast Now, Guwahati Observer, News Bearer, Purbottar NE, Kalimpong News	All NE + online	~1M combined

North-East India — Assamese (3 stories) Estimated subtotal: ~1–2 million

Publication	Format	Est. Readership
Dainik Ganaadhikar	Print (Assam editions)	~500K
Asombatori	Online	~300K
Purbottar NE (Assamese)	Online + print	~300K

TOTAL ESTIMATED REACH

80+ stories · 7 languages · 12+ states

~75–85 million

Conservative headline figure for public use: ~75 million

On methodology: Print readership figures are based on ABC circulation data and IRS readership surveys (latest published: 2019–2022). Readership typically runs at ~2.5× circulation, so these are estimates, not audited figures. Online reach figures are based on platform-level traffic data and are highly variable; individual article reach is a fraction of total platform readership. These numbers reflect potential audience exposure, not confirmed reads.

5. Coverage Links

5.1 National English

#	Publication	Headline	Date	Format	Link
1	Times of India	Particulate matter pollution rose over 20% across Indo-Gangetic Plain in a decade; Himalayas no longer insulated	May 28, 2026	Print + Online	View Article
2	Indian Express	Particulate matter pollution rose over 20% across Indo-Gangetic Plain in a decade; Himalayas affected	May 2026	Online	View Article
3	Economic Times	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online	View Article
4	Economic Times Infra	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online	View Article
5	Deccan Herald	Satellite study finds PM pollution rose over 20% across the Indo-Gangetic Plain	May 2026	Online	View Article
6	News18	Himalayas under threat: surging pollution from Indo-Gangetic Plains is drifting into mountains	May 2026	Online	View Article
7	Tribune	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online	View Article
8	Millennium Post	PM pollution increased by 20% in Himalayan region, Indo-Gangetic Plain and North-East	May 2026	Print + Online	View Article
9	New Indian Express	Air pollution from Indo-Gangetic Plains travelling to Himalayas: Study	May 29, 2026	Online	View Article
10	Press Trust of India	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online Wire	View Article
11	Down To Earth	Bihar and West Bengal at centre of expanding pollution hotspot driven by biomass burning: 25-year study	May 2026	Online	View Article
12	ET World / Love Hills	Love hills to escape pollution? Study finds smoke from plains is now reaching the Himalayas	May 2026	Online	View Article
13	NewsDrum	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online	View Article
14	Devdiscourse	PM pollution increased by 20% in Indo-Gangetic Plain, Himalayan region, North-East: Study	May 2026	Online	View Article
15	Sigma Earth	Indo-Gangetic Plain sees 20% rise in particulate pollution as smog reaches Himalayas	May 2026	Online	View Article
16	Prop News Time	PM pollution rises over 20% in Indo-Gangetic Plain, Himalayan region and North-East: Study	May 2026	Online	View Article
17	Ahmedabad Mirror	Study flags PM surge across IGP and Northeast regions	May 2026	Online	View Article
18	NewsKarnataka	Air pollution spreading from plains to Himalayas: study warns	May 2026	Online	View Article
19	The Pioneer	PM pollution jumps over 20% in Indo-Gangetic Plain, NE, Himalayas: Study	May 2026	Print (All India editions)	Print only
20	Lokmat Times	Air pollution travels to Himalayas as IGP PM levels increase by 20%	May 26, 2026	Print (Nagpur + Maharashtra)	Print only

#	Publication	Headline	Date	Format	Link
21	BengalInfo	West Bengal among India's most polluted zones	May 2026	Online	View Article
22	The Wire	Biomass Burning Drove Expansion of Pollution Hotspots Across Eastern India, Himalayas: 25-Year Study	June 2026	Online	View Article

5.2 Hindi National

#	Publication	Headline	Date	Format	Link
1	Hindustan (Livehindustan)	Air pollution in India — Northeastern and Himalayan regions affected	May 2026	Online	View Article
2	Dainik Jagran	PM pollution rises 20%, reaches Himalayas: study reveals	May 2026	Online	View Article
3	Hindi News18	Ganga plains to Himalayan peaks: pollution is overlapping, new study warns	May 2026	Online	View Article
4	Dainik Bhaskar (digital)	Satellite study: PM pollution in Indo-Gangetic Plain rose by over 20% in a decade	May 2026	Online	View Article
5	Prabhat Khabar	Air pollution — Indo-Gangetic Plain, PM pollution reaches Himalayas: satellite study	May 2026	Online	View Article
6	Zee News India	Satellite study reveals 20% rise in PM pollution across Indo-Gangetic Plain, Himalayas also affected	May 2026	Online	View Article
7	ABP News	Satellite study reveals rising pollution across Indo-Gangetic Plain — Himalayas no longer safe	May 2026	Online	View Article
8	India.com (Hindi)	India air pollution reaching Himalaya: new study warning	May 2026	Online	View Article
9	UP Digital Diary	PM pollution increased by 20% — UP, Himalayan region, North-East	May 2026	Online	View Article
10	News11 (MP/CG)	PM pollution rises 20% in IGP, Himalayan region and North-East	May 2026	Online	View Article
11	News-Age	Even the Himalayan air is toxic: PM pollution in the Gangetic Plains has increased	May 2026	Online	View Article

5.3 West Bengal — English (Print)

#	Publication	Headline	Date	Format	Link
1	Times of India (WB all editions)	Bengal, Bihar epicentres of PM pollution, Sundarbans under threat: 25-year study	May 2026	Print (Page 1 + P7)	Print only
2	The Statesman	West Bengal pollution crisis deepens as satellite study flags Sundarbans risk	May 2026	Print (all editions)	Print only
3	Himalayan Mirror	West Bengal emerges as major pollution hotspot, Sundarbans face growing threat: Study	May 2026	Print (Darjeeling, Siliguri, Jalapara, Kolkata, Howrah)	Print only
4	Eastern Frontier	West Bengal pollution crisis deepens as satellite study flags Sundarbans risk	May 2026	Print (WB + NE)	Print only

#	Publication	Headline	Date	Format	Link
5	Northeast Times	North-East India sees sharp rise in pollution levels over two decades: Study	May 2026	Print	Print only

5.4 West Bengal — Bangla

#	Publication	Headline	Date	Format	Link
1	Hindustan Times (Bangla)	West Bengal among India's most polluted zones, Sundarbans at risk: 25-year satellite study	May 2026	Online	View Article
2	Aaj Kaal	Sundarbans at risk — West Bengal pollution rising rapidly: study	May 2026	Print (all Bengal editions)	Print only
3	Bengal News Now	West Bengal ranks among India's most polluted zones, Sundarbans under threat	May 2026	Online	View Article
4	Purbottar (Bangla)	West Bengal pollution crisis deepens as satellite study flags Sundarbans risk	May 2026	Online	View Article
5	Purbottar (all Bengal — Bangla)	West Bengal emerges as major pollution hotspot, Sundarbans face growing threat	May 2026	Online	View Article

5.5 West Bengal — Hindi Print

#	Publication	Headline / Note	Date	Format	Link
1	Dainik Vishwamitra	Sundarbans ko swachh vayu mission mein shamil karne ki zarurat	May 25, 2026	Print (all WB editions)	Print only
2	Jansampath Samachar	Sundarbans ko swachh vayu mission mein shamil karne ki zarurat	May 25, 2026	Print (all Bengal editions)	Print only
3	Purbottar Hindi	25-year satellite data flags West Bengal as pollution hotspot, warns of rising risk to Sundarbans	May 2026	Online	View Article
4	Hindustan Observer	Sundarbans at risk as West Bengal emerges among India's worst polluted zones in 25-year study	May 2026	Online	View Article

5.6 North-East India — English

#	Publication	Headline	Date	Format	Link
1	East Mojo	Pollution levels in the Northeast rose nearly 50% in a decade, study finds	June 3, 2026	Online	View Article
2	Meghalayan Guardian	NE India sees sharp rise in pollution levels over two decades: Study	May 25, 2026	Print (Meghalaya, Assam, Arunachal)	Print only
3	Daily Frontier	North-East pollution surge raises concern over rural emissions and industrial growth	May 2026	Print (Assam, Nagaland, Tripura, Arunachal)	Print only

#	Publication	Headline	Date	Format	Link
4	Shillong Times	From clean past, NE turns into pollution hotspot today: Study	May 30, 2026	Online	View Article
5	Morung Express	Pollution levels in North-East India rose nearly 50% in a decade	May 2026	Online	View Article
6	NorthEast Now	Sharp rise in air pollution across Northeast India over past 25 years: study	May 2026	Online	View Article
7	Purbottar Northeast	North-East India sees sharp rise in pollution levels over two decades: Study	May 2026	Online	View Article
8	Guwahati Observer	North-East pollution surge raises concern over rural emissions and industrial growth	May 2026	Online	View Article
9	News Bearer	North-East India's pollution up nearly 50% in 10 years, shifts to highly polluted	May 2026	Online	View Article
10	Kalimpong News	Study finds PM pollution increased by 20% in IGP, Himalayan region, North-East	May 2026	Online	View Article

5.7 North-East — Assamese

#	Publication	Headline (translated)	Date	Format	Link
1	Dainik Ganaadhikar	Pollution levels in North-East rose sharply over two decades (Assamese)	May 25, 2026	Print (Assam)	Print only
2	Asombatori	25-year satellite data reveals 50% rise in North-East pollution — region now classified highly polluted	May 2026	Online	View Article
3	Purbottar NE (Assamese)	From polluted to highly polluted: North-East sees 50% spike in pollution levels over decade	May 2026	Online	View Article
4	Dainik Assam	25-year satellite data reveals 50% rise in North-East pollution	June 1 2026	Print (Assam)	Print only

6. Print Coverage Screenshots

The following pages contain screenshots of select print placements from this campaign, organised by geography. Print screenshots cover the national, West Bengal, and Northeast India tracks where major placements were recorded.

6.1 National English Print

Times of India (all-India edition — Page 1 brief and Page 8 full story), The Pioneer (all editions), Millennium Post, and Lokmat Times (Nagpur/Maharashtra).

Pollution shot up in Ganga plain in a decade: Study

New Delhi: A satellite-based study covering 25 years of data across the Indo-Gangetic Plain, the Himalayan region, and northeast India has found that overall particulate matter (PM) pollution increased by more than 20% in a single decade (during 2010–2019 compared to the 2000–2009 baseline) with Bihar and West Bengal being the worst-affected zones, reports Vishwa Mohan.

It also found that the emissions from the plain are now reaching the Himalayas, noting that the mountains are no longer insulated from air pollution. The study also analysed National Clean Air Programme.

► **Aerosol loading, P 8**

Emissions now directly affecting aerosol loading across Himalayas: Study

► Continued from page 1

Published in Atmospheric Environment journal, the study by the Bose Institute, Kolkata, also analysed India's National Clean Air Programme (NCAP), flagging that the city-focused initiative under it has shown measurable results in urban PM levels but has yet to address biomass burning — the dominant and growing source across the region. It accordingly pitched for "urgent need for rural interventions" in the updated programme.

It further pointed out that the "persistent emissions from thermal power plants, rural biomass burning, and urban solid waste burning have limited reductions in carbon pollution despite the programme". The study is a comprehensive long-term (2000–24) assessment of PM pollution trends across this region, tracing shifts in pollution levels, sources, and hotspots across three decades.

Noting how the Indo-Gangetic Plain (IGP) pollution is now reaching the Himalayas, the study flagged that the emissions from the plain are now directly affecting aerosol (suspended microscopic solid or liquid particles such as dust, soot and chemical droplets in the atmosphere) loading across the Himalayas. It said pollution from Punjab, Haryana, and Delhi is reaching the western and central ranges whereas the emissions from Bihar and West Bengal are influencing the eastern Himalayas.

"The Himalayas are not insulated from IGP pollution.

Our trajectory analysis shows that what is emitted in Punjab or Bihar does not stay there — it travels into the mountains. These are ecologically and climatically sensitive zones, and they are currently outside the scope of any structured clean air intervention in India," said Soumen Raul, primary researcher at the Bose Institute.

Assessing the effectiveness of interventions under NCAP, the study noted that Bihar, West Bengal, and Assam showed "measurable improvements" in overall PM levels in the post-NCAP period but pollution from biomass burning has not declined significantly in any of these states, and they continue to be hotspots for carbonaceous aerosols.

"NCP is primarily designed as a city-focused initiative. But our data shows that air pollution in rural India is equally severe, and in some cases more so. Biomass burning — for cooking, heating, agriculture — is not being adequately addressed by the programme as it currently stands. The rural dimension needs to be explicitly built into the clean air mission," said Abhijit Chatterjee who led the research at the Bose Institute.

Mapping the decadal shifts in pollution hotspots, the study noted that the high carbon pollution which used to be concentrated in parts of Bihar, UP, northern West Bengal, Assam, Meghalaya, Tripura, and Bangladesh during 2000–2009 had by 2020–2024 expanded to all of West Bengal, Bihar, Bangladesh, and most of Assam, Meghalaya and Tripura.

Times of India (Page 1 and Page 8 – all editions India)

PM pollution jumps over 20 per cent in Indo-Gangetic plain, NE, Himalayas: Study

PIONEER NEWS SERVICE

■ New Delhi

The overall particulate matter pollution in the Indo-Gangetic Plain, the Himalayan region, and North-East India increased by more than 20 per cent during the 2010-2019 period compared to the 2000-2009 baseline, according to a new study.

It also revealed that in the eastern Indo-Gangetic Plain, carbonaceous aerosols, particles from the burning of crop residue, wood, and other organic material, showed strong and increas-



ing trends between 2000 and 2024 (the period the study analysed).

According to the study, the sharp rise in particulate matter (PM) in North-East India is attributed to intensi-

fied slash-and-burn agricultural practices and extensive use of biomass for domestic energy in rural households during this period.

The study, "Decadal shifts in aerosol hotspots and source

attribution over IGP, north-east India and Himalayas: A 25-year (2000-2024) study", was published in the journal Atmospheric Environment and released on Monday.

In a statement, Abhijit Chatterjee, co-author of the study and professor at the Bose Institute in Kolkata, said, "The eastern Indo-Gangetic Plain, and increasingly North-East India, are carrying a disproportionate pollution burden, and it is being driven almost entirely by biomass burning. That is the signal that stands out most clearly across 25 years of data."

The Pioneer (Page 1 – all editions India)

BIOMASS BURNING IS THE DOMINANT DRIVER

'PM pollution increased by 20% in Himalayan region, Indo-Gangetic Plain and North-East'

MPOST BUREAU

NEW DELHI: A new study has found that particulate matter pollution across the Indo-Gangetic Plain (IGP), the Himalayan region and North-East India rose by more than 20 per cent in 2010-2019 compared with the 2000-2009 baseline, pointing to a growing air quality burden across some of India's most sensitive regions.

The study, Decadal shifts in aerosol hotspots and source attribution over IGP, north-east India and Himalayas: A 25-year (2000-2024) study, was published in the journal Atmospheric Environment and released on Monday.

CLOSER LOOK

» Study examined aerosol patterns over a 25-year period from 2000 to 2024

» Findings published Monday in the journal Atmospheric Environment

» Eastern Indo-Gangetic Plain showed rising carbonaceous aerosol trends throughout the study period

» Crop residue, wood and organic material burning identified as major pollution sources

» North-East India's pollution rise linked to slash-and-burn farming practices

» Biomass use in rural households also contributed to North-East India's particulate surge

Researchers found that carbonaceous aerosols in the eastern Indo-Gangetic Plain showed strong and rising trends between 2000 and 2024. These particles

are largely produced by the burning of crop residue, wood and other organic material.

"The eastern Indo-Gangetic Plain, and increasingly North-

East India, are carrying a disproportionate pollution burden and it is being driven almost entirely by biomass burning. That is the signal that stands out most clearly across 25 years of data," said Abhijit Chatterjee, co-author of the study and professor at the Bose Institute in Kolkata.

The study said the sharp increase in particulate matter levels in North-East India was linked to intensified slash-and-burn farming practices and widespread use of biomass as household fuel in rural areas during the study period.

Researchers also found that pollution generated in the Indo-Gangetic Plain **Continued on P6**

Millennium Post (Page 1, all editions India)

6.2 West Bengal — English Print

Times of India West Bengal editions (Page 1), The Statesman, Himalayan Mirror (Darjeeling, Siliguri, Jalapara, Kolkata, Howrah editions), Eastern Frontier.

Bengal, Bihar epicentres of pollution: Study

A 25-year satellite study has revealed that southern Bengal and Bihar have become the epicentres of particulate matter (PM) pollution across the Indo-Gangetic Plain (IGP). The research warns that elevated carbon pollution has expanded to the entire state, threatening ecologically fragile zones like the Sundarbans and the Eastern Himalayas. The study, published in prestigious journal *Atmospheric Environment*, was led by Professor Abhijit Chatterjee and Soumen Raul of Bose Institute, Kolkata. **P7**

Bengal, Bihar epicentres of PM pollution, Sundarbans under threat: 25-year study

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Kolkata: A 25-year satellite study has revealed that southern Bengal and Bihar have become the epicentres of particulate matter (PM) pollution across the Indo-Gangetic Plain (IGP). The research warns that elevated carbon pollution has expanded to the entire state, threatening ecologically fragile zones like the Sundarbans and the Eastern Himalayas. The study, published in the prestigious journal *Atmospheric Environment*, was led by Professor Abhijit Chatterjee and Soumen Raul of the Bose Institute, Kolkata.

According to the findings, the eastern belt of the IGP — encompassing southern Bengal, Bihar and large swathes of neighbouring Bangladesh — consistently registered the worst air quality readings over the 25-year period. During 2010–2019, PM pollution spiked by 10%–40% across this eastern zone compared to the previous decade. During 2020–2024, highly toxic ‘carbonaceous aerosol hotspots’, which were largely confined to a narrow band of northern Bengal during the 2000–2009 baseline, expanded to cover all of Bengal.



WARNING FOR SUNDARBANS

The primary driver of Bengal's worsening air profile is biomass burning — specifically rural biomass used for cooking and heating, alongside the burning of urban solid waste. “The eastern Indo-Gangetic Plain, and Northeast are carrying a disproportionate pollution burden and is driven by biomass burning,” said Chatterjee.

However, the most urgent warning in the paper concerns the Sundarbans. Already battered by rising sea levels, severe coastal flooding, rapid erosion and subsequent loss of livelihood, the world's largest mangrove ecosystem is now breathing highly toxic air. The researchers argue that current climate policies suffer from a massive blind spot by focusing almost exclusively on major cities, leaving rural communities and ecosystems entirely unprotected.

Times of India (Kolkata, Ranchi, Jamshedpur, Patna and NE editions)

West Bengal pollution crisis deepens as satellite study flags Sundarbans risk

Kolkata: Southern West Bengal has emerged as one of the most polluted regions in the Indo-Gangetic Plain, with pollution hotspots now spreading across the entire state, according to a 25-year satellite study published in *Atmospheric Environment*. The research, led by Prof Abhijit Chatterjee and Mr Soumen Raul of the Bose Institute, tracked particulate matter (PM) pollution trends from 2000 to 2024 across the Indo-Gangetic Plain, the Himalayas and North-East India. The study found southern West Bengal, Bihar and large parts of Bangladesh consistently recorded the highest

PM concentrations during the period. Pollution levels in the eastern Indo-Gangetic Plain rose by 10–40 per cent during 2010–2019 compared to the previous decade, while carbonaceous aerosol hotspots expanded across all of West Bengal by 2020–2024. Researchers said rural biomass burning and urban solid waste burning are the major drivers behind the pollution surge, rather than industrial or vehicular emissions. The study also warned that emissions from West Bengal and neighbouring regions are affecting the ecologically sensitive eastern Himalayas. The research

specifically called for the inclusion of the Sundarbans under India's National Clean Air Programme (NCAP), citing the region's growing vulnerability from flooding, erosion and livelihood loss. In Kolkata, worsening pollution could increase healthcare costs, affect workforce productivity and accelerate demand for clean energy, waste management and environmental technology solutions. Businesses linked to sustainability and green infrastructure may see rising investment interest as awareness around air quality concerns grows in the Kolkata metropolitan region.

The Statesman (Page 5 lead story)

West Bengal pollution crisis deepens as satellite study flags Sundarbans risk

Kolkata: Southern West Bengal has emerged as one of the most polluted regions in the Indo-Gangetic Plain, while the ecologically fragile Sundarbans now face an increasing air pollution threat, according to a 25-year satellite study published in the journal *Atmospheric Environment*. The research, led by Prof Abhijit Chatterjee and Mr Soumen Raul of the Bose Institute, analysed particulate matter (PM) pollution trends across the In-

do-Gangetic Plain, the Himalayas and North-East India between 2000 and 2024. The study found southern West Bengal, Bihar and large parts of Bangladesh consistently recorded the highest PM concentrations during the period. Researchers said PM pollution in the eastern Indo-Gangetic Plain increased by 10-40 per cent during 2010-2019 compared to the previous decade. By 2020-2024, elevated carbonaceous aerosol pollution

had spread across the whole of West Bengal. The study identified biomass burning and urban solid waste burning as the primary contributors rather than industrial or vehicular emissions. The report also warned that pollution from West Bengal is travelling towards the eastern Himalayas, affecting ecologically sensitive mountain regions. Researchers urged the government to expand the National Clean Air Programme

(NCAP) to include rural areas and ecosystems like the Sundarbans. In Kolkata, rising pollution levels could increase public health concerns and place additional pressure on urban infrastructure, healthcare spending and local businesses. Growing awareness around air quality may also push demand for cleaner energy solutions and stricter waste management practices in the Kolkata metropolitan region.

Himalayan Mirror (Page 3 lead story- Darjeeling, Siliguri, Jaldapara, Kolkata, Howrah editions)

6.3 West Bengal — Hindi Print

Dainik Vishwamitra (all WB editions) and Jansampath Samachar (all Bengal editions).

सुंदरवन वन को स्वच्छ वायुमिशन में शामिल करने की जरूरत

कोलकाता, 25 मई (निप्र)। दक्षिणी पश्चिम बंगाल पूरे भारतीय गंगा मैदान में प्रदूषण का सबसे बड़ा केंद्र बना है। ताज़ा अध्ययन के मुताबिक 2020-2024 तक पूरे पश्चिम बंगाल में कार्बन प्रदूषण का स्तर खतरनाक रूप से बढ़ गया है। पहले से ही बाढ़, कटाव और रोज़गार के संकट से जूझ रहे सुंदरवन को अब भारत के स्वच्छ वायु मिशन में तुरंत शामिल करने की जरूरत बताई गई है। कोलकाता स्थित बोस संस्थान के प्रोफेसर अभिजीत चटर्जी और शोधकर्ता सौमेन राउल के नेतृत्व में किया गया एक बड़ा वैज्ञानिक अध्ययन प्रतिष्ठित अंतर्राष्ट्रीय पत्रिका एटमॉस्फेरिक एनवायरनमेंट में प्रकाशित हुआ है। इस शोध के तहत वैज्ञानिकों ने साल 2000 से 2024 के बीच भारत-गंगा के मैदानी इलाकों, हिमालयी क्षेत्रों और उत्तर-पूर्व भारत में फैले पार्टिकुलेट मैटर प्रदूषण का एक विस्तृत नक्शा तैयार



किया है। इस 25 वर्षीय अध्ययन के चौकाने वाले निष्कर्षों के अनुसार, दक्षिण पश्चिम बंगाल और बिहार इस पूरे क्षेत्र के वायु प्रदूषण संकट के मुख्य केंद्र (एपिसेंटर) बनकर उभरे हैं। पूरे 25 साल के अध्ययन में सबसे अधिक का स्तर पूर्वी भारत-गंगा के मैदान में दर्ज किया गया, जिसमें दक्षिणी पश्चिम बंगाल, बिहार और बांग्लादेश के बड़े हिस्से लगातार सबसे प्रदूषित पाए गए। 2010-2019 के दौरान पिछले दशक के मुकाबले इस इलाके में प्रदूषण 10-40% तक बढ़ गया। 2000-2009 में जहां सिर्फ उत्तरी पश्चिम बंगाल के सीमित हिस्से में कार्बन एयरोसोल के हॉटस्पॉट थे, वहीं 2020-2024 तक ये पूरे पश्चिम

बंगाल में फैल चुके हैं। बायोमास (पराती) जलाना बना प्रदूषण की सबसे बड़ी वजह, गाड़ियां-कैक्ट्री नहीं अध्ययन में सामने आया है कि पश्चिम बंगाल में प्रदूषण बढ़ने की मुख्य वजह औद्योगिक या वाहनों से होने वाला उत्सर्जन नहीं, बल्कि ग्रामीण इलाकों में बायोमास जलाना और शहरों में ठोस कचरा जलाना है। लागू होने के बाद राज्य में कुल स्तर में कुछ सुधार जरूर देखा गया, लेकिन बायोमास जलाने से होने वाला प्रदूषण कम नहीं हुआ है। नतीजतन, पश्चिम बंगाल अब भी कार्बन एयरोसोल का हॉटस्पॉट बना हुआ है। “पूर्वी भारत-गंगा के मैदान, और अब धीरे-धीरे पूर्वोत्तर भारत भी, प्रदूषण का असमान

बोझ झेल रहा है और इसके पीछे लगभग पूरी तरह से बायोमास जलाना जिम्मेदार है। 25 साल के डेटा में यही संकेत सबसे साफ तौर पर उभरकर सामने आया है।” -प्रो. अभिजीत चटर्जी, बोस इंस्टीट्यूट, कोलकाता। शोध में विशेष रूप से सुंदरवन के मैंग्रोव पारिस्थितिकी तंत्र को भारत के राष्ट्रीय स्वच्छ वायु कार्यक्रम में शामिल किए जाने योग्य क्षेत्र बताया गया है। अध्ययन के अनुसार, सुंदरवन पहले से ही तटीय बाढ़, कटाव और आजीविका के नुकसान जैसी गंभीर एवं लगातार बढ़ती चुनौतियों का सामना कर रहा है। ऐसे में बिगड़ती वायु गुणवत्ता इस क्षेत्र पर एक अतिरिक्त बोझ बनकर उभर रही है, जिसकी पर्यावरणीय सहनशीलता लगातार कमजोर होती जा रही है। अध्ययन के लेखकों का कहना है कि स्वच्छ वायु नीति अब उन पारिस्थितिकी तंत्रों और समुदायों की अनदेखी नहीं कर सकते।

Dainik Vishwamitra (Page 2 lead story)

सुंदरबन को स्वच्छ वायु मिशन में शामिल करने की जरूरत

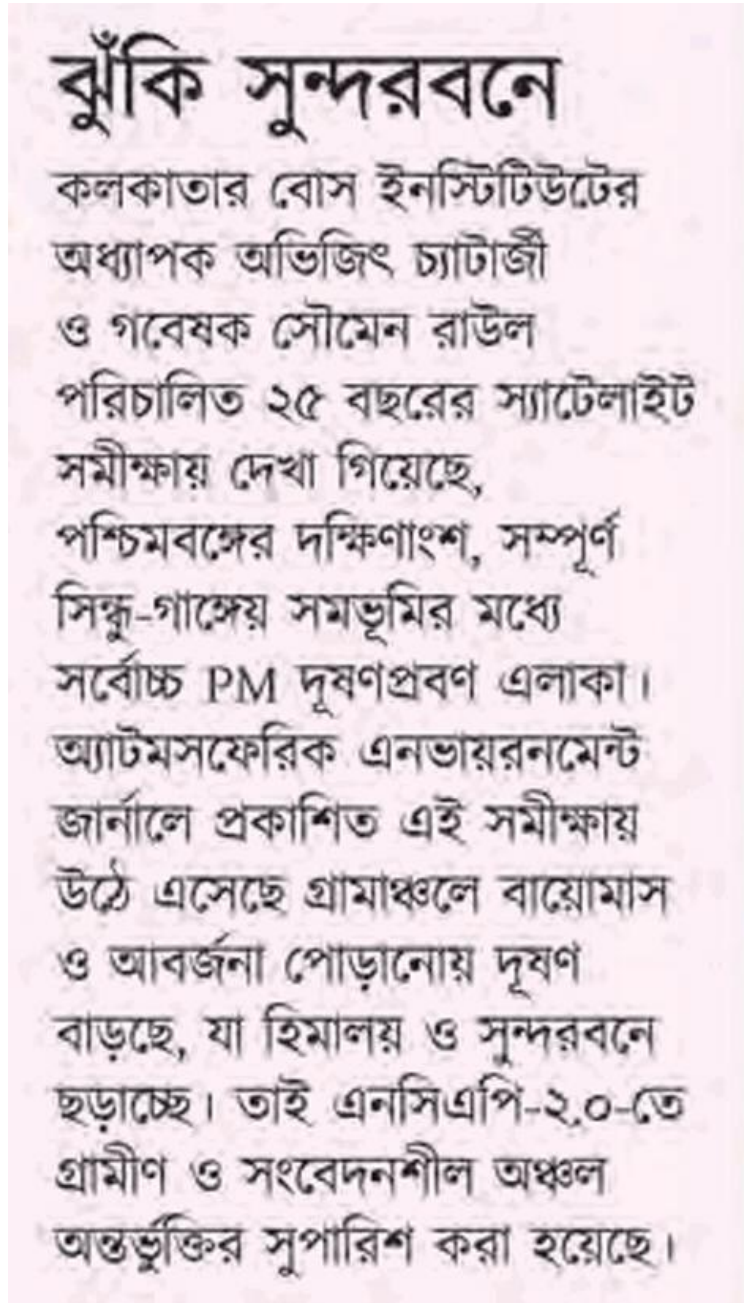
कोलकाता। 25 साल के नेतृत्व में किया गया एक बड़ा सैटेलाइट डेटा पर आधारित नई वैज्ञानिक अध्ययन प्रतिष्ठित स्टडी में बड़ा खुलासा हुआ कि अंतर्राष्ट्रीय पत्रिका एटमॉस्फेरिक दक्षिणी पश्चिम बंगाल पूरे भारतीय एनवायरनमेंट) में प्रकाशित -गंगा मैदान में पीएम प्रदूषण का हुआ है। सबसे बड़ा केन्द्र बना है। ताजा अध्ययन के मुताबिक 2020-2024 तक पूरे पश्चिम बंगाल में कार्बन प्रदूषण का स्तर खतरनाक रूप से बढ़ गया है। पहले से ही बाढ़, कटाव और रोजगार के संकट से जूझ रहे सुंदरबन को अब भारत के स्वच्छ वायु मिशन में तुरंत शामिल करने की जरूरत बताई गई है।

कोलकाता स्थित बोस संस्थान के प्रोफेसर अभिजीत चटर्जी और शोधकर्ता सौमेन राउल के इस शोध के तहत वैज्ञानिकों ने साल 2000 से 2024 के बीच भारत-गंगा के मैदानी इलाकों (IGP), हिमालयी क्षेत्रों और उत्तर-पूर्व भारत में फैले पार्टिकुलेट मैटर (PM) प्रदूषण का एक विस्तृत नक्शा तैयार किया है। इस 25 वर्षीय अध्ययन के चौंकाने वाले निष्कर्षों के अनुसार, दक्षिण पश्चिम बंगाल और बिहार इस पूरे क्षेत्र के वायु प्रदूषण संकट के मुख्य केंद्र (एपिसेंटर) बनकर उभरे हैं।

Jansampath Samachar (all Bengal editions).

6.4 West Bengal — Bangla Print

Aaj Kaal (all Bengal editions).



Aaj Kal (Page 1, all editions in West Bengal)

6.5 North-East — English Print

Northeast Times, Meghalayan Guardian (Meghalaya, Assam, Arunachal Pradesh), Daily Frontier (Assam, Nagaland, Tripura, Arunachal Pradesh), Assam Post (all editions in the state)

NE India sees sharp rise in pollution levels over two decades: Study

GUWAHATI, MAY 25: A new 25-year satellite study has revealed that pollution levels in North-East India have increased sharply over the past two decades, pushing most parts of the region from “polluted” to “highly polluted” categories due to rising carbonaceous aerosols linked to biomass burning and slash-and-burn farming practices. The research, published in the journal *Atmospheric Environment*, was led by Prof Abhijit Chatterjee and research fellow Soumen Raul of Bose Institute. The study analysed particulate matter pollution trends across the Indo-Gangetic Plain, North-East India and the Himalayas between 2000 and 2024. According to the findings, organic carbon and sulphate components of particulate matter rose nearly 50 per cent in North-East India during 2010-2019 compared to the previous decade. Pollution hotspots earlier limited to Assam, Meghalaya and Tripura have now expanded further across the region and into Bangladesh. The report also highlighted worsening industrial pollution in Assam, especially around Bongaigaon, Guwahati, Dibrugarh, Digboi, Numaligarh and Bokajan, where sulphate emissions from thermal power plants, oil refineries and cement industries increased by over 30 per cent after NCAP implementation. In Guwahati, environmental experts and traders expressed concern over the findings, saying rising pollution could impact public health, tourism and long-term economic activities in the city if stronger mitigation measures are not introduced. Researchers have urged the government to expand NCAP 2.0 to include rural and ecologically sensitive regions of North-East India.

North-East India sees sharp rise in pollution levels over two decades: Study

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North-East India sees sharp rise in pollution levels over two decades: Study

Guwahati: Research published in the journal *Atmospheric Environment*, led by Prof Abhijit Chatterjee and Mr Soumen Raul of the Bose Institute, Kolkata, has mapped particulate matter (PM) pollution trends across the Indo-Gangetic Plain (IGP), North-East India, and the Himalayas from 2000 to 2024. The findings for North-East India are among the study’s starkest. Organic carbon and sulphate components of PM, both closely associated with biomass burning, increased by nearly 50% in North-East India during 2010-2019 compared to the 2000-2009 baseline. Hotspots that were once concentrated in Assam, Meghalaya, and Tripura have expanded across all three states and into Bangladesh. Most of North-East India has crossed the threshold from “polluted” to “highly polluted” for carbonaceous aerosols over the past two decades. **Slash-and-Burn and Domestic Biomass:** The Primary Drivers The sharp rise in carbonaceous PM across the region is attributed to two main sources: intensified slash-and-burn agricultural practices, and the extensive use of biomass — wood, crop residue, cow dung — for cooking and heating in rural households. These are deeply embedded in rural livelihoods, and India’s current clean air framework has no significant mechanism to address them. “NCAP is primarily designed as a city-focused initiative. But our data shows that air pollution in rural India is equally severe, and in some cases more so. Biomass burning (for cooking, heating, agriculture) is not being adequately addressed by the programme as it currently stands. The rural dimension needs to be explicitly built into the clean air mission,” Prof Abhijit Chatterjee, Bose Institute, Kolkata. **Assam’s Industrial Belt: A Separate and Growing Concern:** The study identifies a specific and worsening industrial pollution problem in Assam. Sulphate emissions in the state rose by more than 30% after NCAP implementation, driven by thermal power plants, oil refineries, and cement industries concentrated in Bongaigaon, Guwahati, Dibrugarh, Digboi, Numaligarh, and Bokajan. Dust pollution showed some improvement, declining to relatively safer limits in Kokrajhar, Dhubri, and Bongaigaon — but the industrial sulphate signal is moving in the opposite direction. **North-East India’s Pollution is Crossing into the Eastern Himalayas:** The satellite study shows that North-East India, along with the lower IGP, is a primary source region for aerosol loading over the eastern Himalayas. The study also found strong inter-Himalayan transport: emissions from the central and eastern Himalayas, in turn, affect North-East India. The region is both a significant source and a receptor of long-range pollution — a dynamic that is entirely outside any current policy framework. “The eastern Indo-Gangetic Plain, and increasingly North-East India, are carrying a disproportionate pollution burden — and it is being driven almost entirely by biomass burning. That is the signal that stands out most clearly across 25 years of data,” Prof Abhijit Chatterjee, author from Bose Institute, Kolkata. The researchers argue that NCAP 2.0 must go beyond its current mandate of 131 non-attainment cities to include rural regions and ecologically sensitive areas. North-East India’s bioeconomy-rich zones are named explicitly in the paper as warranting inclusion in India’s Clean Air Mission alongside the Sundarbans and the Himalayan regions. Without this expansion, the programme will continue to miss the dominant and growing sources of PM pollution in the country.

6.6 North-East — Regional Print

Dainik Ganaadhikar (Page 6), Dainik Batori Kakot (Page 9), Dainik Assam (Page 1)

উত্তৰ-পূৰ্বাঞ্চলত দুটা দশকত তীব্ৰ গতিত বৃদ্ধি পাইছে প্ৰদূষণৰ মাত্ৰা

গুৱাহাটী, ২৫ মে' ২৫ বছৰীয়া এক নতুন উপগ্ৰহীয় অধ্যয়ন প্ৰকাশ কৰিছে যে বিগত দুটা দশকত উত্তৰ-পূব ভাৰতত প্ৰদূষণৰ মাত্ৰা তীব্ৰ গতিত বৃদ্ধি পাইছে। জৈৱ উপাদান দহন আৰু কৃষিৰ ক্ষেত্ৰত জটিল কৰ্মনিয়মিত এই বৃদ্ধি পোৱাৰ বাবে অঞ্চলটোৰ বেছিভাগ অংশই এতিয়া “প্ৰদূষিত” শ্ৰেণীৰ পৰা “অধিক প্ৰদূষিত” শ্ৰেণীত অধ্যৰ্ণিত হৈছে। “এটমচফেৰিক এনভাইৰনমেণ্ট” নামৰ আলোচনীত প্ৰকাশিত এই গৱেষণাৰ বাসু ইনষ্টিটিউটৰ অধ্যাপক অভিজিৎ চৌধুৰী আৰু গৱেষক সৌমেন ৰাউলে নেতৃত্ব দিছিল। এই অধ্যয়নত ২০০০ চনৰ পৰা ২০২৪ চনৰ ভিতৰত ইণ্ডো-গাংগা সমভূমি, উত্তৰ-পূব ভাৰত আৰু হিমালয় অঞ্চলৰ পাৰ্চিকুলেট মেটাৰ (প্ৰদূষক কণা)ৰ প্ৰবণতা বিশ্লেষণ কৰা হৈছিল। তথ্য অনুসৰি, পূৰ্বৱৰ্তী দশকৰ তুলনাত ২০১০-২০১৯ বৰ্ষৰ ভিতৰত উত্তৰ-পূৰ্বাঞ্চলত পাৰ্চিকুলেট মেটাৰৰ অণেনিক কাৰ্বন আৰু ছালফেটৰ পৰিমাণ প্ৰায় ৫০ শতাংশ বৃদ্ধি পাইছে। পূৰ্বে কেৱল অসম, মেঘালয় আৰু ত্ৰিপুৰাত সীমাবদ্ধ থকা প্ৰদূষণৰ হটস্পটসমূহ এতিয়া সমগ্ৰ অঞ্চলটোৰ লগতে বাংলাদেশলৈকে সম্প্ৰসাৰিত হৈছে। অধ্যয়নটোত ক্ৰমবৰ্ধমান কৃষি ক্ষেত্ৰ আৰু গ্ৰাম্য পৰিৱাসসমূহত বন্ধা-বঢ়া তথা ঘৰ গৰম ৰখাৰ বাবে খৰি, শস্যৰ অবশিষ্ট আৰু গোবৰৰ দৰে জৈৱ ইন্ধনৰ ব্যাপক ব্যৱহাৰক প্ৰদূষণৰ মূল কাৰণ হিচাপে চিহ্নিত কৰা হৈছে। গৱেষকসকলে কয় যে ভাৰতৰ ৰাষ্ট্ৰীয় নিৰ্মল বায়ু কাৰ্যসূচী (এনচিএপি), যি বৰ্তমান মুখ্যতঃ চহৰসমূহৰ ওপৰত কেন্দ্ৰীভূত, সেয়া ক্ৰমবৰ্ধমান গ্ৰাম্য প্ৰদূষণৰ সংকট দূৰ কৰাত ব্যৰ্থ হৈছে। প্ৰতিবেদনখনত অসমৰ উদ্যোগিক প্ৰদূষণৰ ভয়াৱহতাৰ কথাও উল্লেখ কৰা হৈছে। বিশেষকৈ বঙাইগাঁও, গুৱাহাটী, ডিব্ৰুগড়, ডিগবৈ, নুমলীগড় আৰু বোকাজানৰ আশে-পাশে থকা তাপ বিদ্যুৎ প্ৰকল্প, তেল শোধনাগাৰ আৰু চিমেণ্ট উদ্যোগসমূহৰ পৰা ছালফেট নিৰ্গমনৰ মাত্ৰা এনচিএপি কণায়ণৰ পিছত ৩০ শতাংশতকৈও অধিক বৃদ্ধি পাইছে।

অধ্যয়নৰ প্ৰকাশ-উত্তৰ-পূৰ্বাঞ্চলত দুটা দশকত তীব্ৰ গতিত বৃদ্ধি পাইছে প্ৰদূষণৰ মাত্ৰা

গুৱাহাটী, ২৫ মে' ২৫ বছৰীয়া এক নতুন উপগ্ৰহীয় অধ্যয়ন প্ৰকাশ কৰিছে যে বিগত দুটা দশকত উত্তৰ-পূব ভাৰতত প্ৰদূষণৰ মাত্ৰা তীব্ৰ গতিত বৃদ্ধি পাইছে। জৈৱ উপাদান দহন আৰু কৃষিৰ ক্ষেত্ৰত জটিল কৰ্মনিয়মিত এই বৃদ্ধি পোৱাৰ বাবে অঞ্চলটোৰ বেছিভাগ অংশই এতিয়া “প্ৰদূষিত” শ্ৰেণীৰ পৰা “অধিক প্ৰদূষিত” শ্ৰেণীত অধ্যৰ্ণিত হৈছে। “এটমচফেৰিক এনভাইৰনমেণ্ট” নামৰ আলোচনীত প্ৰকাশিত এই গৱেষণাৰ বাসু ইনষ্টিটিউটৰ অধ্যাপক অভিজিৎ চৌধুৰী আৰু গৱেষক সৌমেন ৰাউলে নেতৃত্ব দিছিল। এই অধ্যয়নত ২০০০ চনৰ পৰা ২০২৪ চনৰ ভিতৰত ইণ্ডো-গাংগা সমভূমি, উত্তৰ-পূব ভাৰত আৰু হিমালয় অঞ্চলৰ পাৰ্চিকুলেট মেটাৰৰ প্ৰবণতা বিশ্লেষণ কৰা হৈছিল। তথ্য অনুসৰি, পূৰ্বৱৰ্তী দশকৰ তুলনাত ২০১০-২০১৯ বৰ্ষৰ ভিতৰত উত্তৰ-পূৰ্বাঞ্চলত পাৰ্চিকুলেট মেটাৰৰ অণেনিক কাৰ্বন আৰু ছালফেটৰ পৰিমাণ প্ৰায় ৫০ শতাংশ বৃদ্ধি পাইছে। পূৰ্বে কেৱল অসম, মেঘালয় আৰু ত্ৰিপুৰাত সীমাবদ্ধ থকা প্ৰদূষণৰ হটস্পটসমূহ এতিয়া সমগ্ৰ অঞ্চলটোৰ লগতে বাংলাদেশলৈকে সম্প্ৰসাৰিত হৈছে। অধ্যয়নটোত ক্ৰমবৰ্ধমান কৃষি ক্ষেত্ৰ আৰু গ্ৰাম্য পৰিৱাসসমূহত বন্ধা-বঢ়া তথা ঘৰ গৰম ৰখাৰ বাবে খৰি, শস্যৰ অবশিষ্ট আৰু গোবৰৰ দৰে জৈৱ ইন্ধনৰ ব্যাপক ব্যৱহাৰক প্ৰদূষণৰ মূল কাৰণ হিচাপে চিহ্নিত কৰা হৈছে। গৱেষকসকলে কয় যে ভাৰতৰ ৰাষ্ট্ৰীয় নিৰ্মল বায়ু কাৰ্যসূচী (এনচিএপি), যি বৰ্তমান মুখ্যতঃ চহৰসমূহৰ ওপৰত কেন্দ্ৰীভূত, সেয়া ক্ৰমবৰ্ধমান গ্ৰাম্য প্ৰদূষণৰ সংকট দূৰ কৰাত ব্যৰ্থ হৈছে। প্ৰতিবেদনখনত অসমৰ উদ্যোগিক প্ৰদূষণৰ ভয়াৱহতাৰ কথাও উল্লেখ কৰা হৈছে। বিশেষকৈ বঙাইগাঁও, গুৱাহাটী, ডিব্ৰুগড়, ডিগবৈ, নুমলীগড় আৰু বোকাজানৰ আশে-পাশে থকা তাপ বিদ্যুৎ প্ৰকল্প, তেল শোধনাগাৰ আৰু চিমেণ্ট উদ্যোগসমূহৰ পৰা ছালফেট নিৰ্গমনৰ মাত্ৰা এনচিএপি কণায়ণৰ পিছত ৩০ শতাংশতকৈও অধিক বৃদ্ধি পাইছে। গুৱাহাটীৰ পৰিৱেশ বিশেষ, আৰু বাক্যায়ীসকলে এই তথ্যক লৈ উদ্বেগ প্ৰকাশ কৰিছে। তেওঁলোকে কয় যে, যদিহে কোনো দৃঢ় প্ৰতিবেদনমূলক পদক্ষেপ গ্ৰহণ কৰা নাহয়, তেন্তে ক্ৰমবৰ্ধমান প্ৰদূষণে চহৰখনৰ জনস্বাস্থ্য, পৰ্যটন আৰু দৰ্শনীয় স্থানীয় অৰ্থনৈতিক কাৰ্যকলাপত বিপাক প্ৰভাৱ পেলাব পাৰে। গৱেষকসকলে চৰকাৰক এনচিএপি ২.০ কাৰ্যসূচী উত্তৰ-পূব ভাৰতৰ গ্ৰাম্য আৰু পৰিৱেশগত ভাৱে “স্পৰ্শকাৰী” অঞ্চলসমূহলৈ সম্প্ৰসাৰিত কৰিবলৈ আহ্বান জনাইছে।

উত্তৰ-পূবত দ্ৰুত গতিত বাঢ়িছে প্ৰদূষণ



দুটা দশকত 'পাৰ্টিকুলেট মেটাৰ'ৰ পৰিমাণ ৫০ শতাংশ বৃদ্ধি

কলকাতা, ৩১ মে' : বিগত দুটা দশকত উত্তৰ-পূব ভাৰতত প্ৰদূষণৰ মাত্ৰা তীব্ৰ গতিত বৃদ্ধি পাইছে। যোৱা ২৫ বছৰ ধৰি কৃত্ৰিম উপগ্ৰহৰ জৰিয়তে চলোৱা অধ্যয়নত লাভ কৰা হৈছে এই উদ্বেগজনক তথ্য। এই তথ্য অনুসৰি জৈৱ ইন্ধনৰ ব্যাপক দহন আৰু বুমখেতিৰ সৈতে জড়িত 'কাৰ্বনেচিয়াছ এৰ'ছল' বৃদ্ধি হোৱা বাবে অঞ্চলটোৰ বেছিভাগ এলেকাই এতিয়া 'প্ৰদূষিত' শ্ৰেণীৰপৰা 'অধিক প্ৰদূষিত' শ্ৰেণীলৈ পৰ্যবসিত হৈছে। 'এটম'ছ্ফেৰিক এনভাইৰনমেণ্ট' নামৰ আলোচনীত অধ্যয়নটোত লাভ কৰা তথ্যৰ গৱেষণাভিত্তিক এখন প্ৰতিবেদন প্ৰকাশ কৰা হৈছে। এই গৱেষণা সম্পন্ন কৰিছিল পশ্চিমবংগৰ বসু ইনষ্টিটিউটৰ অধ্যাপক অভিজিৎ চেটাৰ্জী আৰু বিজ্ঞানী সৌমেন বাউল নেতৃত্বাধীন এদল গৱেষকে। গৱেষকৰ দলটোৰ অধ্যয়নত ২০০০ চনৰপৰা ২০২৪ চনৰ ভিতৰত ইণ্ডো-গংগা সমভূমি, উত্তৰ-পূব ভাৰত আৰু হিমালয় অঞ্চলত 'পাৰ্টিকুলেট মেটাৰ' (প্ৰদূষক কণা)ৰ প্ৰৱণতা বিশ্লেষণ কৰা হৈছিল। অধ্যয়নত লাভ কৰা তথ্য অনুসৰি পূৰ্বৱৰ্তী দশকৰ তুলনাত ২০১০-২০১৯ বৰ্ষৰ ভিতৰত উত্তৰ-পূৰ্বাঞ্চলত 'পাৰ্টিকুলেট মেটাৰ'ৰ অগেণিক কাৰ্বন আৰু ছালফেটৰ পৰিমাণ প্ৰায় ৫০ শতাংশ বৃদ্ধি হৈছে।

পূৰ্বে কেৱল অসম, মেঘালয় আৰু ত্ৰিপুৰাত সীমাবদ্ধ থকা প্ৰদূষণৰ নাভিকেन्द्रবোৰ এতিয়া সমগ্ৰ অঞ্চলটোৰ লগতে বাংলাদেশলৈকো সম্প্ৰসাৰিত হৈছে। অধ্যয়নটোত ক্ৰমবৰ্ধমান বুমখেতি আৰু গ্ৰাম্য পৰিয়ালসমূহত বন্ধা-বঢ়া তথা ঘৰ গৰম কৰি বখাৰ বাবে খৰি, শস্যৰ অৱশিষ্ট আৰু গোবৰৰ দৰে জৈৱ ইন্ধনৰ ব্যাপক দহনক প্ৰদূষণৰ মূল কাৰণ হিচাপে চিহ্নিত কৰা হৈছে। গৱেষকসকলে কয় যে ভাৰতৰ বাস্তৱীয় নিৰ্মল বায়ু কাৰ্যসূচী (এন চি এ পি)ত বৰ্তমান মুখ্য নগৰ-মহানগৰসমূহক গুৰুত্ব আৰোপ কৰা হৈছে। সেয়ে ইয়াৰ জৰিয়তে ক্ৰমবৰ্ধমান গ্ৰাম্য প্ৰদূষণৰ সংকট দূৰ কৰিব পৰা নাই। 'এটম'ছ্ফেৰিক এনভাইৰনমেণ্ট' আলোচনীত প্ৰকাশিত প্ৰতিবেদনখনত অসমৰ ঔদ্যোগিক প্ৰদূষণৰ ভয়াবহতাৰ কথাও উল্লেখ কৰা হৈছে। বিশেষকৈ বঙাইগাঁও, গুৱাহাটী, ডিব্ৰুগড়, ডিগবৈ, নুমলীগড় আৰু বোকাজানৰ আশে-পাশে থকা তাপবিদ্যুৎ প্ৰকল্প, তেল শোধনাগাৰ আৰু চিমেণ্ট উদ্যোগসমূহৰ পৰা ছালফেট নিৰ্গমণৰ মাত্ৰা এন চি এ পি ৰূপায়ণৰ পাছতো ৩০ শতাংশতকৈও অধিক বৃদ্ধি পাইছে। স্থানীয় পৰিৱেশবিদ আৰু বিশেষজ্ঞসকলে এই তথ্যক লৈ উদ্বেগ প্ৰকাশ কৰিছে। গৱেষকসকলে কেন্দ্ৰীয় চৰকাৰক এন চি এ পি ২.০ কাৰ্যসূচী উত্তৰ-পূব ভাৰতৰ গ্ৰাম্য আৰু পৰিৱেশগতভাৱে স্পৰ্শকাতৰ অঞ্চলসমূহলৈ সম্প্ৰসাৰণ কৰিবলৈ আহ্বান জনাইছে।

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About This Report

This report is prepared by Asar Social Impact Advisors as part of the Simplifying Science programme. Simplifying Science is Asar's strategic initiative to build a stronger narrative around climate science across India — translating peer-reviewed research into accessible, regionally relevant stories that reach communities in the languages and through the media they trust. www.asar.co.in