Citizen Air Quality Platform

JanVayu

जनवायु · ஜன்வாயு · জনবায়ু

Citizen-built. Data-led.
Independent. Non-partisan.

A deep walkthrough of India's citizen air quality accountability platform.

What's covered. Every section of janvayu.in: live data and forecasts, health and exposure tools, the budget tracker, accountability dashboards, citizen tools, and the underlying data and design.

Presented by Varna Sri Raman · janvayu.in · May 2026

What we'll cover, in nine chapters

1. Frame & entry	Why JanVayu exists; the role-selector splash; how the site organises itself.
2. Live picture	Dashboard, live map, rankings, comparison, trends, forecast, hyperlocal, correlations, alerts, pollution calendar.
3. Health & exposure	Health Impact (GEMM), Children's Health, Women's Health, Indoor Air, Exposure Report, Should I Go Outside, Purifier, School Closures.
4. Economic & migration	Economic Cost calculator; Migration & Displacement; Migration Calculator.
5. Policy & accountability	Policy Effectiveness, Budget Tracker, Political accountability, Industrial Sources, Mission Tracker (E1–E5), Scorecards, AI Brief, Clean Air Wins, Legal Framework, RTI Assistant.
6. Citizen action	Take Action, Citizen Plan, Voices, Workshops, Learning Games, Social Feed, Live News.
7. Tools & knowledge	Ask JanVayu (AI), Tools, Glossary, Reading List, Downloads, Data Archive.
8. About, footer, compliance	Provenance, licensing, disclaimers, IT Act compliance.
9. Using JanVayu in your work	How researchers, journalists, and advocates can pull data, embed widgets, file RTIs, and integrate findings.

CHAPTER

Chapter 1
Frame & entry

Why JanVayu exists, who built it, and how the site introduces itself to a first-time visitor.

Why a citizen air quality platform at all?

1.72M

Indian deaths per year from ambient PM2.5

Lancet Countdown 2025, India chapter (revised up from 1.5M)

~70%

share of the global ambient-PM2.5 mortality burden borne by India

Lancet GBD 2024 derivation

9.5% of GDP

estimated annual economic cost of air pollution

Lancet Countdown 2025; earlier World Bank work put it at 1.36%

22× WHO

Loni (UP) ranked most polluted city on Earth in IQAir 2025

IQAir World Air Quality Report, March 2026

What JanVayu actually is, in one paragraph

JanVayu (जनवायु, *people's air*) is India's independent, citizen-built air quality accountability platform. It tracks live PM2.5 across 33+ cities, translates exposure into health and economic costs using peer-reviewed dose-response models, and follows the public money meant to fix the problem. It is not a government dashboard and not affiliated with any commercial entity. It is non-partisan, independently funded, and published under MIT (code) and CC BY-NC-SA 4.0 (content) licences.

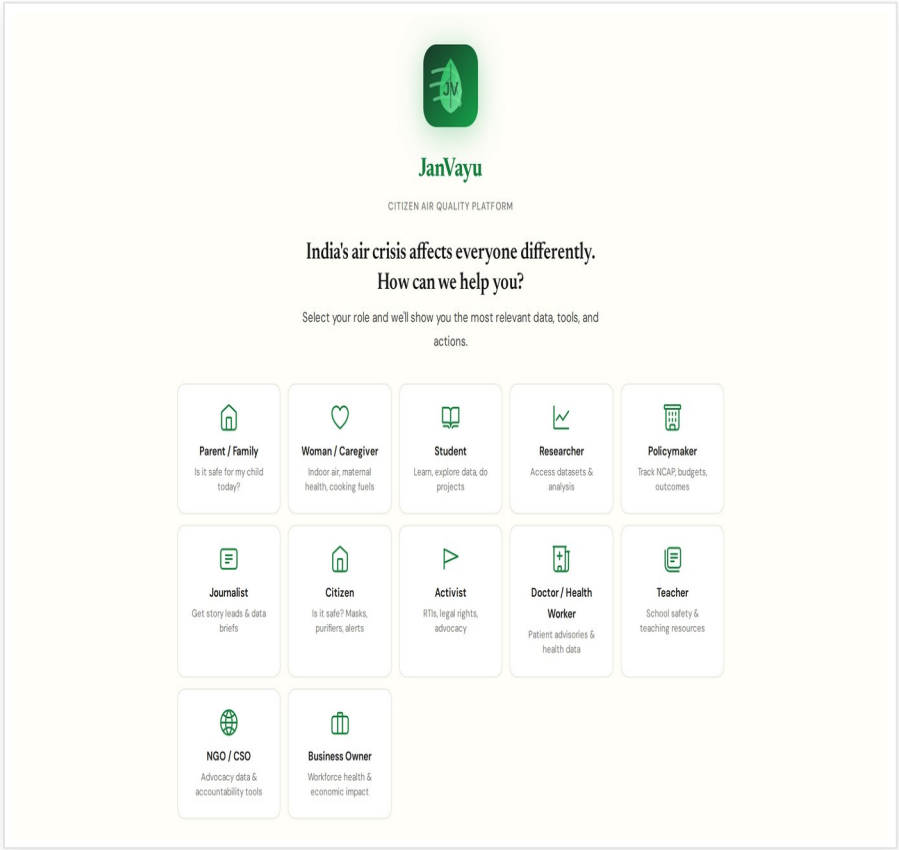
PM2.5-first	AQI hides danger. We display PM2.5 in µg/m³ with WHO multipliers (×n WHO) as the headline metric. AQI is shown as a secondary number.
Independent verification	RTI responses, CPCB data, NASA FIRMS imagery, peer-reviewed studies. Not government self-reporting.
Justice-aware	Air pollution is not evenly distributed. Indoor air, occupational exposure, and spatial injustice are explicit, separate sections.
Pan-Indian access	Multilingual UI (English, Hindi, Tamil, Marathi, Bengali). Name chosen for pan-India linguistic accessibility.

#splash (first load)

The first thing a visitor sees

Personalised entry by role, a 'pick your path' splash

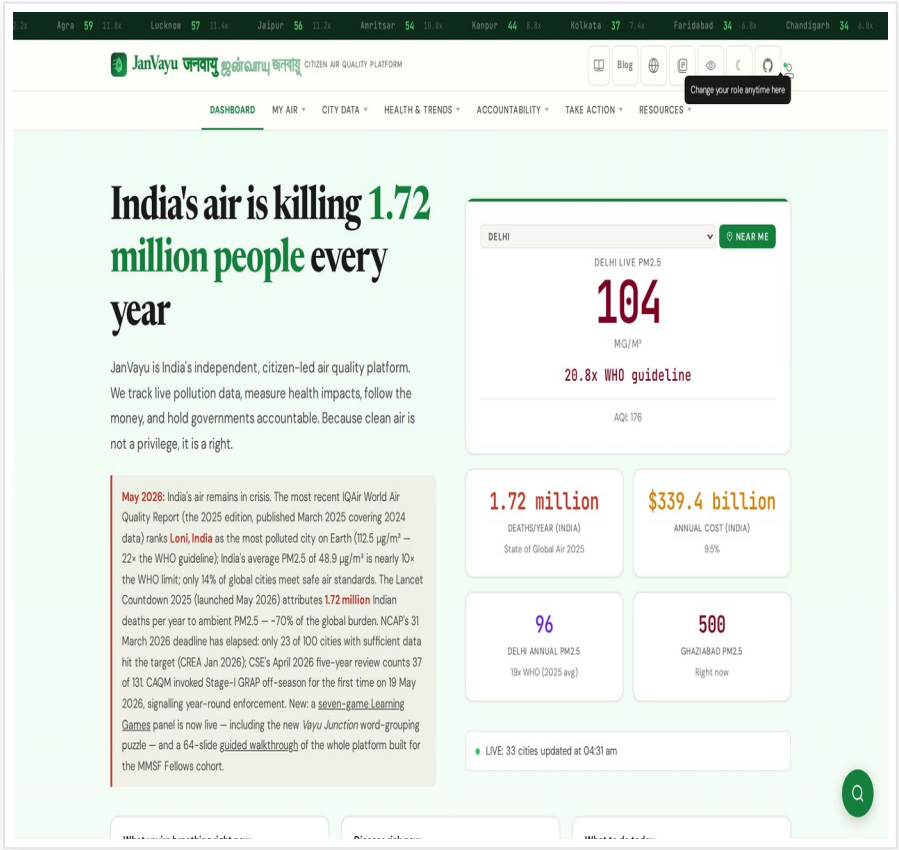
- Twelve role tiles: Parent/Family, Woman/Caregiver, Student, Researcher, Policymaker, Journalist, Citizen, Activist, Doctor/Health Worker, Teacher, NGO/CSO, Business Owner.
- Picking a role personalises the home view to surface the most relevant data and tools for that user.
- Woman/Caregiver and the split Citizen-vs-Activist tiles were added in the late-May 2026 refresh, reflecting that those audiences have distinct needs: indoor air and maternal health for one, RTIs and legal rights for the other.
- An explicit 'Skip, show me everything' escape hatch respects users who want the full firehose. Role is stored locally and can be changed any time from the icon at the top right; no account required.



Site shell: what every panel inherits

Persistent header, live ticker, and a seven-group mega-menu

- Top: rolling ticker showing live PM2.5 for 33+ cities with the ×WHO multiplier (no abstraction, no composite).
- Branding row: multilingual logo (JanVayu / जनवायु / ஜன்வாயு), search (Ctrl+K), blog, language toggle, glossary, accessibility, dark mode, GitHub, role badge.
- Mega-menu collapses 45 panels into seven groups: Dashboard · My Air · City Data · Health & Trends · Accountability · Take Action · Resources.
- Below 1024px the whole nav collapses into a slide-out drawer; everything stays one tap away.



CHAPTER

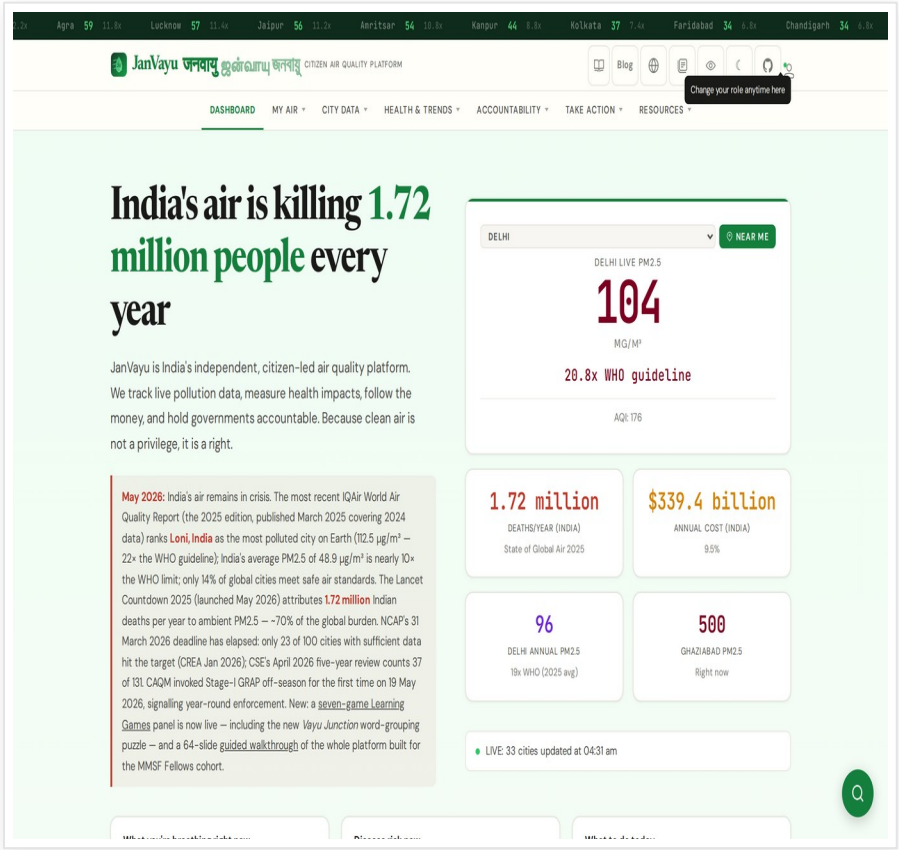
Chapter 2
The live picture

Real-time PM2.5, forecasts, comparisons, geographic spread, and seasonal patterns. Ten panels that answer the question: what is happening, where, right now.

Dashboard

The single answer to 'how bad is it right now?'

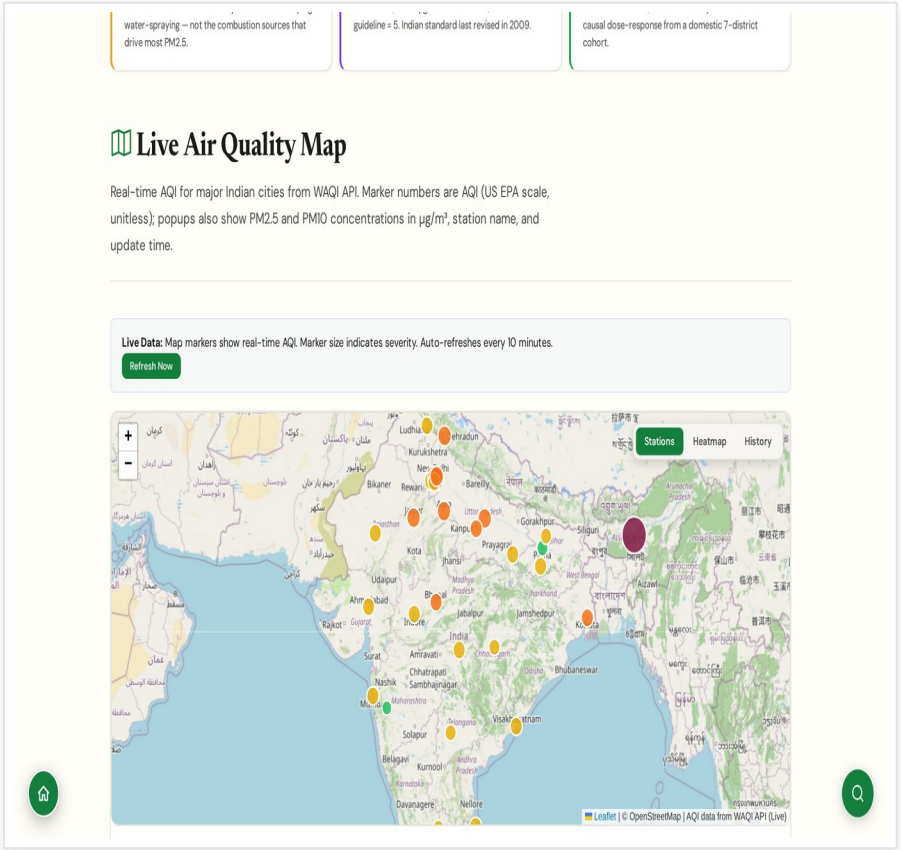
- Headline editorial framing: 1.72 million people, every year. The number first, then the methodology.
- Live PM2.5 card (Delhi default, switchable via 33-city dropdown or 'NEAR ME' geolocation): value in µg/m³, ×WHO multiplier, AQI shown as secondary.
- Four stat cards: India deaths/year (SoGA 2025), annual cost ($339.4B / 9.5% GDP, Lancet Countdown 2025), Delhi annual PM2.5 (96 µg/m³, 19× WHO), and a 'right now' card for a feature city.
- Live worst/best cities, GRAP status for Delhi-NCR, and 'Latest Updates' news feed all anchor to current state.



Live Map

Three view modes: stations, heatmap, and historical climatology

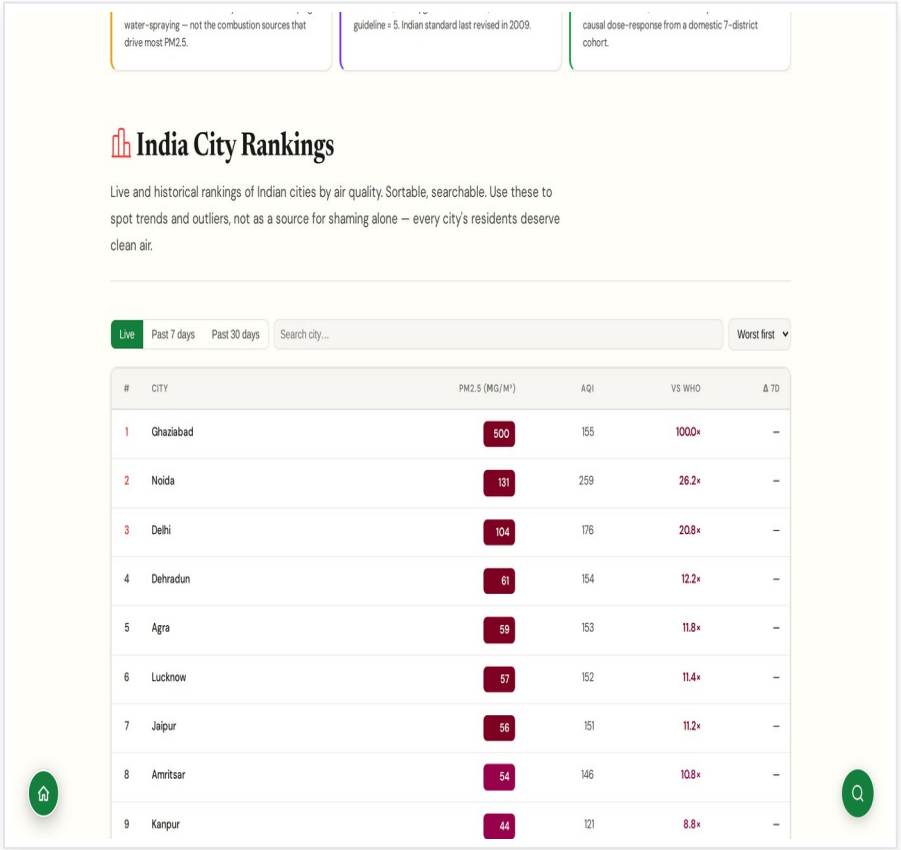
- Leaflet-based interactive map with live AQI from WAQI API; markers sized by severity, auto-refreshing every 10 minutes.
- Three view modes via the toggle: Stations (default), Heatmap (pollution density), History (CPCB/IQAir climatology, 2024 to present).
- Marker numbers are US EPA AQI (unitless); clicking a marker reveals PM2.5 and PM10 in µg/m³, station name, and update time.
- Useful for spotting hyperlocal hotspots that city-aggregate AQI dashboards conceal, and for visualising seasonal patterns via History mode.



City Rankings

Worst and best, ranked live and over the year

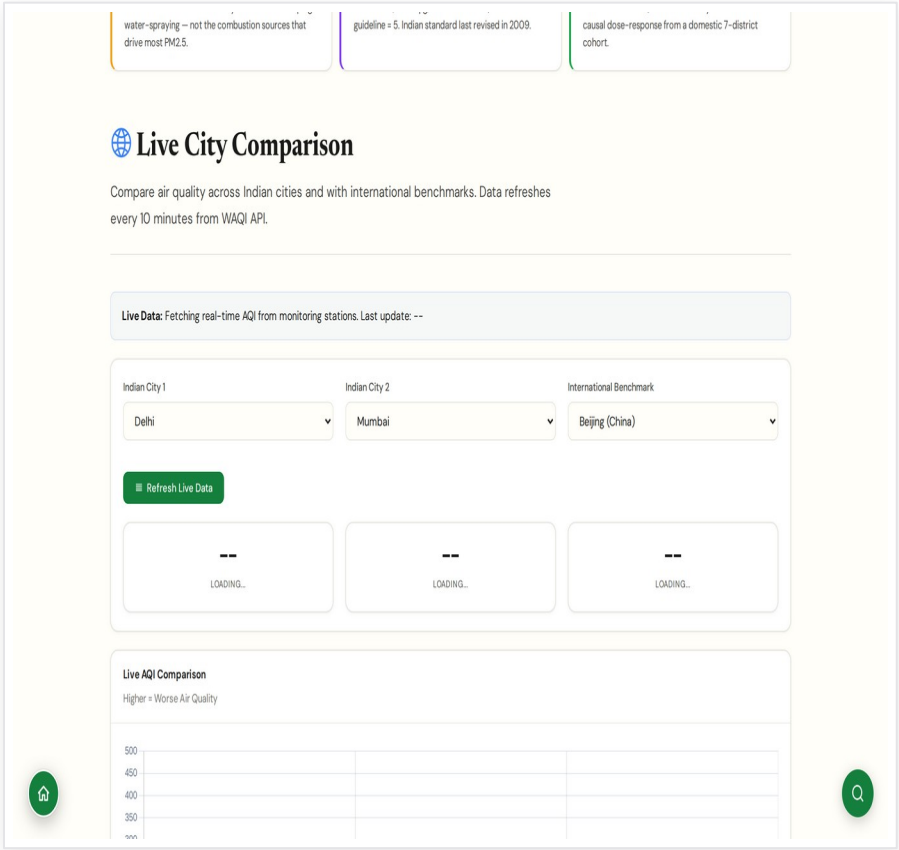
- Live ranked list of cities by current PM2.5: who is breathing the worst air at this hour.
- Annual rankings reproduce IQAir 2025 with the 22× Loni headline and the cluster of UP/Delhi-NCR cities at the top.
- Comparative ×WHO column makes the rankings interpretable across scales (a city at 5× and one at 20× are not 'both unsafe').
- Designed to be quotable for journalists; rankings link out to the underlying data source.



City Comparison

Side-by-side comparison of up to three cities

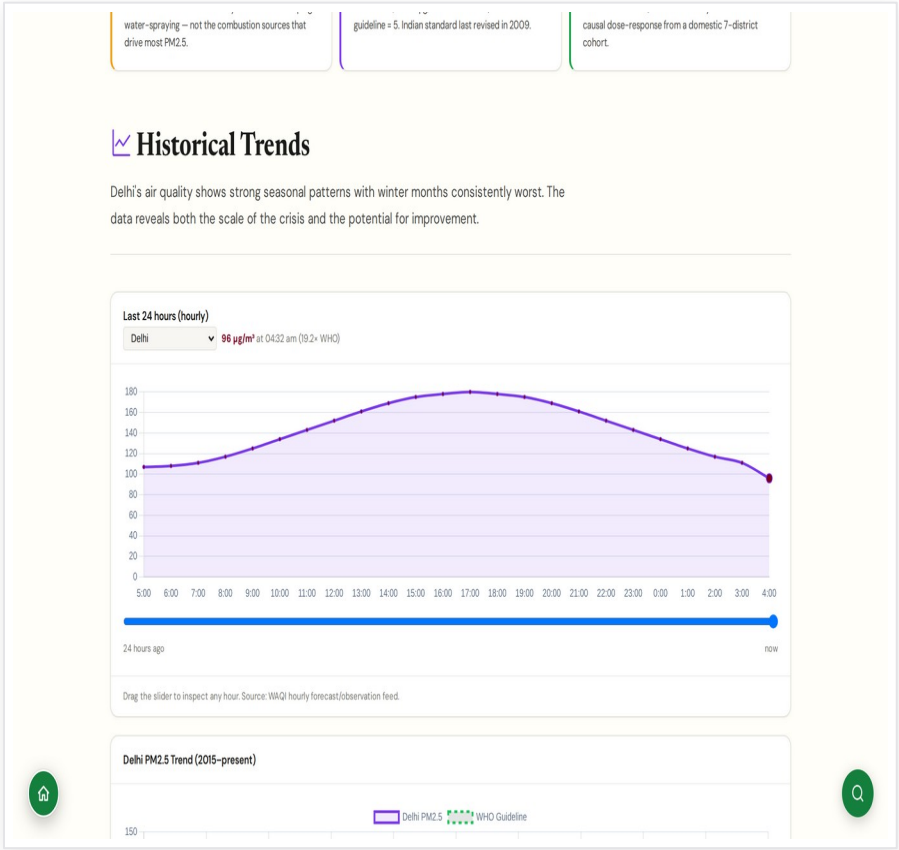
- Pick any three cities from the dropdown; the comparison panel pulls live data simultaneously.
- Comparison covers: current PM2.5, ×WHO ratio, 24-hour AQI trend, dominant pollutant, station count.
- Useful for op-eds and policy briefs: e.g. 'Delhi today is breathing X times what Bengaluru is breathing.'
- Last update timestamp shown explicitly so cited comparisons are time-stamped.



Historical Trends

Annual and seasonal PM2.5 trajectories

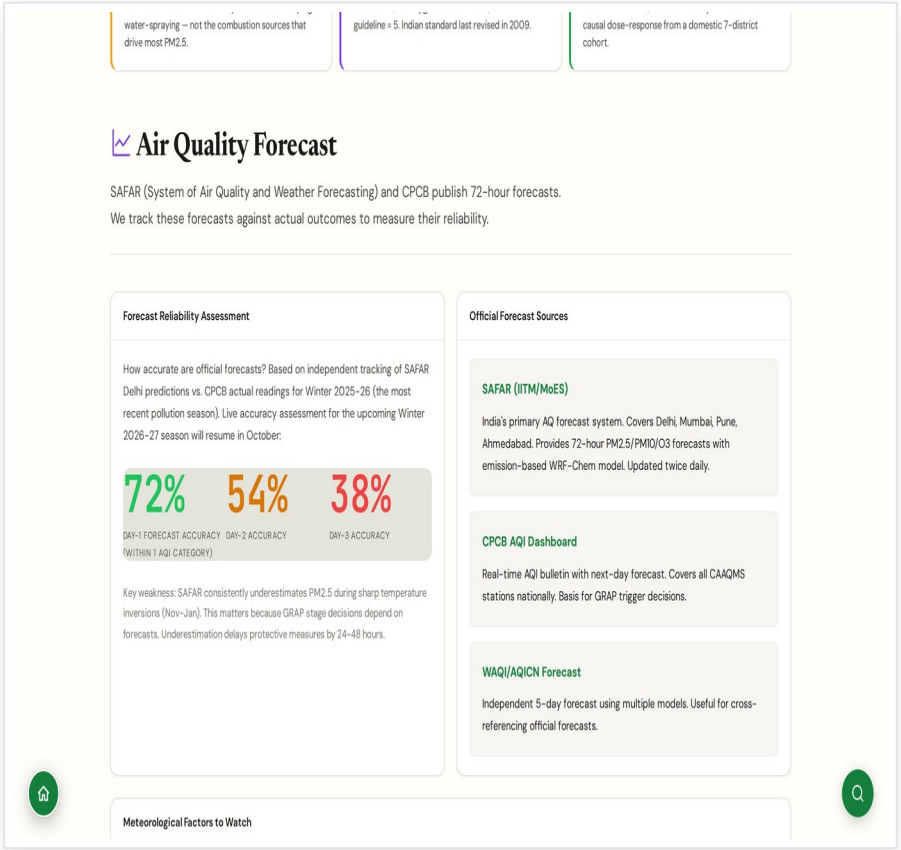
- Long-run series from CPCB CAAQMS and PRANA Portal: how PM2.5 has moved year on year since 2015.
- Headline timeline updated through May 2026: NCAP deadline elapsed, NGT directions, GRAP changes, IQAir release.
- Seasonal breakdown isolates the winter inversion period (October–February) from monsoon and pre-monsoon.
- Useful for assessing whether NCAP and city-level interventions are actually moving the needle.



Air Quality Forecast

Auditing official forecasts against actual outcomes

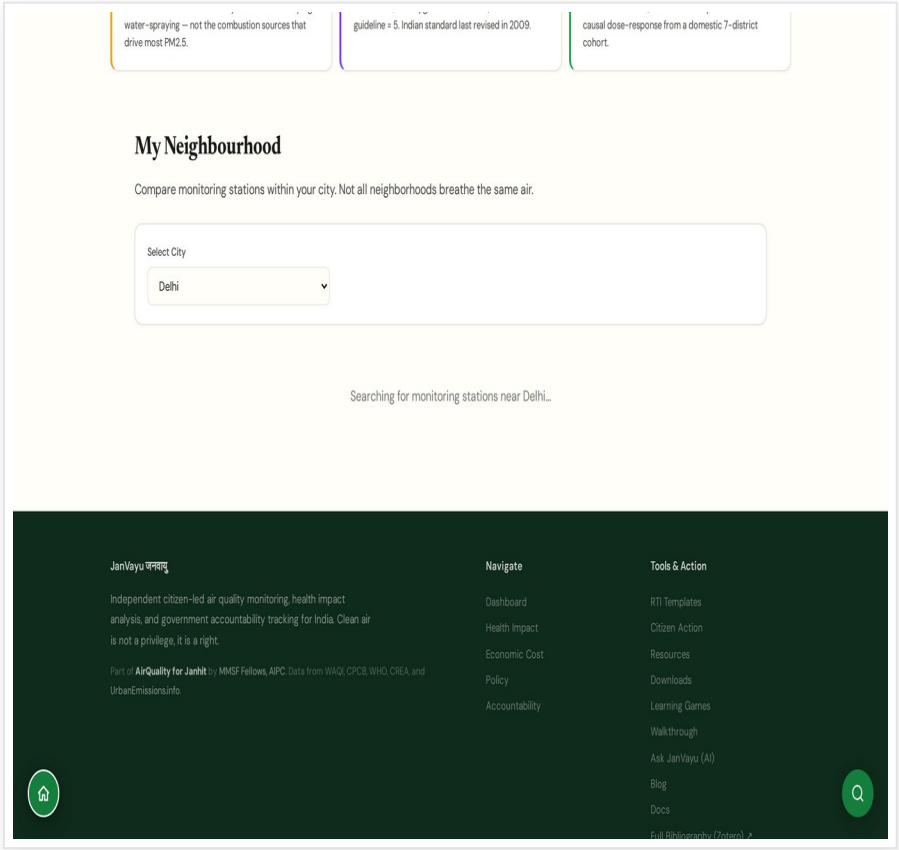
- Not a forecaster but a forecast auditor: tracks SAFAR (IITM/MoES), CPCB AQI dashboard, and WAQI/AQICN forecasts against subsequent CPCB readings.
- Most recent reliability assessment (Winter 2025-26): 72% Day-1 accuracy, 54% Day-2, 38% Day-3, where 'accurate' means within one AQI category.
- Key documented weakness: SAFAR consistently underestimates PM2.5 during sharp temperature inversions (Nov-Jan); this delays GRAP triggers by 24-48 hours.
- Live accuracy tracking resumes October 2026 with the start of the Winter 2026-27 pollution season.



My Neighbourhood

Air quality at the neighbourhood scale

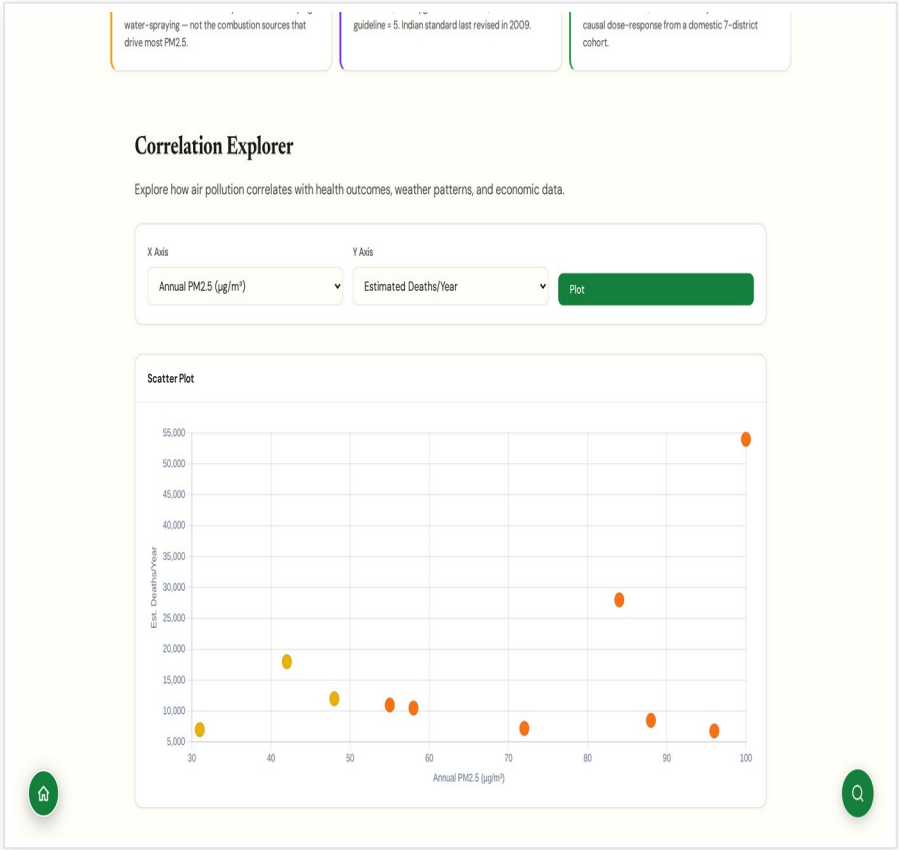
- Pulls every nearby sensor (CPCB + WAQI low-cost networks) within a configurable radius of a point.
- Reveals intra-city variation that city-aggregate AQI hides: industrial belts, traffic corridors, ridge areas.
- Important for environmental justice analysis: poor neighbourhoods often have substantially worse air than the city mean.
- Caveat surfaced: low-cost sensors need correction; raw readings are flagged as such.



Pollution Correlations

Explore how PM2.5 correlates with health, economic, and demographic outcomes

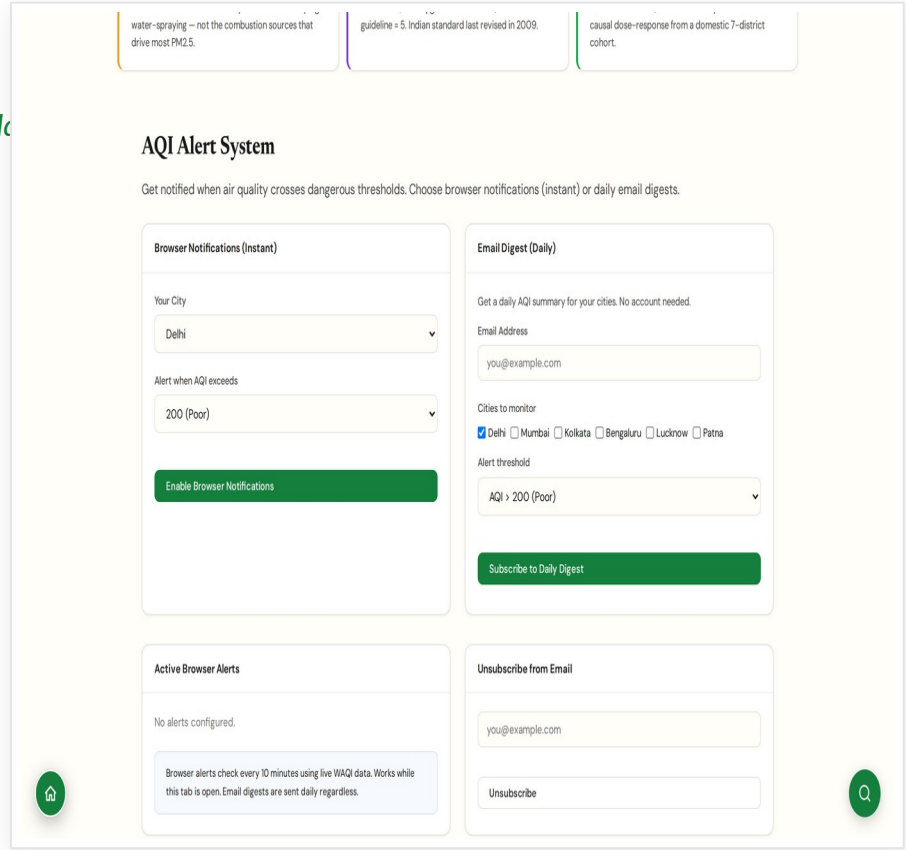
- Scatter and correlation plots across Indian cities: X-axis options include annual PM2.5, average AQI, and population; Y-axis options include estimated deaths/year, life-years lost, economic cost (% GDP), and a hospital admissions index.
- Designed for journalists and researchers building the link between exposure and outcome at a city level, not for source apportionment within a single city.
- Outputs are population-level estimates, useful for the 'X city loses Y life-years per µg/m³' framing common in policy memos.
- Underlying data anchors to Lancet Countdown 2025, GBD 2021, and Krishna et al. 2024.



AQI Alerts

Browser push or daily email digest when your city crosses a threshold

- Two delivery channels: instant browser push notifications via the Web Push API, or a daily email digest.
- Threshold options follow Indian AQI bands (100/200/300/400) since most users think in those categories; PM2.5 is shown in the alert payload alongside the AQI value for the WHO comparison.
- Useful for vulnerable users (asthmatics, parents of young children, elderly carers) and for monitoring multiple cities at once via the email digest.
- No account required. Browser subscription is per-device; email digest accepts a city list.



Pollution Calendar

Twelve-month timeline showing average levels and the dominant source for each month

- Annual timeline for North India: each month carries both an average AQI value and a named driver (Jan inversion + heating, Mar construction dust, Apr Rajasthan dust storms, Jul-Aug monsoon washout, Oct-Nov stubble + festive emissions, Dec inversion peak).
- Makes the winter-vs-monsoon asymmetry visible at a glance: Aug averages ~75, Jan averages ~320 in Delhi.
- Designed for planning: travel windows, marathon dates, school sports calendars, festival outdoor events.
- Anchored in multi-year historical CPCB data, not the most recent year alone.

CHAPTER

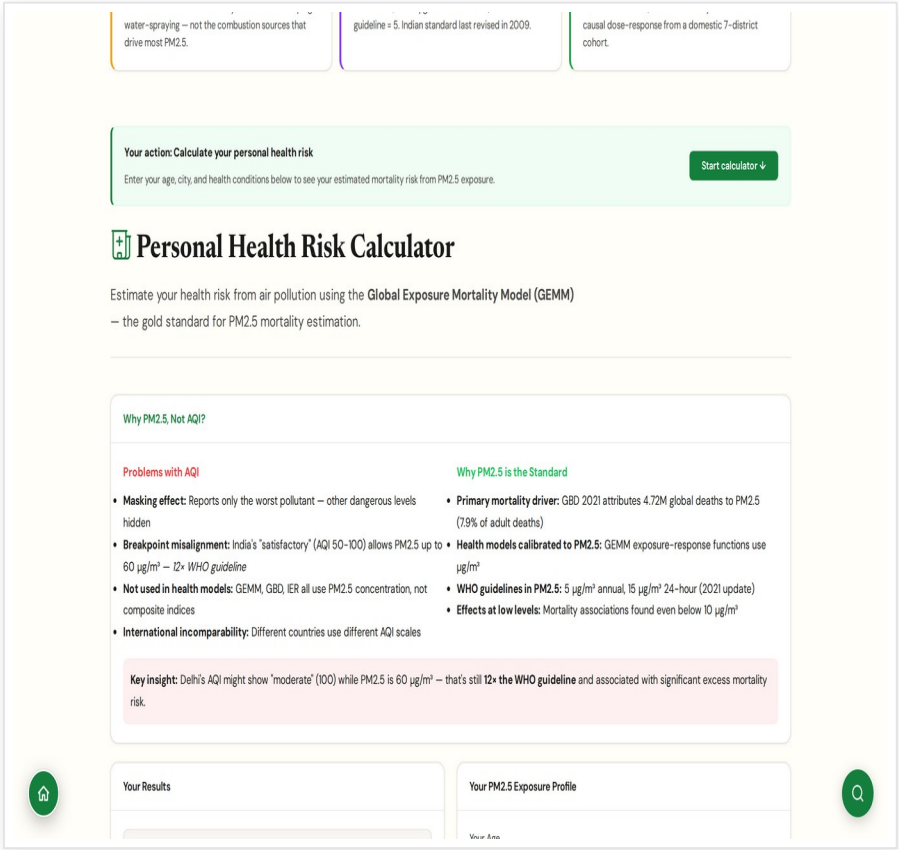
Chapter 3
Health & exposure

Translating µg/m³ into mortality, lost life-years, asthma risk, and 'should I send my child out today'. Eight panels rooted in peer-reviewed dose-response models.

Health Impact

Personal mortality risk via the Global Exposure Mortality Model

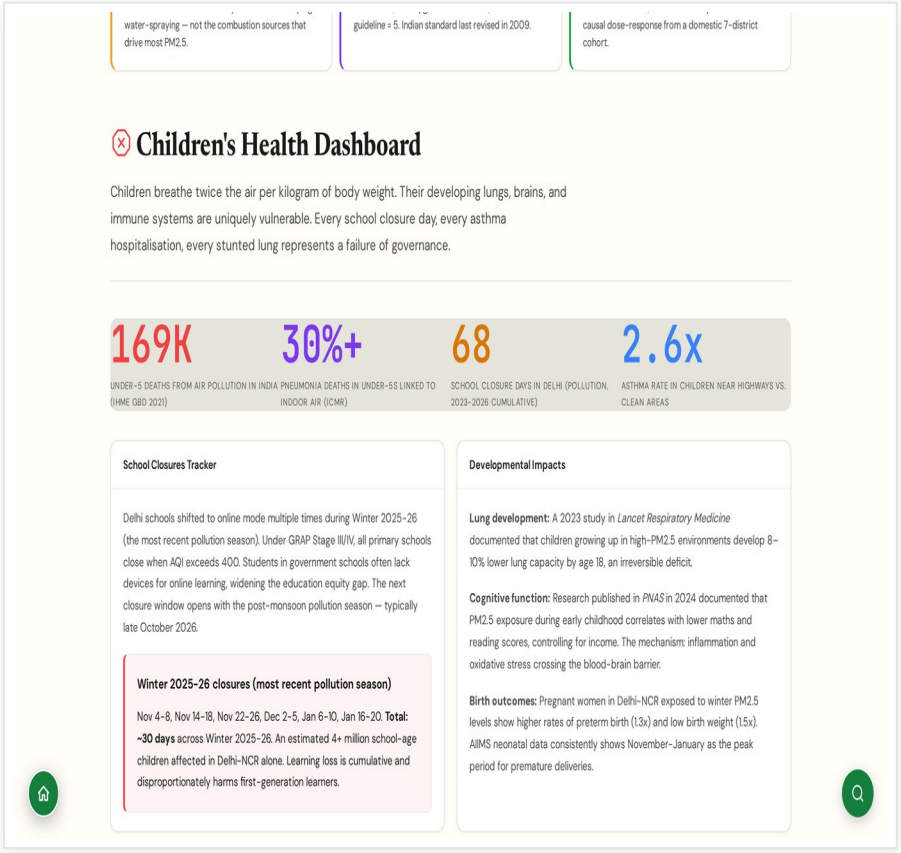
- Calculator inputs: age, city (annual PM2.5), hours outdoors daily, pre-existing conditions (none / asthma / COPD / cardiovascular / multiple).
- Outputs: excess mortality risk vs WHO guideline (5 µg/m^3), expected life-years lost, cigarette-equivalent exposure (Berkeley Earth methodology).
- Uses GEMM (Burnett et al., PNAS 2018), the dose-response function used in GBD studies; GBD 2021 attributes 4.72M global deaths to PM2.5 (7.9% of adult deaths).
- Adjacent 'Why PM2.5, not AQI?' section makes the editorial choice explicit: AQI's masking effect (only reports the worst pollutant) and breakpoint misalignment (India's 'satisfactory' allows PM2.5 up to 60 µg/m^3, 12× WHO) are surfaced inline.



Children's Health

Specific Indian paediatric numbers, not just 'children are more vulnerable'

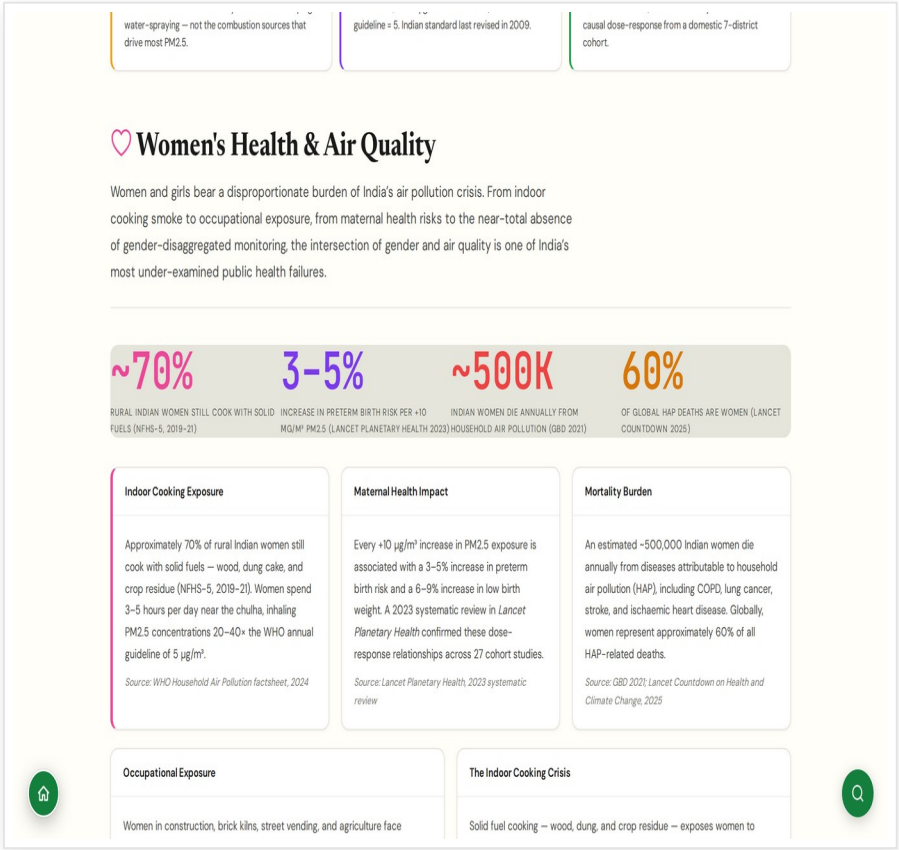
- 169,000 under-5 deaths attributed to air pollution in India (IHME GBD 2021); 30%+ of under-5 pneumonia deaths linked to indoor air (ICMR); 2.6× asthma rate near highways.
- School closure tracker: 68 cumulative pollution-driven closure days in Delhi (2023-2026); ~30 days in Winter 2025-26 alone across six closure windows from Nov to Jan; ~4M+ school-age children affected in Delhi-NCR.
- Developmental impacts: 8-10% lower lung capacity by 18 in high-PM2.5 cohorts (Lancet Respiratory Medicine 2023); PM2.5 in early childhood linked to lower maths and reading scores controlling for income (PNAS 2024); 1.3× preterm and 1.5× low-birth-weight rates during Delhi winter peaks (AIIMS neonatal).
- What parents can do (linked directly from the panel): request school air audits with low-cost sensors (Rs 3,000-5,000), advocate for HEPA or Corsi-Rosenthal box per classroom (Rs 5,000-10,000), file RTI on stalled Delhi



Women's Health

Why air pollution hits women harder, and the gender data gap

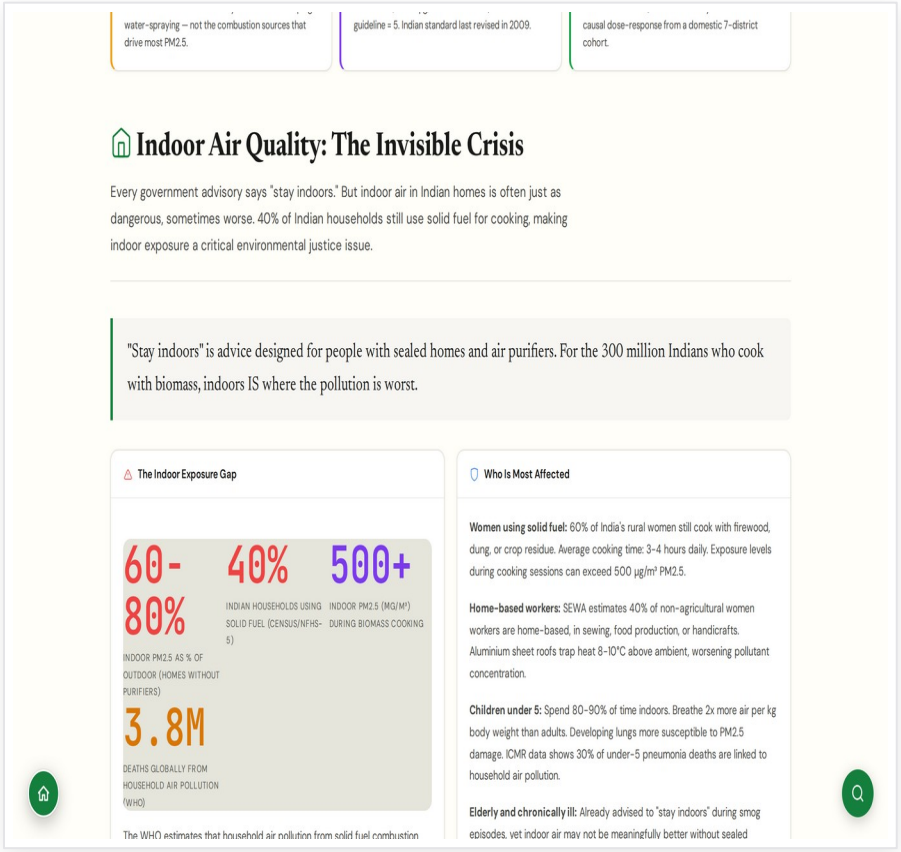
- Roughly 70% of rural Indian women still cook with solid fuels (NFHS-5, 2019-21); indoor PM2.5 reaches 20-40× the WHO annual guideline during cooking, with 3-5 hours of daily exposure.
- Each +10 µg/m³ PM2.5 raises preterm-birth risk by 3-5% and low-birth-weight risk by 6-9% (Lancet Planetary Health 2023 systematic review, 27 cohorts).
- Roughly 500,000 Indian women die annually from household air pollution (GBD 2021); women bear about 60% of global HAP deaths (Lancet Countdown 2025).
- Occupational exposure layered on top: construction, brick kilns, street vending, agriculture. India still lacks gender-disaggregated ambient monitoring at scale.



Indoor Air

The half of the problem ambient sensors miss entirely

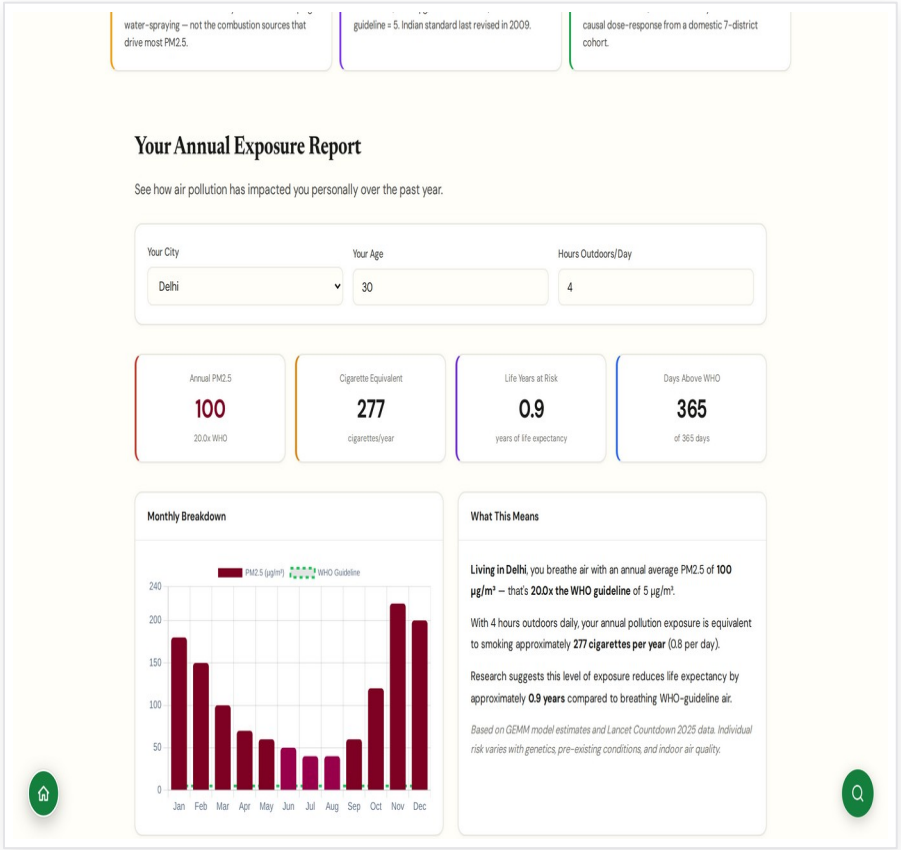
- 40% of Indian households still use solid fuel for cooking (Census/NFHS-5); indoor PM2.5 reaches 500+ µg/m³ during biomass cooking; 3.8M global deaths annually from household air pollution (WHO).
- 60% of rural Indian women cook with firewood, dung, or crop residue, 3-4 hours daily; SEWA estimates 40% of non-agricultural women workers are home-based (sewing, food, handicrafts) in heat-trapping aluminium-roofed homes.
- Children under 5 spend 80-90% of time indoors; ICMR data links 30% of under-5 pneumonia deaths to household air pollution; PMUY 2.0 distributed 10+ Cr connections but refill rates remain 50-60% in some states.
- Practical guidance with costs: Corsi-Rosenthal box (Rs 2,000-3,000) reduces indoor PM2.5 by 40-60%; LPG/induction transition; cross-ventilation and kitchen separation per WHO Housing and Health Guidelines (2018).



Exposure Report

A personal exposure dossier you can download

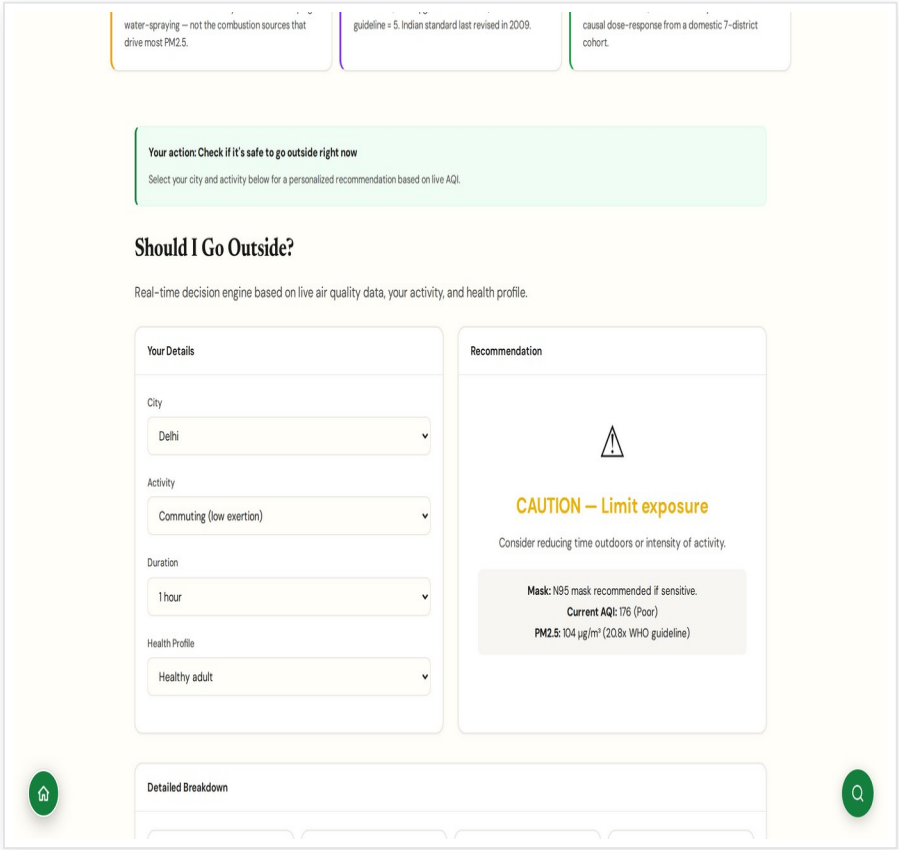
- Pulls your city's PM2.5 over a user-selected window and computes cumulative exposure metrics.
- Compares your cumulative exposure to WHO annual guideline (5 µg/m³) and to a healthy baseline.
- Outputs as a clean PDF the user can share with a doctor or use in a complaint or letter.
- Designed for occupational exposure cases: gig workers, traffic police, sanitation workers, vendors.



Should I Go Outside?

The one-question version, for everyday decisions

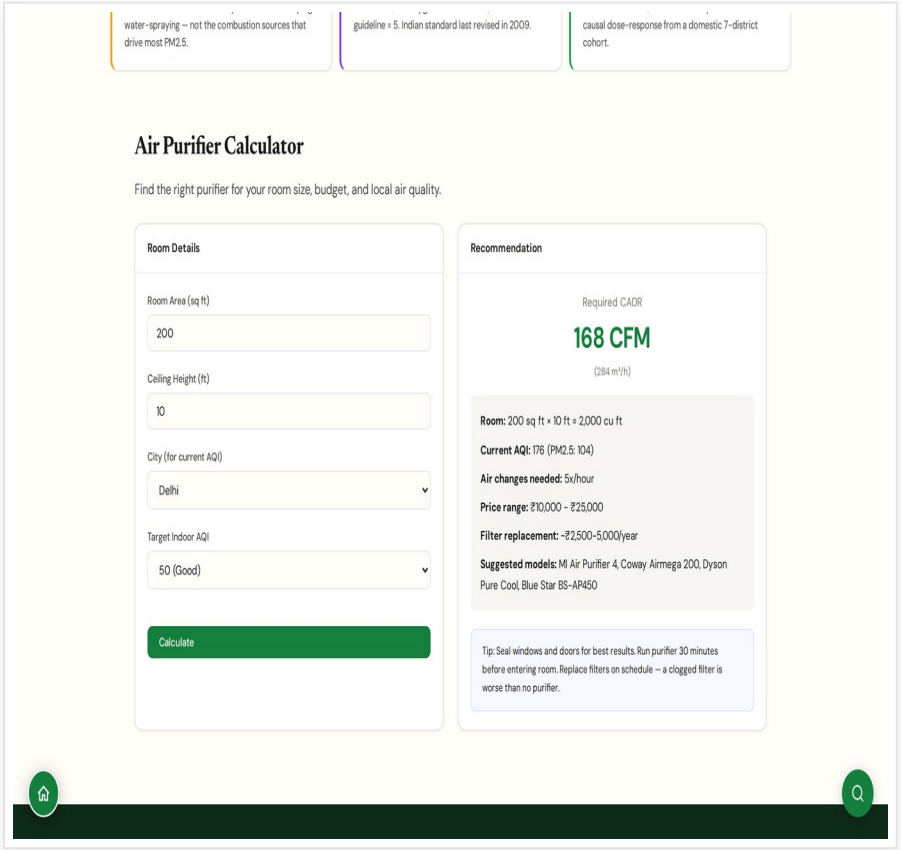
- Single input, your city, produces a clear yes / yes-with-mask / no / absolutely-not answer.
- Tailored by age, condition (asthma, pregnant, elderly), and planned activity (walk, jog, full workout).
- Designed for parents and carers; copy is non-technical and decision-ready.
- Hindi version available; uses everyday phrasing rather than µg/m³.



Purifier Calculator

How big a purifier, how many rooms, how long?

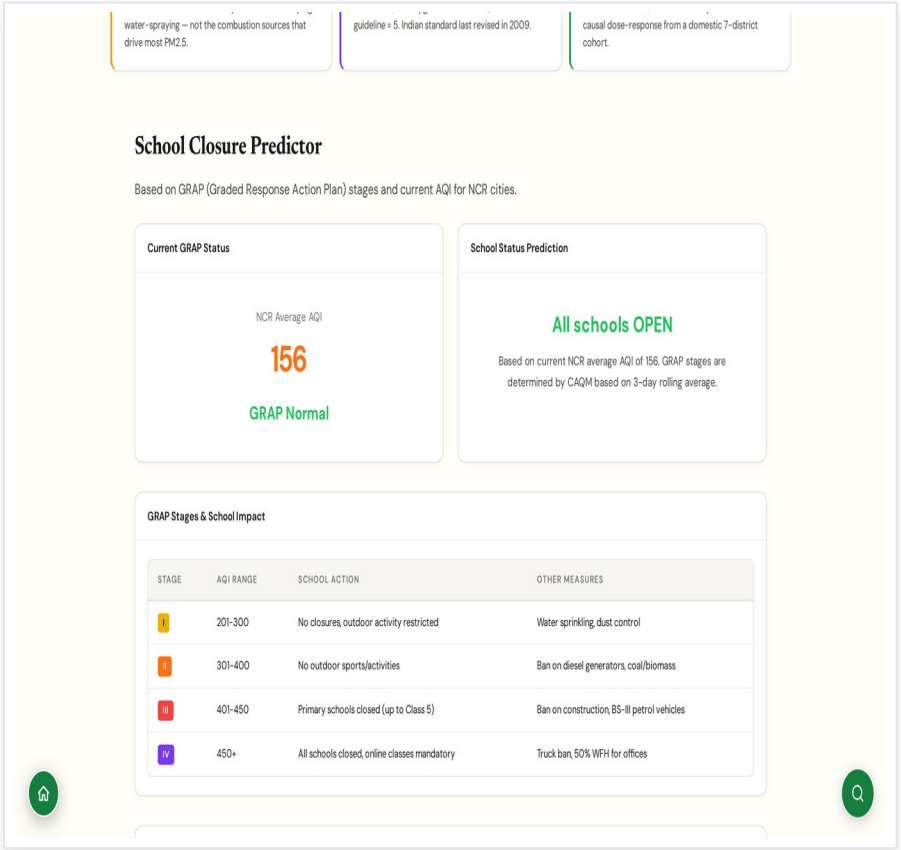
- Inputs: room size (m^3), outdoor PM2.5, hours of use, ACH (air changes per hour) targeted.
- Output: minimum CADR (m^3/h) required, recommended purifier capacity bands, electricity cost estimate.
- Honest about limits: no purifier replaces source control; protects from chronic, not acute, exposure.
- Includes guidance for low-cost alternatives (Corsi-Rosenthal boxes for institutional settings).



School Closures

A live GRAP-driven predictor, not just a closure tracker

- Live NCR average AQI feeds a per-stage prediction: open / no outdoor sport / primary closed / all closed; today's status visible at the top of the panel.
- Full GRAP stages table laid out: Stage I (AQI 201-300) no closures but outdoor activity restricted, Stage II (301-400) no outdoor sport, Stage III (401-450) primary schools shut, Stage IV (450+) all schools shut, online classes mandatory.
- NCR city grid shows current AQI per city alongside its category (Delhi, Gurgaon, Noida, Faridabad, Ghaziabad), surfacing the unevenness inside the metro.
- Decisions are taken by CAQM on a 3-day rolling average, so the panel exposes both the live snapshot and the rolling figure that actually triggers an order.



CHAPTER

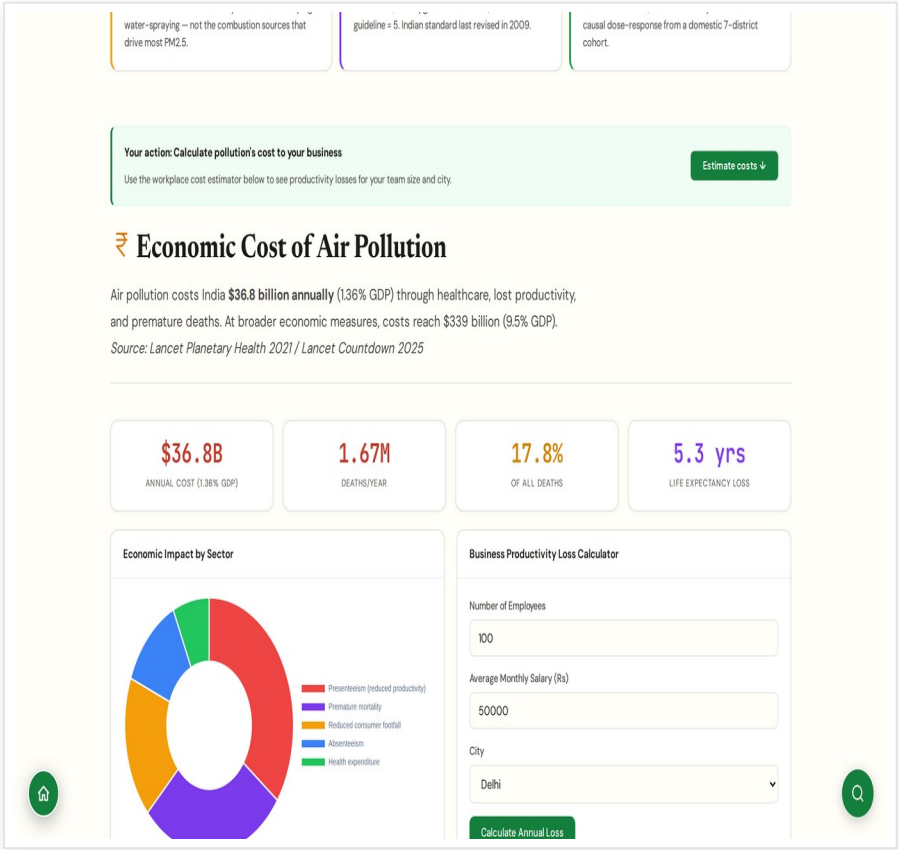
Chapter 4
Economic cost & migration

What air pollution costs employers, GDP, and the people who have to move to escape it.

Economic Cost

Workforce productivity loss calculator for employers

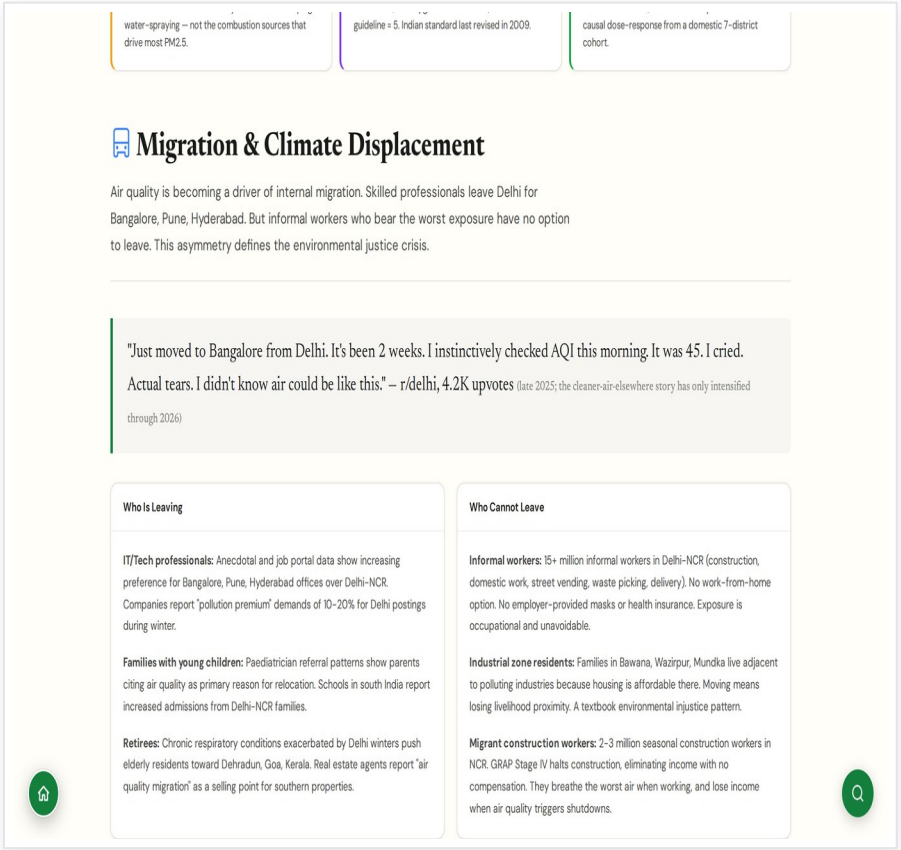
- Inputs: headcount, average annual salary, city. Output: annual productivity loss in INR.
- Built on Dalberg-style absenteeism + presenteeism estimates by PM2.5 band, sector-tunable.
- Designed to give CSR and HR teams a credible number for purifier deployment business cases.
- National aggregate: ~$95B productivity loss / year (Dalberg 2021); $339.4B all-in (Lancet Countdown 2025, 9.5% GDP).



Migration & Displacement

When people leave because they cannot breathe, and when they cannot

- Who leaves: IT/tech professionals choosing Bangalore, Pune, Hyderabad over Delhi-NCR; job-portal data shows 10-20% 'pollution premium' demands for winter Delhi postings.
- Who stays: 15+ million informal-sector workers in Delhi-NCR (construction, domestic, street vending, delivery, waste-picking) with no work-from-home option, no employer-provided masks, no health insurance.
- Industrial-zone residents in Bawana, Wazirpur, Mundka are doubly trapped: they cannot leave because housing is affordable adjacent to polluting industries, and GRAP Stage IV halts construction with no compensation.
- The asymmetry is the environmental justice frame: voluntary migration as adaptive capacity, involuntary exposure as the cost of poverty.

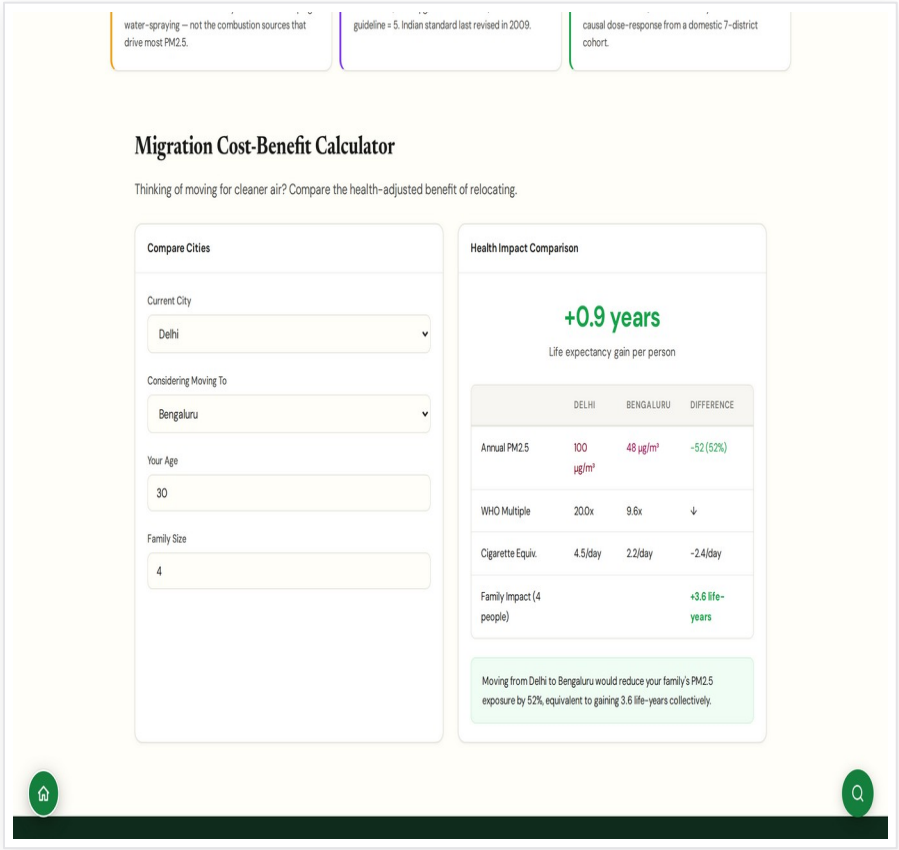


#migration-calc

Migration Calculator

Would moving cities actually help your family?

- Input: current city, candidate city, years of expected residence.
- Output: change in cumulative PM2.5 exposure, change in expected life-years (GEMM), commute/cost framing.
- Honest framing: most cities still exceed WHO; the question is by how much.
- Useful for families weighing job-driven moves; for teachers it is a teaching tool on exposure differentials.



CHAPTER

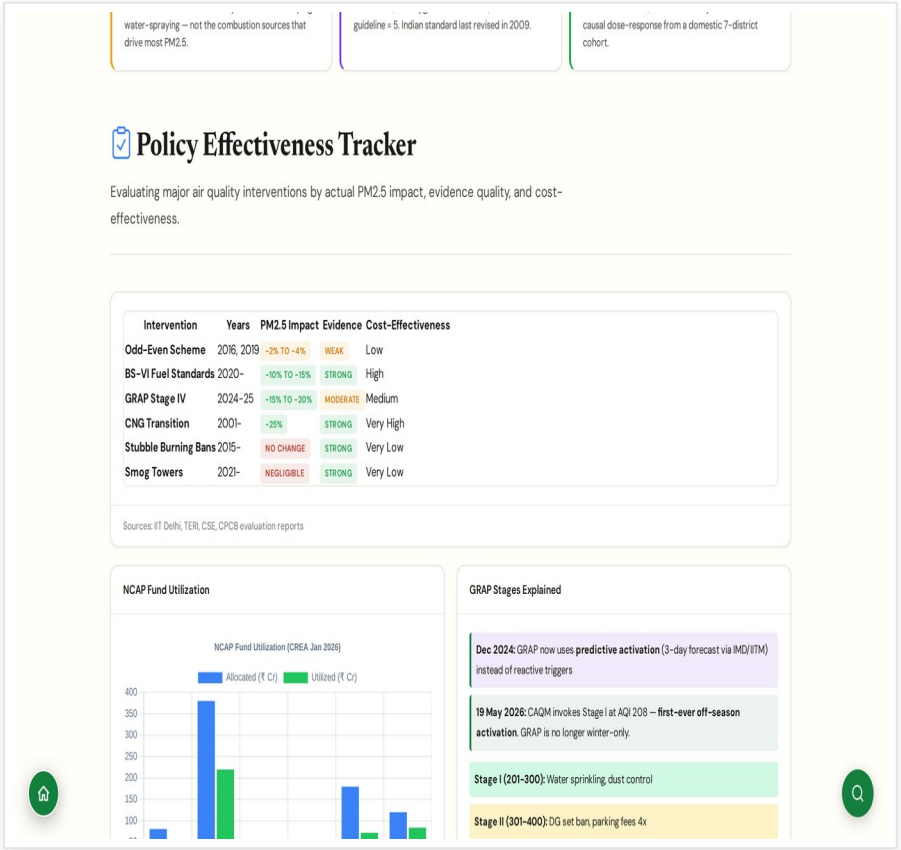
Chapter 5
Policy & accountability

The political teeth of the platform. Where money goes, what is announced versus what works, who is responsible, and how to ask harder questions.

Policy Tracker

Evidence-graded effectiveness of every major intervention

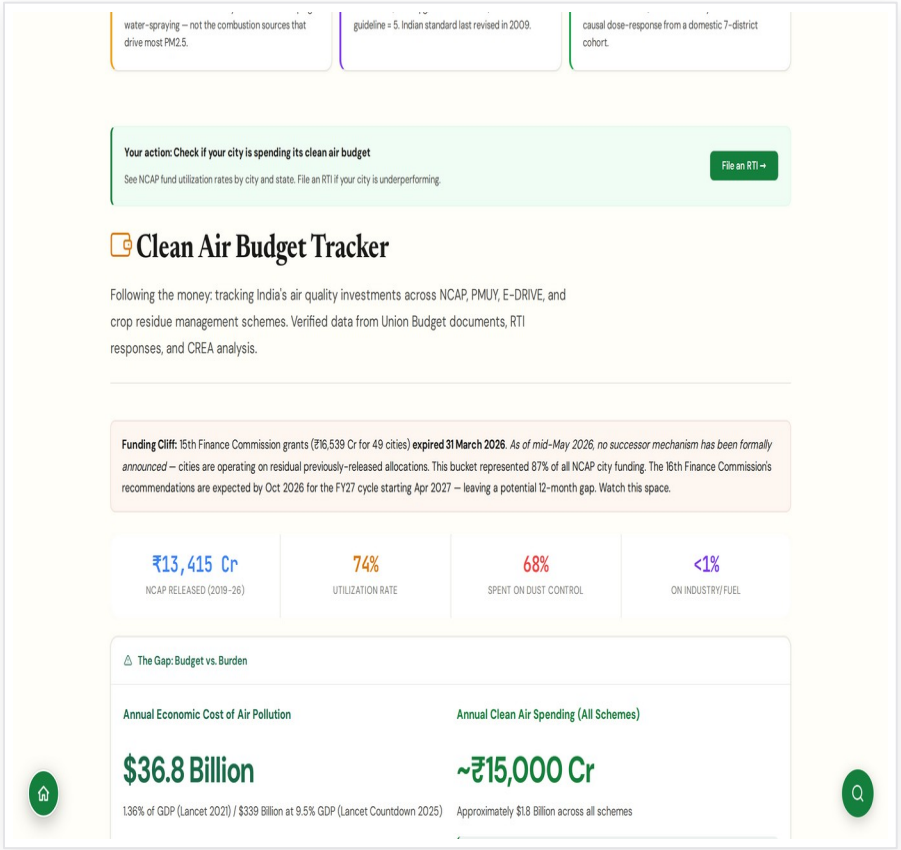
- Headline table: Odd-Even (-2 to -4%, weak evidence), BS-VI Fuel Standards (-10 to -15%, strong), GRAP Stage IV (-15 to -20%, moderate), CNG Transition (-25%, strong), Stubble Burning Bans (no change, strong), Smog Towers (negligible, strong).
- GRAP since Dec 2024 uses predictive activation via 3-day IMD/IITM forecasts rather than reactive triggers; CAQM invoked Stage-I off-season for the first time on 19 May 2026.
- Each row links to its underlying source (IIT Delhi, TERI, CSE, CPCB evaluation reports) so a journalist can cite the original work rather than the table.
- Citizen-side recommendations on the same panel: 72-hour persistence rule for GRAP stages to stop yo-yo lifting; tighter NCR-vs-city triggering.



Budget Tracker

Following the money, every air quality scheme, every rupee

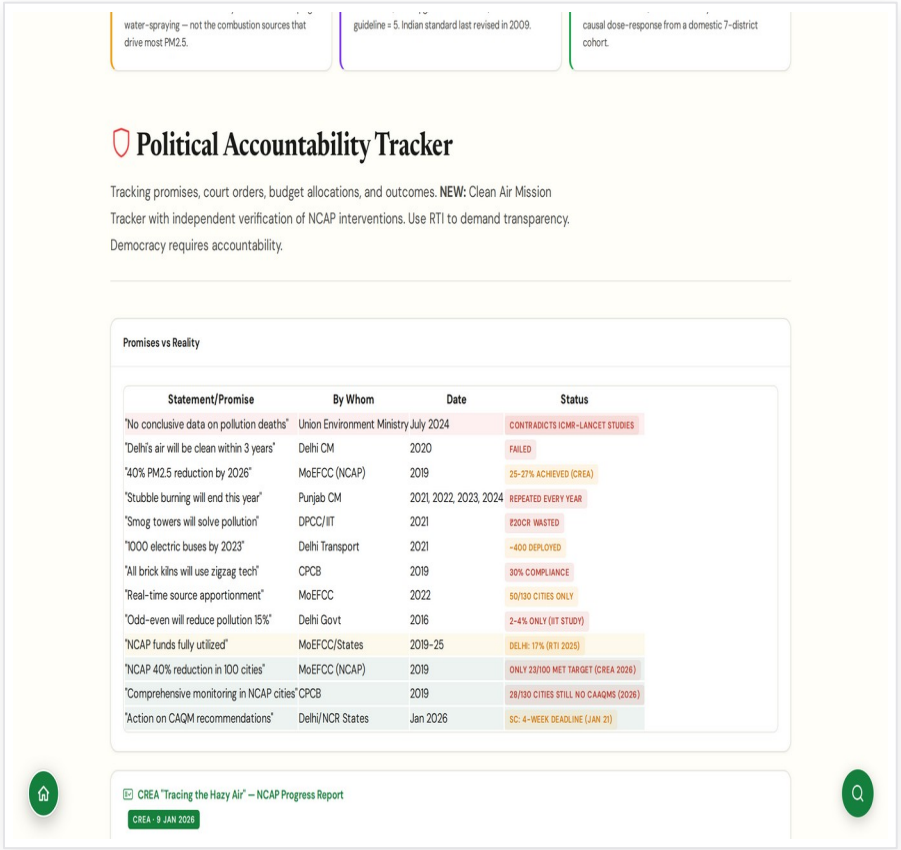
- Funding cliff: 15th Finance Commission ₹16,539 Cr grants for 49 cities expired 31 March 2026; no successor framework announced.
- NCAP released ₹13,415 Cr (2019-26); utilisation rate 74%; 68% of spending on dust control, less than 1% on industry/fuel switching.
- Mismatch surfaced: annual economic cost ~$36.8B (Lancet 2021) versus annual clean air spending ~₹15,000 Cr (~$1.8B).
- Verified data from Union Budget documents, RTI responses, CREA analysis.



Political Accountability

Promises vs reality, named and dated

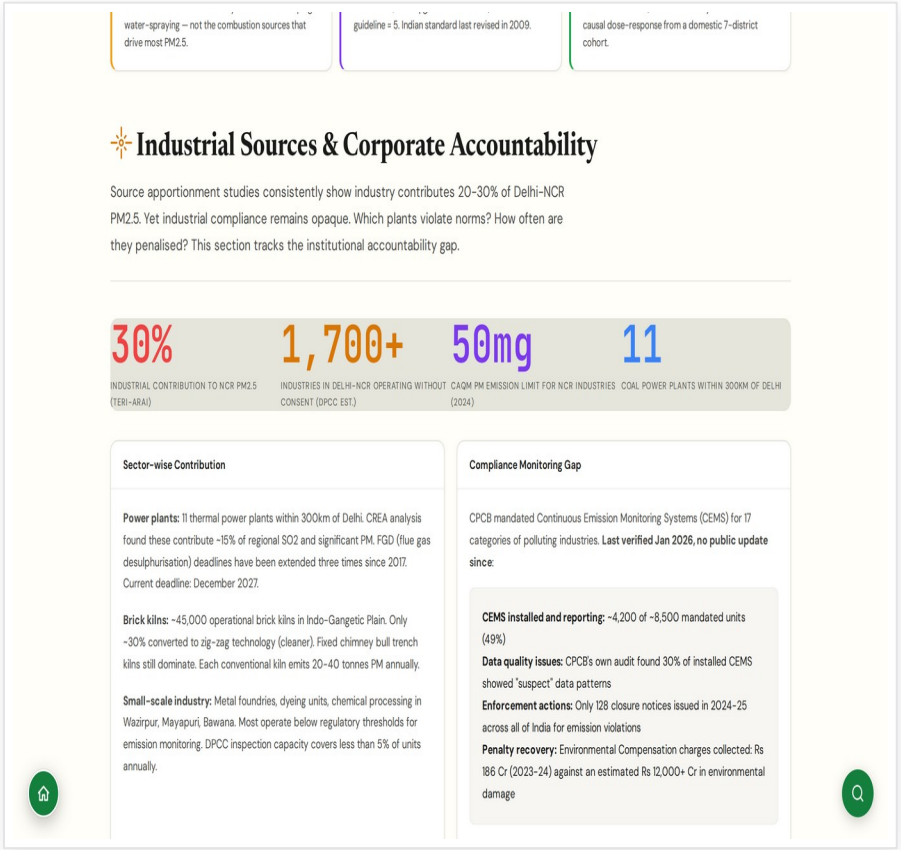
- Promises-vs-reality table: '40% PM2.5 reduction by 2026' (NCAP, 2019) → only 23/100 cities hit target; 'No conclusive data on pollution deaths' (Union Env Ministry, July 2024) → contradicts ICMR-Lancet studies; 'Stubble burning will end this year' (Punjab CM, 2021, 2022, 2023, 2024) → repeated every year; 'NCAP funds fully utilized' → Delhi at 17% per 2025 RTI.
- Each row carries the speaker, date, and a current-status flag (FAILED / CONTRADICTED / PARTIAL / WASTED); linked to the original press release or RTI response.
- Anchors the CREA 'Tracing the Hazy Air' NCAP progress report (9 Jan 2026): 103/231 cities still exceed PM2.5 standards, 28/130 NCAP cities still lack continuous monitoring after seven years.
- Non-partisan by design: the same evidence frame applies to every state and party.



Industrial Sources

The compliance gap, in numbers

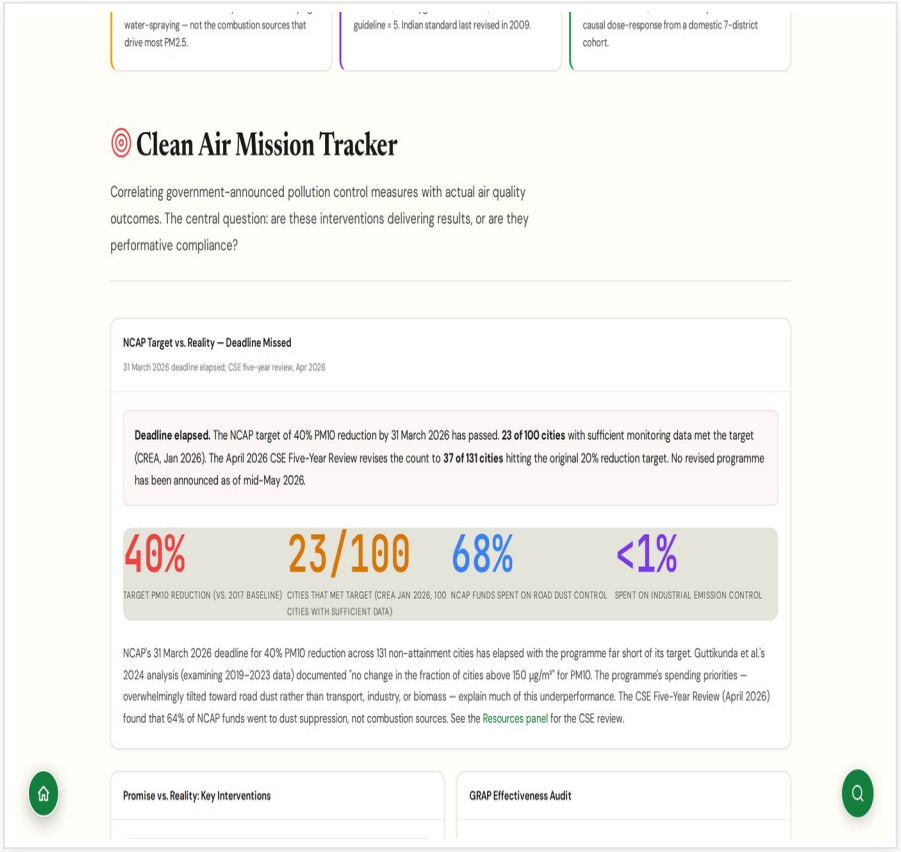
- 30% industrial contribution to NCR PM2.5 (TERI-ARAI); 1,700+ industries in Delhi-NCR operating without consent (DPCC); 11 coal power plants within 300km of Delhi.
- ~45,000 brick kilns across the Indo-Gangetic Plain; only ~30% converted to cleaner zig-zag technology; conventional bull-trench kilns emit 20-40 tonnes PM annually each.
- Continuous Emission Monitoring Systems (CEMS) installed at only ~4,200 of ~8,500 mandated industrial units (49%); CPCB's own audit found 30% of installed CEMS show 'suspect' data patterns.
- Enforcement: only 128 closure notices issued in 2024-25 across all of India for emission violations; FGD deadlines for thermal plants extended three times since 2017 (current: December 2027).



Mission Tracker (E1–E5)

Evidence-graded scoring of every announced intervention

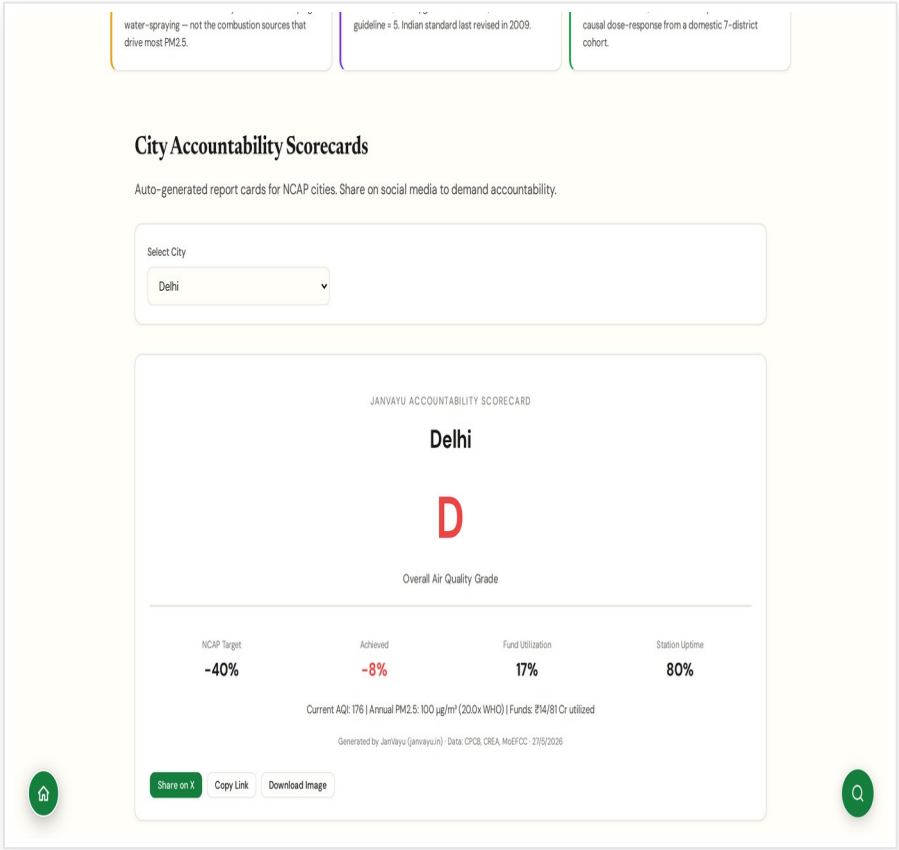
- Original framework: every government intervention rated E1 (announced) to E5 (operational with measurable outcome).
- Promise vs reality, with verdicts: Anti-Smog Guns (200 deployed, ₹58 Cr) reduce AQI 5-10 points in immediate vicinity only, IIT Delhi called them 'cosmetic'; road mechanised sweeping (68% of NCAP budget) tackles dust but not the primary PM2.5 sources; e-bus procurement is the bright spot but Delhi's 6,000-by-Dec-2026 target is running behind.
- NCAP deadline elapsed: 40% target, 23/100 cities hit (CREA Jan 2026), 37/131 at 20% (CSE Apr 2026); Guttikunda et al. 2024 documented 'no change in the fraction of cities above 150 µg/m³' between 2019 and 2023.
- Headline indictment: 64% of NCAP funds went to road-dust suppression (CSE Five-Year Review), not the combustion sources that drive most PM2.5.



City Scorecards

City and state report cards in one page each

- Per city/state: current and historical PM2.5, NCAP fund utilisation, scheme rollout, accountability flags.
- Designed for one-click sharing with journalists, councillors, and parliamentarians.
- Letter grades synthesise the underlying evidence, but each grade links to its supporting data.
- Updated monthly; revision dates shown explicitly.

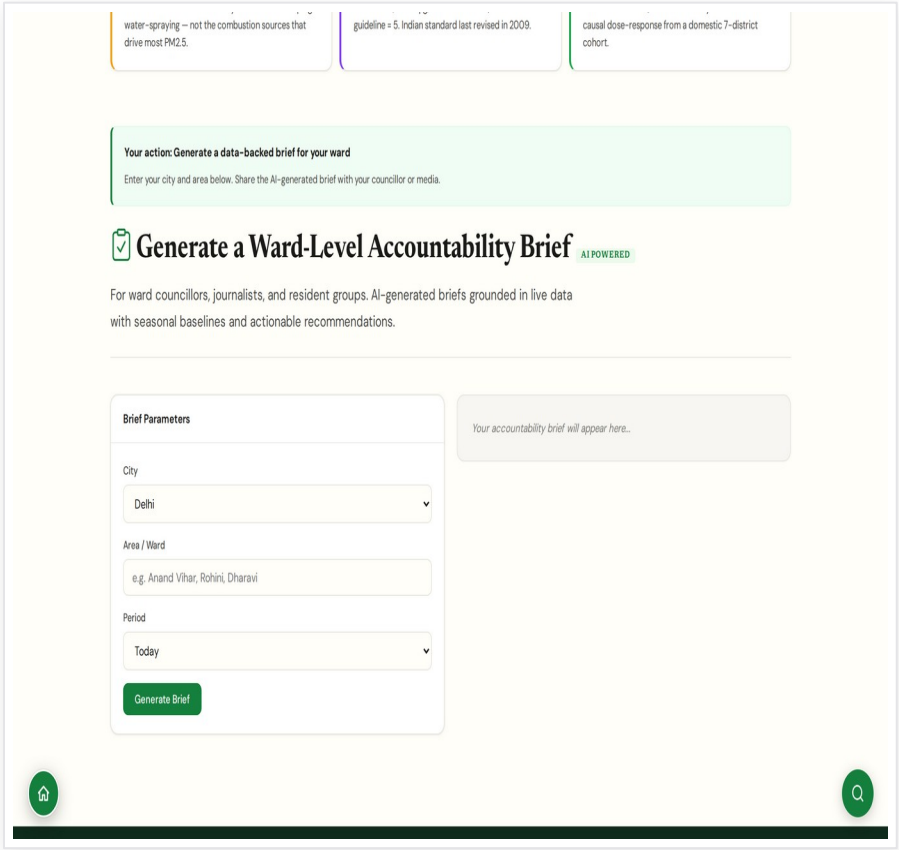


#accountability-brief

Accountability Brief

AI-generated, ward-level briefs for councillors, journalists, and resident groups

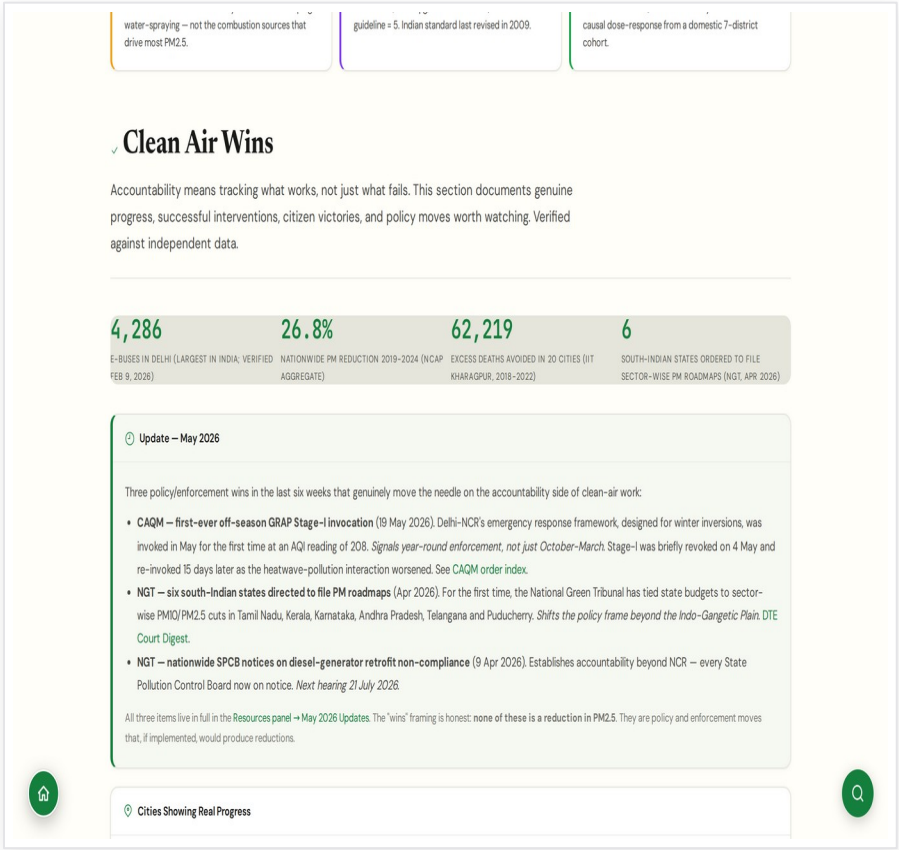
- Input the city plus the ward or area; the AI generates a localised brief with live AQI, seasonal baseline comparison, and actionable recommendations.
- Designed to be shareable: a councillor gets a ward-specific summary; a journalist gets a tip-sheet with citations; an RWA gets a memo for the next meeting.
- Grounded in live data with primary-source citations (CPCB, IQAir, Lancet Countdown, AQLI, CREA); the AI composes, it does not invent numbers.
- Pulls from RTI responses, CPCB notices, NGT orders, and parliamentary questions in the background so the brief carries documentary evidence, not just commentary.



Clean Air Wins

What's actually moved the needle: verified, not press-released

- 4,286 e-buses in Delhi (largest fleet in India, verified Feb 9 2026); 26.8% nationwide PM reduction in NCAP cities 2019-2024 (NCAP aggregate); 62,219 excess deaths avoided across 20 cities 2018-2022 (IIT Kharagpur).
- Varanasi is the NCAP top performer: 76.4% PM10 reduction. Caveat: 84% of Varanasi's pollution was dust; PM2.5 from combustion sources remains stubbornly high.
- May 2026 policy wins: CAQM's first off-season GRAP Stage-I (19 May 2026); NGT directs six south-Indian states to file sector-wise PM roadmaps (Apr 2026); NGT nationwide notices to SPCBs on diesel-generator retrofit non-compliance (9 Apr 2026).
- Honest about what 'wins' means: none of these is itself a measured PM2.5 reduction; they are policy and enforcement moves that, if implemented, would produce reductions.

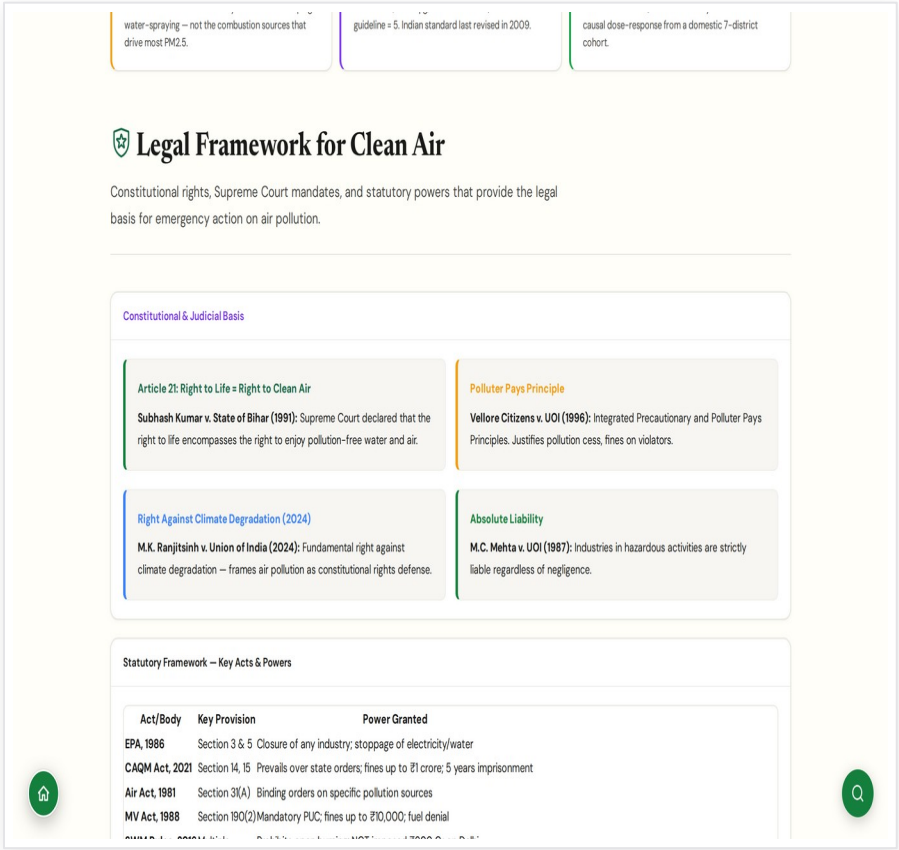


#legal

Legal Framework

Constitutional rights, key judgments, and the statutory powers actually available

- Article 21 → Right to Clean Air: traced from Subhash Kumar v. State of Bihar (1991) through the M.C. Mehta line (1987 absolute liability), with Vellore Citizens v. UoI (1996) establishing Polluter Pays.
- M.K. Ranjitsinh v. Union of India (2024) reframes the question: there is now a fundamental right against climate degradation, which folds air pollution into the constitutional rights frame.
- Statutes that actually carry teeth: EPA 1986 §3 & §5 (closure of any industry), CAQM Act 2021 §14 & §15 (overrides state orders, fines up to ₹1 Cr, 5 years imprisonment), Air Act 1981 §31(A), MV Act 1988 §190(2).
- GRAP itself is judicially mandated: the Supreme Court structures Delhi-NCR's emergency response and reviews CAQM enforcement on a continuing basis.

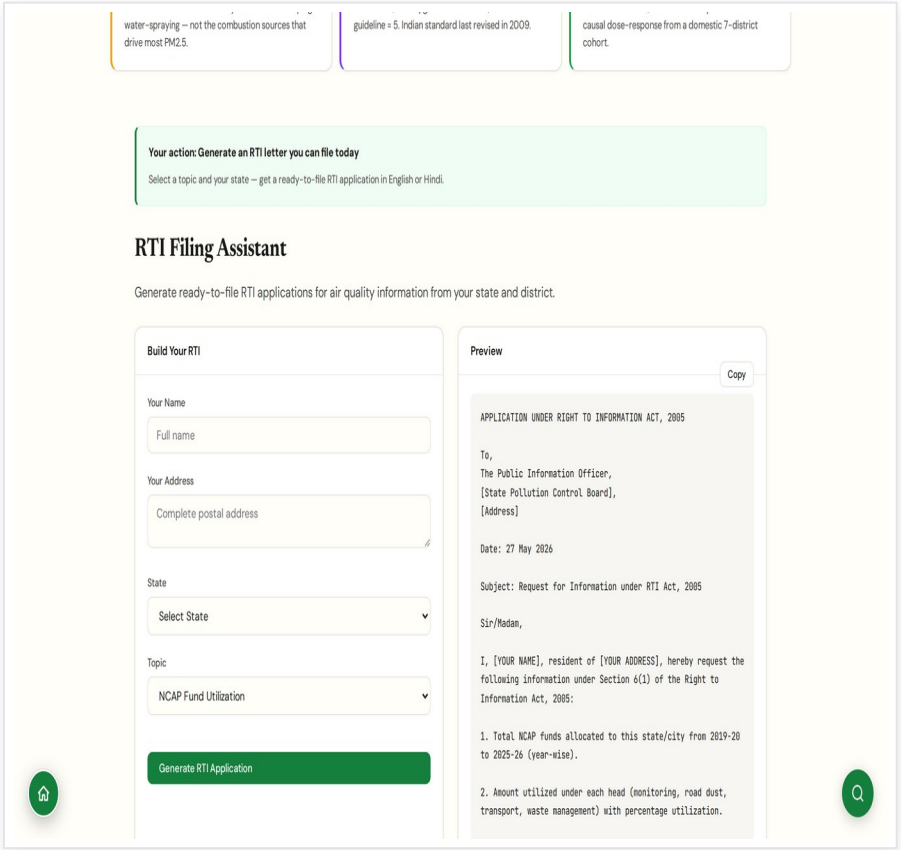


#rti-assistant

RTI Assistant

Pre-built RTI templates for air quality accountability

- Templates for: NCAP city action plan utilisation, GRAP enforcement records, industrial consent compliance, school closure decisions.
- Each template is structured to the right authority (CPCB, SPCB, ULB, MoEFCC) and includes the relevant legal citation.
- Output is a downloadable RTI ready to post or upload, with the fee and address pre-filled.
- Companion panel to Mission Tracker: when a claim is E1, the RTI template is the path to E2.



CHAPTER

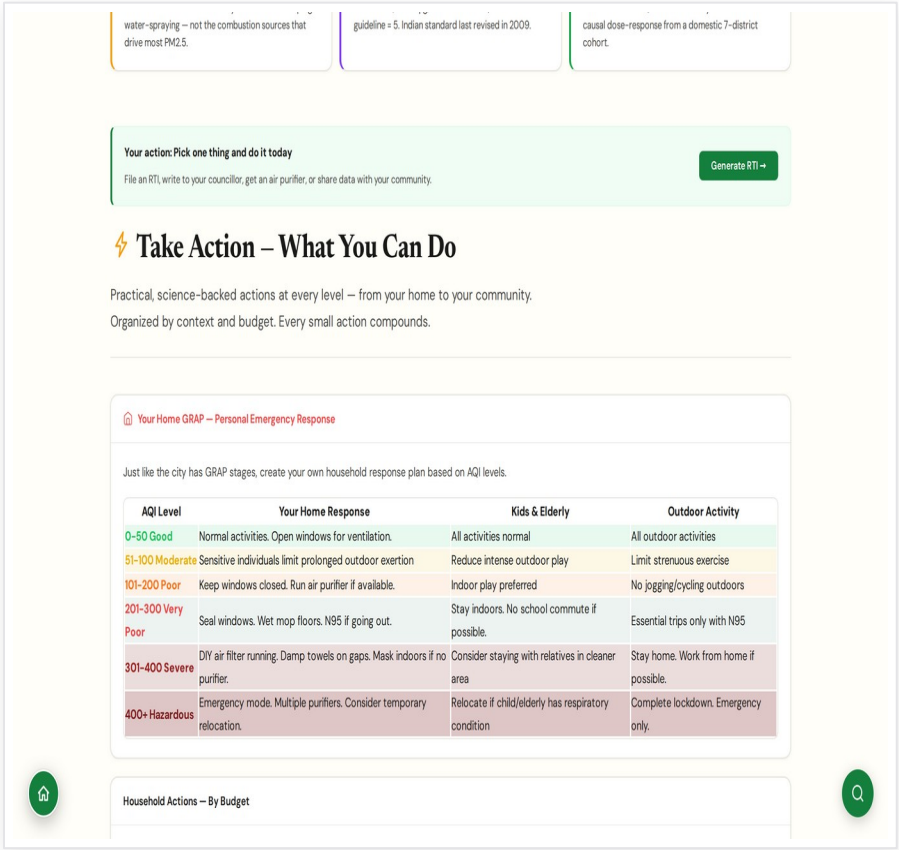
Chapter 6
Citizen action

From data to motion. The advocacy, organising, education, and communication side of the platform.

Take Action

From data to motion: actions sized to context and budget

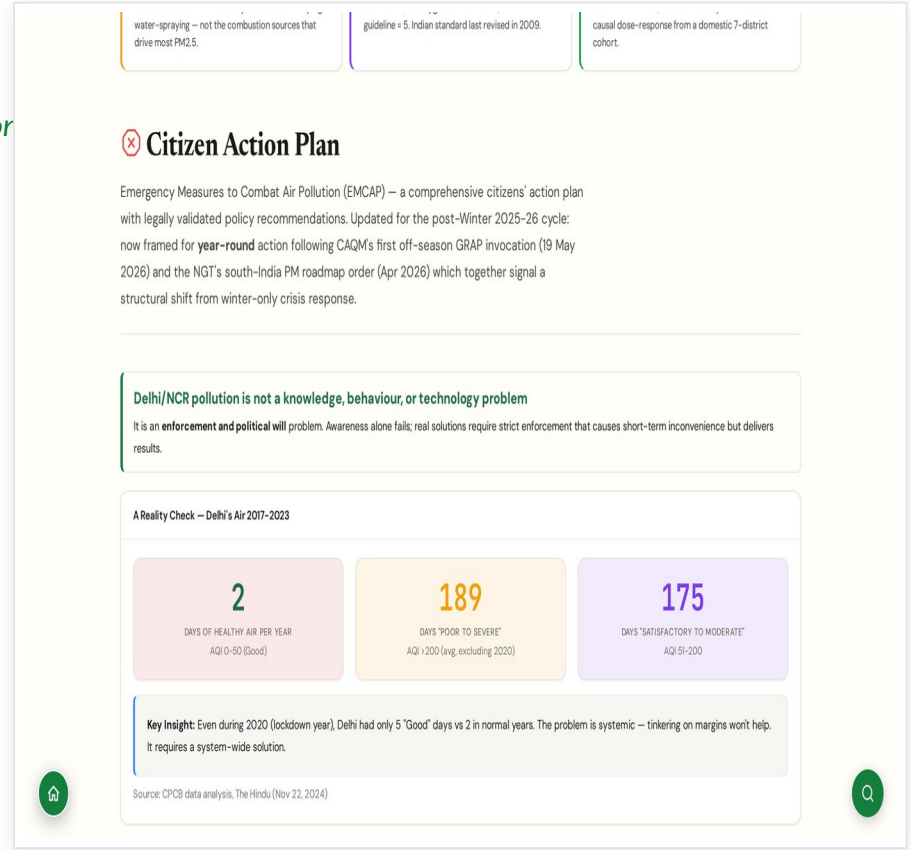
- Your-Home-GRAP framework: a household response plan keyed to AQI bands (0-50 to 400+), with concrete actions for each level for the home, for kids and elderly, and for outdoor activity.
- Actions organised by budget tier: ₹0 (wet mopping cuts indoor PM by 20-30%, sealing gaps, cooking-timing); ₹1-5K (N95 masks, DIY Corsi-Rosenthal box); ₹5-50K (HEPA purifier per room, sealed windows).
- Each action links to the JanVayu panel or template that completes it (RTI, scorecards, exposure report) rather than free-floating advice.
- Tracked-action metrics (anonymised) build social proof: RTIs filed, scorecards downloaded, alerts subscribed.



Citizen Plan

EMCAP: Emergency Measures to Combat Air Pollution, citizen editior

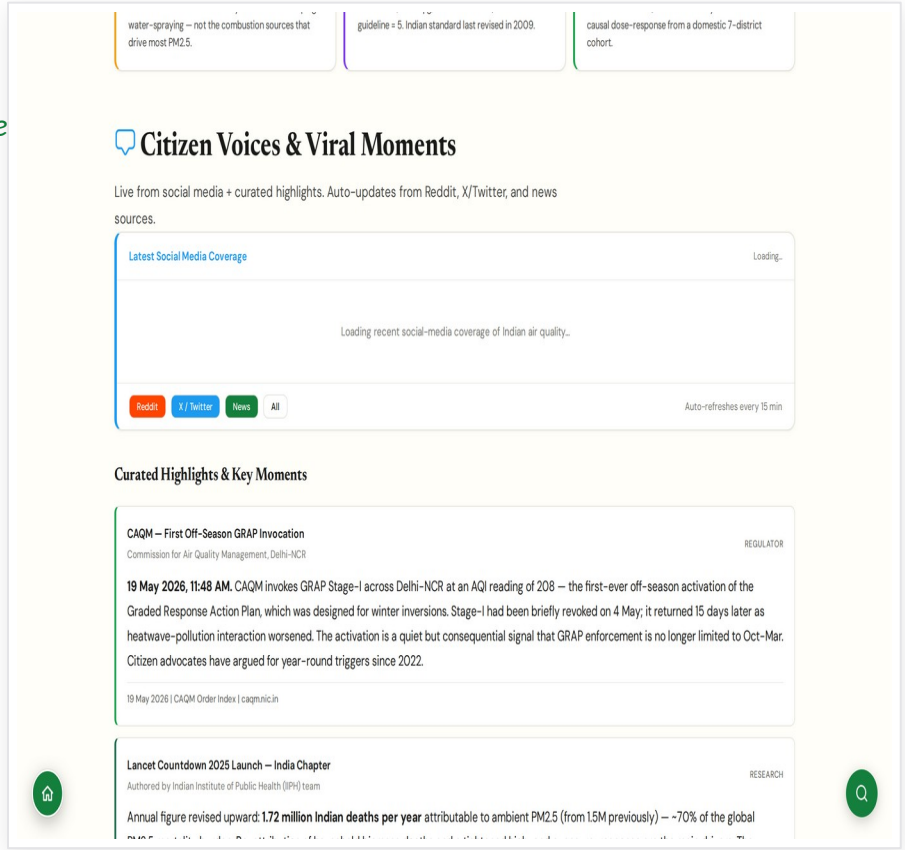
- Reframed in May 2026 as year-round after CAQM's first off-season GRAP-I (19 May) and the NGT's south-India PM roadmaps order (Apr 2026).
- Reality-check anchor: Delhi 2017-2023 averaged 2 days of healthy air per year (AQI 0-50), 189 days 'poor to severe', 175 days 'satisfactory to moderate' (CPCB / The Hindu, Nov 2024).
- Source apportionment for Delhi internal sources: vehicles 34%, biomass and domestic 22%, dust 18%, industry 14%, other 12%. Externals add to that during winter inversion.
- Position: 'Delhi/NCR pollution is not a knowledge, behaviour, or technology problem; it is an enforcement and political-will problem.' Awareness alone fails.



Citizen Voices & Viral Moments

Live social-media coverage plus tracked voices and a curated archive

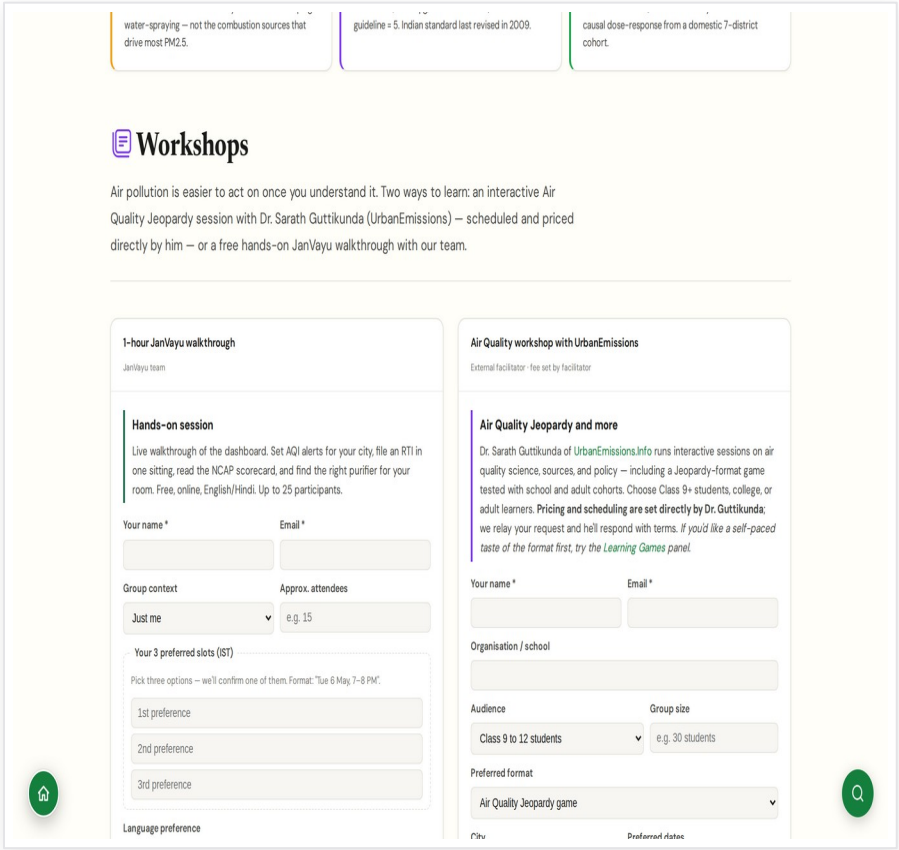
- Auto-pulls Reddit, X/Twitter, and news every 15 minutes; surfaces searches for #DelhiAirPollution, #DelhiSmog, #AirPollutionIndia by default.
- Tracks key individual voices in the field: Anumita Roychowdhury (CSE), Sunil Dahiya (CREA), and other named researchers and journalists.
- Curated archive: hand-picked stories that crystallised a moment (CAQM's first off-season GRAP-I, Lancet Countdown 2025 India release, Loni topping IQAir).
- Filterable by source type (regulator notice, research finding, citizen post, journalist piece) and by date.



Workshops

Two routes: Dr Sarath Guttikunda's external sessions or a free JanVayu walkthrough

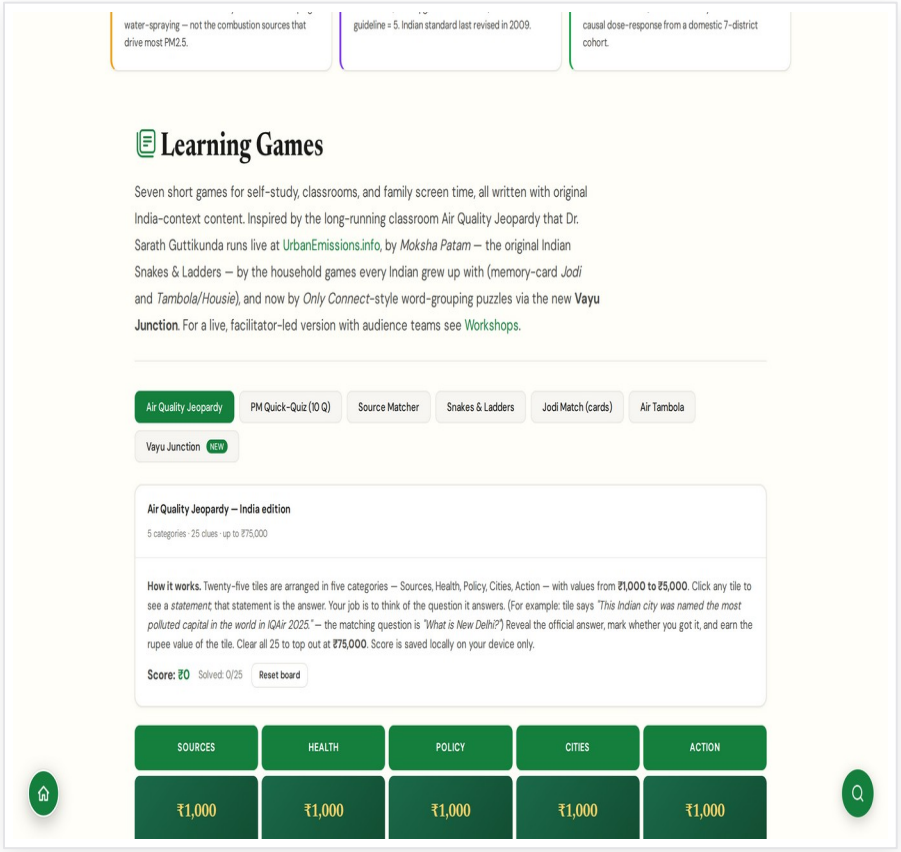
- External Air Quality Jeopardy and lecture sessions by Dr Sarath Guttikunda (UrbanEmissions.info), priced and scheduled directly by him; the request form on the panel relays your details and audience type.
- Free hands-on JanVayu walkthrough run by the platform team: how to read AQI, how to file an RTI, how to set up a school dashboard.
- Audience presets: Class 9-12 students, college, adult cohorts (RWA, NGO, professionals), educators, mixed groups. Formats range from the Jeopardy game to lecture to hands-on JanVayu data work.
- Companion to the Learning Games panel, which packages the same content for self-study and classroom use without a facilitator.



Learning Games

Seven games, original India-context content, browser-playable

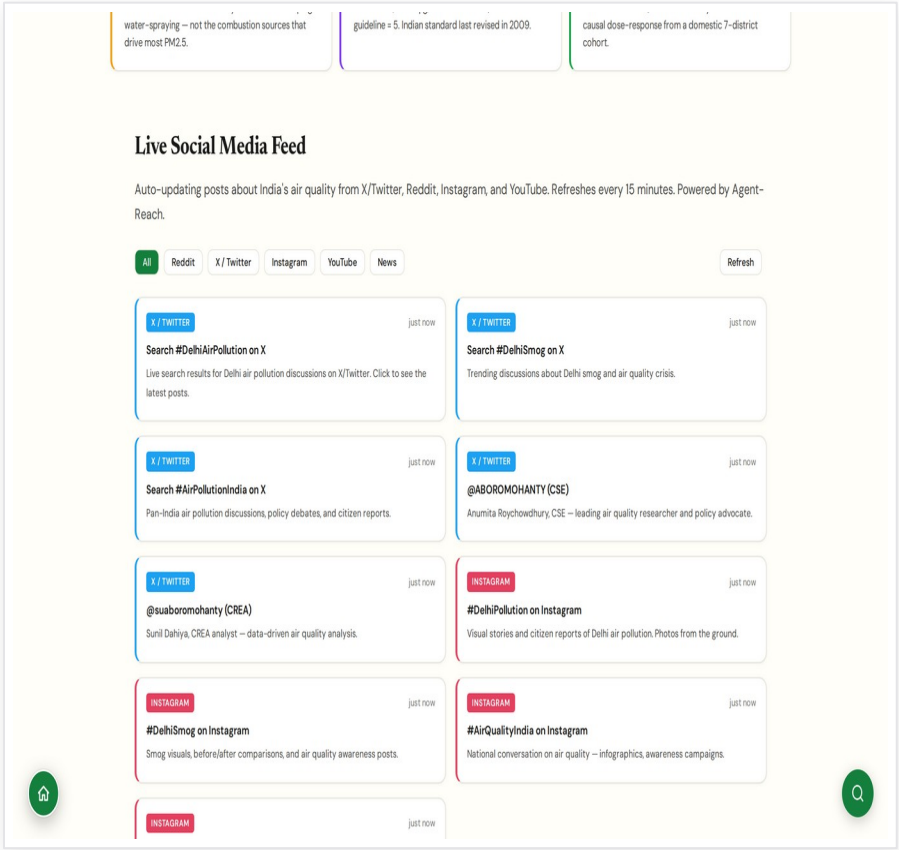
- Seven-game suite: Air Quality Jeopardy (India edition, 5 categories × 25 clues, ₹75,000 max), PM Quick-Quiz (10 questions), Source Matcher, Snakes & Ladders (Moksha Patam-style), Jodi Match memory cards, Air Tambola (Housie), and the new Vayu Junction word-grouping puzzle.
- Inspired by the long-running classroom Air Quality Jeopardy Dr Guttikunda runs live; by Moksha Patam (the original Indian Snakes & Ladders); by the household games every Indian grew up with; and Only Connect-style word grouping for Vayu Junction.
- Designed for school and college audiences; aligned to CBSE/state environmental studies syllabi; works on low-bandwidth connections with no install or account required.
- Vayu Junction (newest, May 2026) seeds the pollutant, policy, and source vocabulary that the rest of the site uses.



Social Media Feed

Live, filterable, multi-platform air quality coverage

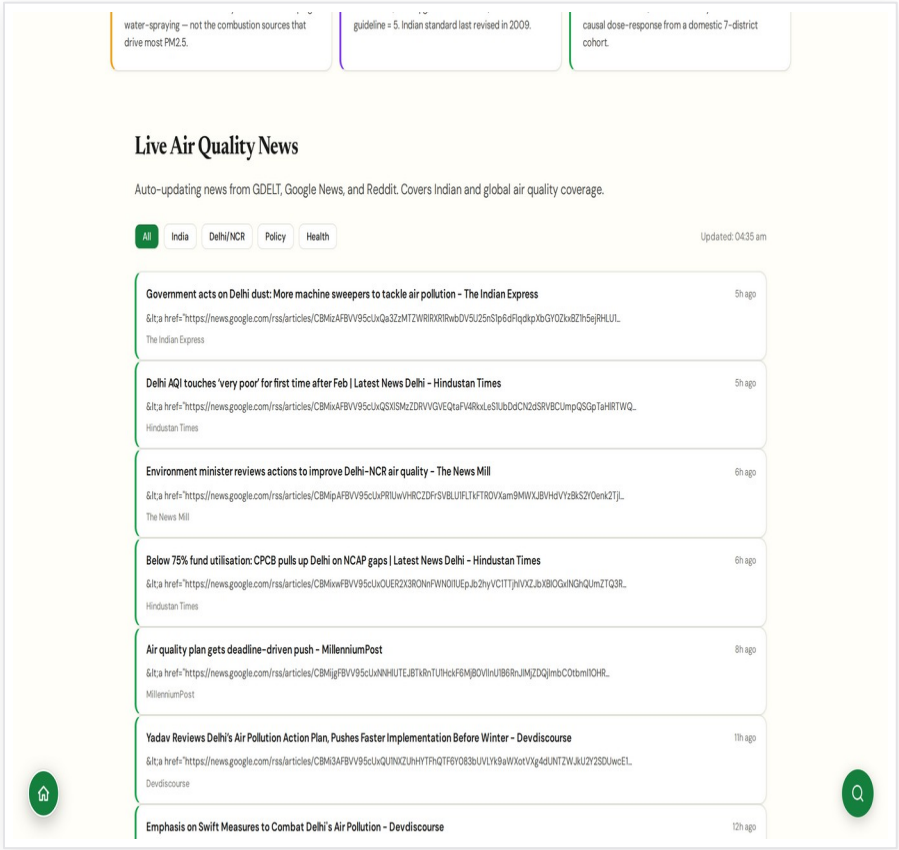
- Aggregates posts from X/Twitter, Reddit, and Bluesky on Indian air quality, refreshing every 15 minutes.
- Filters: city, source type (citizen, regulator, NGO, journalist), language.
- Useful as an early-warning system: regional fire events and inversions often surface on social first.
- All posts cite the original source; JanVayu does not repost or scrape content without attribution.



Live News

Air-quality news from Indian and international press

- Curated news feed pulling from PIB, The Hindu, Indian Express, Times of India, Reuters, AP, and others.
- Filtered to substantive coverage; tags applied (policy, health, science, court, local government).
- Auto-refreshes every 4 hours; cached headlines work offline.
- For anyone producing media reviews this saves an hour a day of manual scanning.



CHAPTER

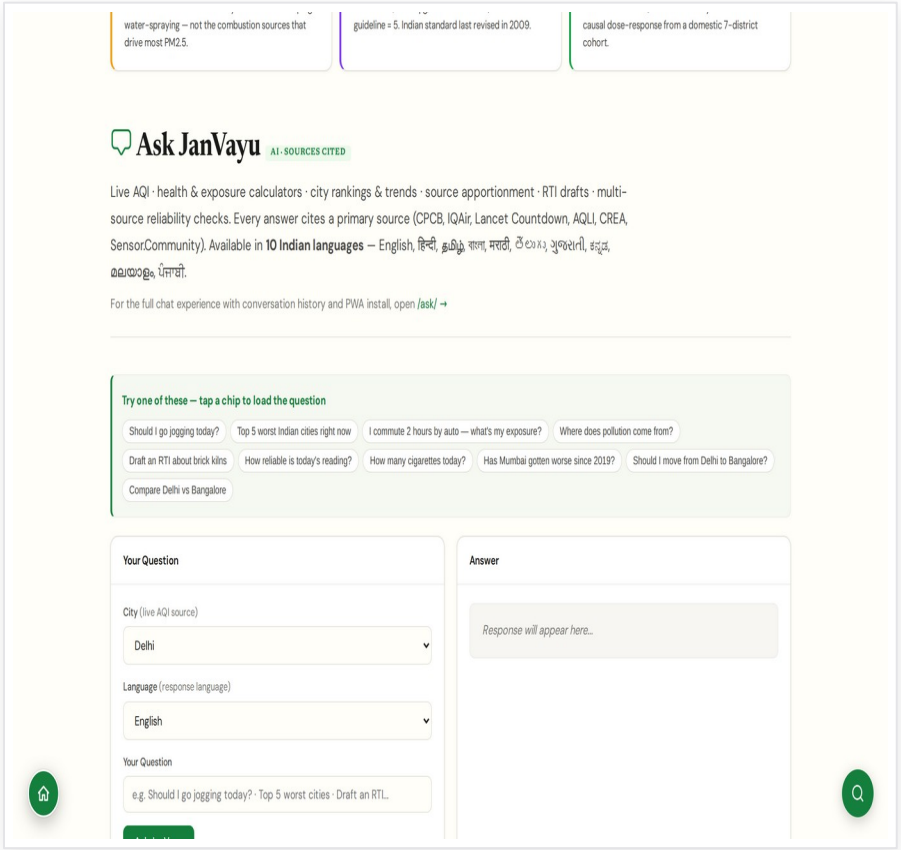
Chapter 7
Tools & knowledge

The reference layer: AI assistant, embeddable widgets, glossary, research library, downloads, and the open data archive.

Ask JanVayu (AI)

Live-data-grounded chatbot in 10 Indian languages, citing primary sources

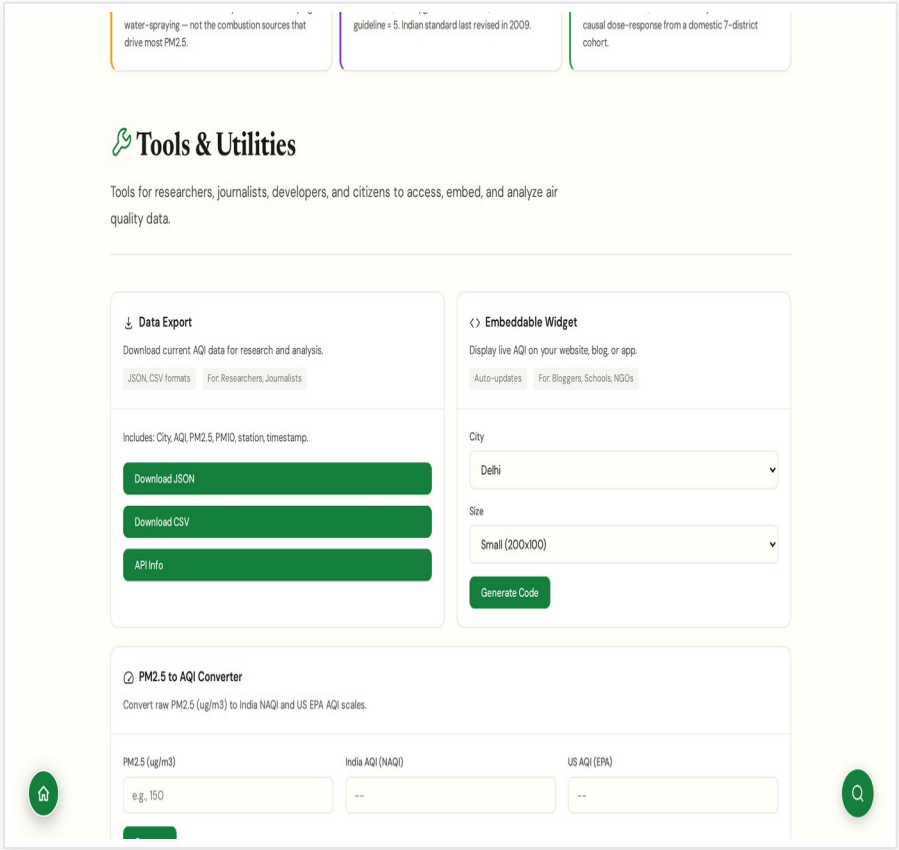
- Ten Indian languages selectable inline: English, हिन्दी, தமிழ், বাংলা, मराठी, తెలుగు, ગુજરાતી, ಕನ್ನಡ, മലയാളം, ਪੰਜਾਬੀ. Covers roughly 95% of mother-tongue speakers.
- Wires four live data sources (live AQI, rankings, historical trends, community sensors); runs seven deterministic calculators (cigarette equivalence, mortality risk, life-years lost, migration benefit, transport exposure, purifier CADR, school closure forecast); drafts six RTI templates.
- Every answer cites a primary source (CPCB, IQAir, Lancet Countdown, AQLI, CREA, Sensor.Community); methodology block addresses 'why do two sources disagree' (CPCB vs US EPA AQI, WAQI vs CPCB network, Krishna 1.5M vs Lancet 1.72M).
- Built on Llama 3.3 70B via Groq; in-page widget plus a standalone PWA at janvayu.in/ask/ with conversation history.



Tools

Embeddable widgets, PM2.5/AQI converters, exporters

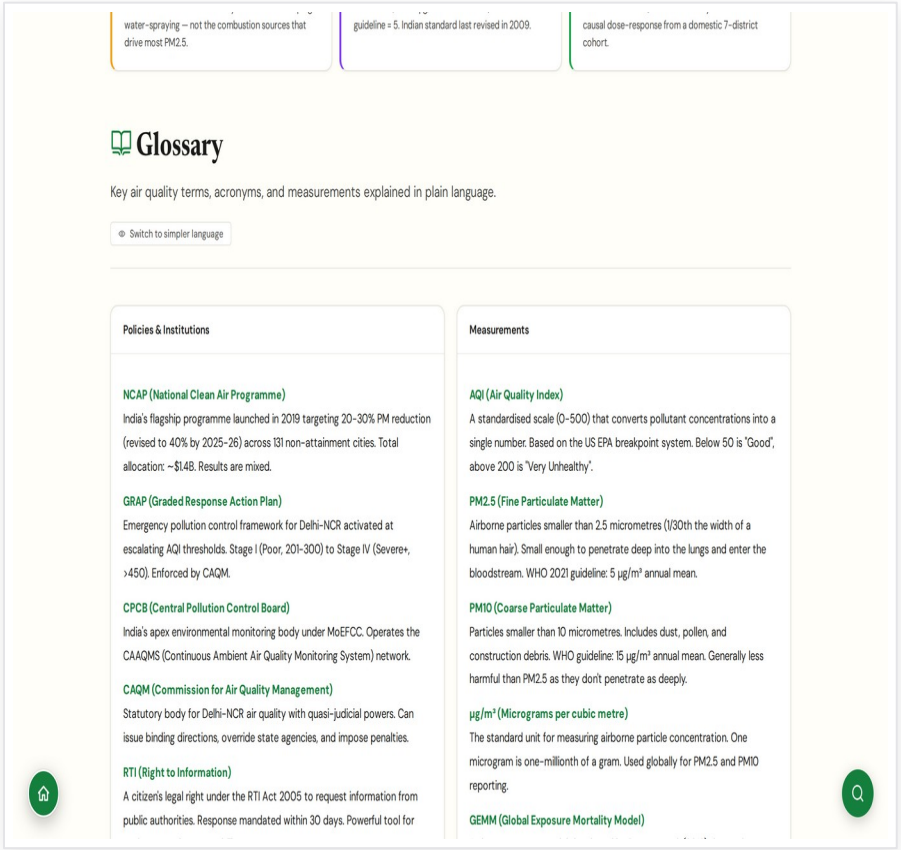
- Embed widget generator: choose a city and a size; receive an iframe snippet for school sites, RWA pages, blogs.
- PM2.5 to AQI converters for both Indian NAAQS and US EPA AQI formulae, both are used in citation.
- Data export: download any panel's underlying data as CSV/JSON for further analysis.
- API endpoint documented for developers building on top of JanVayu.



Glossary

Every air-quality term, plainly defined, with a 'simpler language' toggle

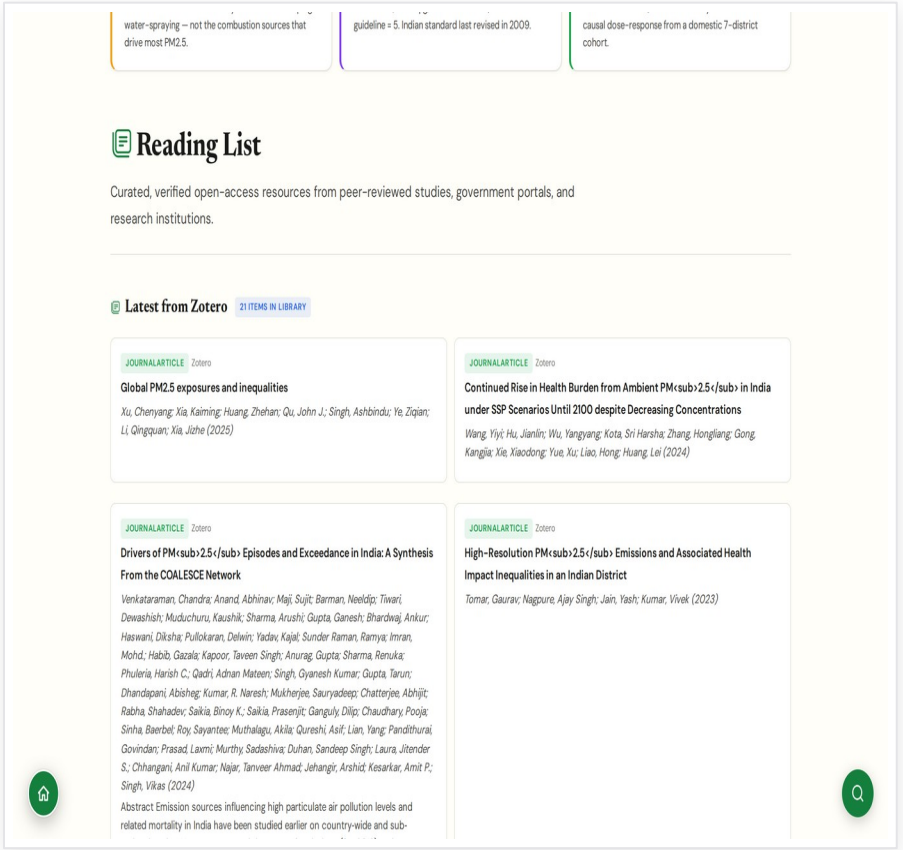
- Categorised entries: Measurements (PM2.5, PM10, µg/m³, AQI, GEMM), Policies & Institutions (NCAP, GRAP, CPCB, CAQM, NAAQS, PRANA), Methods (FIRMS, AOD, source apportionment).
- A 'Switch to simpler language' toggle rewrites each entry into one-line plain English, useful for school and RWA outreach.
- Keyboard-shortcut accessible (Ctrl+K) from any panel; entries cross-link to source papers and to the JanVayu panels where each term is used.
- Anchors AQI definitions to US EPA breakpoints (0-500 scale) since that's what WAQI publishes; PM2.5 anchored to WHO 2021 (5 µg/m³ annual, 15 µg/m³ 24-hour).



Reading List

Zotero-backed open library of papers, reports, and datasets

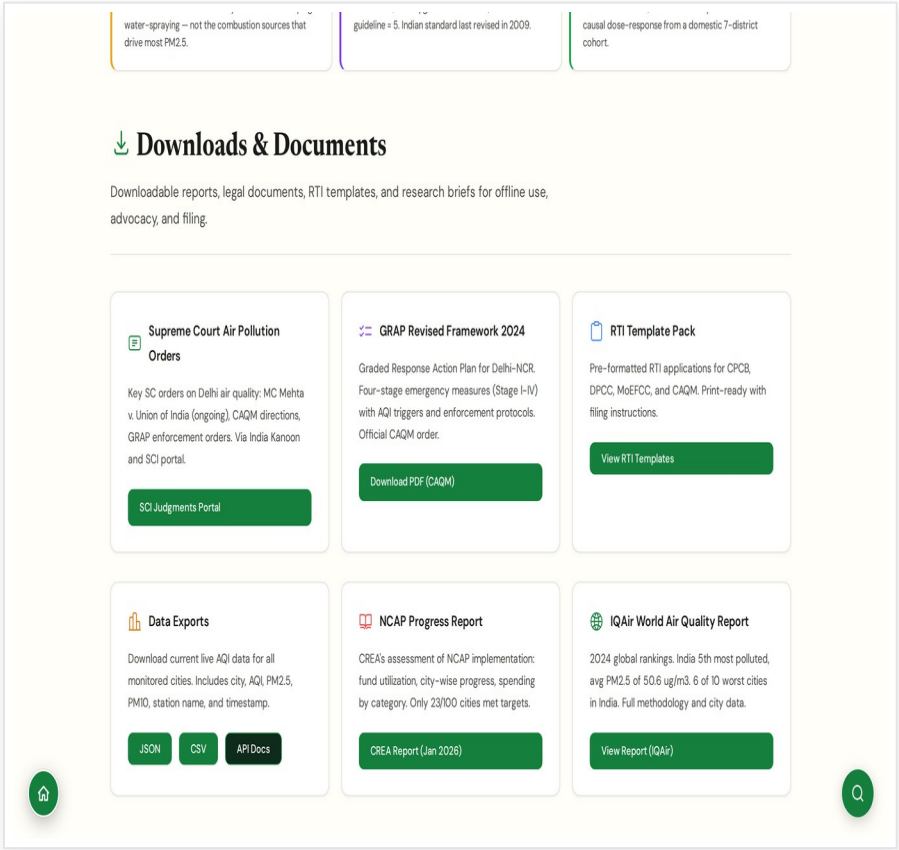
- Currently 21 curated entries pulled live from Zotero: Lancet Countdown India, GBD, CREA, CSE, COALESCE network synthesis (Venkataraman et al. 2024), IIT-K source apportionment, UrbanEmissions.info.
- Each entry carries full bibliographic metadata plus abstract; searchable by topic, author, source-type, year.
- Every panel on JanVayu links to the subset of Reading List entries it relies on, and vice versa.
- Auto-syncs with Zotero so the canonical bibliography lives there, not in the panel; users can fork the collection.



Downloads

Slide decks, briefs, datasets, scorecard PDFs

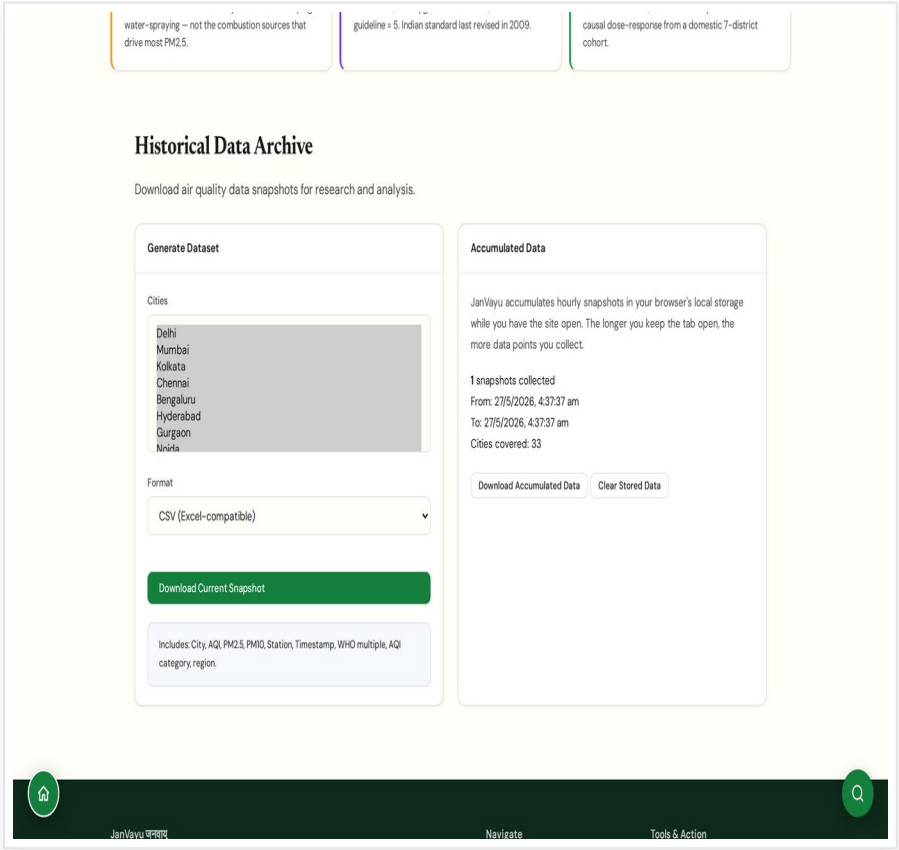
- Ready-made decks for: school assemblies, RWA presentations, councillor briefings, journalist primers.
- Pre-built briefs by topic (NCAP, GRAP, school closures, occupational exposure) with citations.
- Bulk dataset downloads for researchers (historical CPCB, derived ×WHO series, scorecard exports).
- Everything CC BY-NC-SA 4.0, free to reuse with attribution, non-commercial.



Data Archive

Raw and processed time series, openly accessible

- Long-run station-level PM2.5/PM10 series sourced from CPCB CAAQMS and curated.
- Derived series: city-level daily means, ×WHO multipliers, scorecard inputs, GEMM calculations.
- Versioned: every dataset has a release date, a methodology note, and a citation suggestion.
- Useful for graduate research and for replicating any specific claim shown on the platform.



CHAPTER

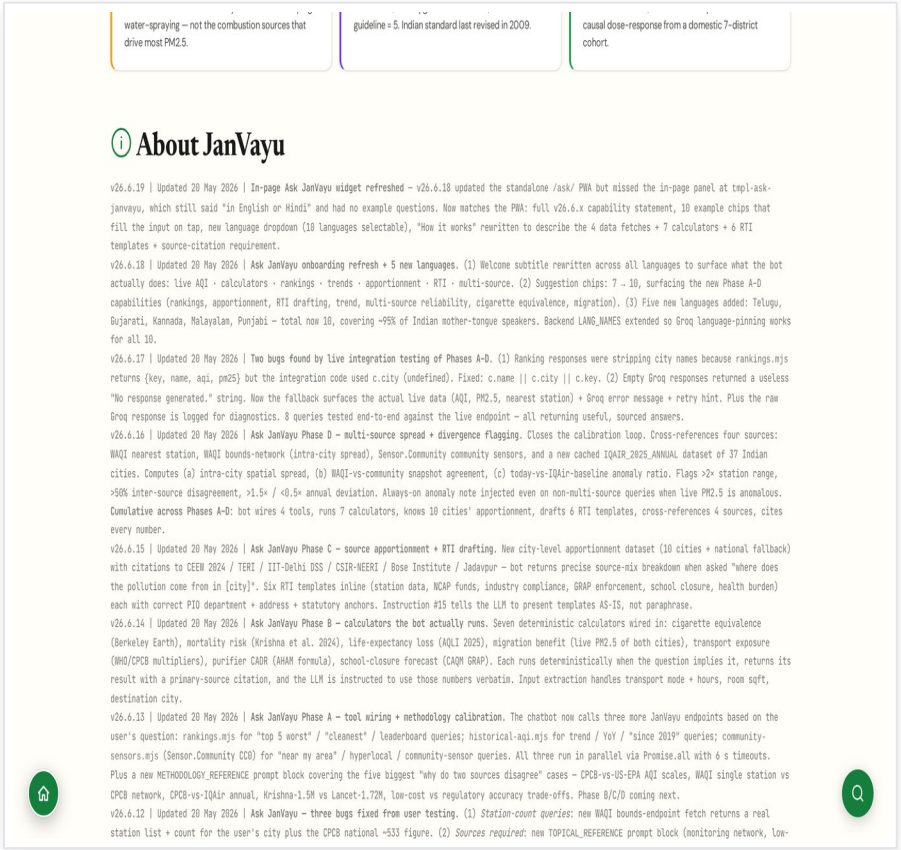
Chapter 8
About, footer, and legal compliance

Provenance, licensing, disclaimers, and the legal architecture beneath every page.

About

Who built JanVayu, who funds it, who maintains it

- Built by a group of independent researchers and civic technologists, not a registered NGO or company.
- Independently funded by contributor effort; no government, corporate, or partisan funding.
- Source code: MIT licensed, public GitHub repository. Content: CC BY-NC-SA 4.0.
- Lead maintainer: Varna Sri Raman (Communications and Insights). Tech contributors credited on the page.

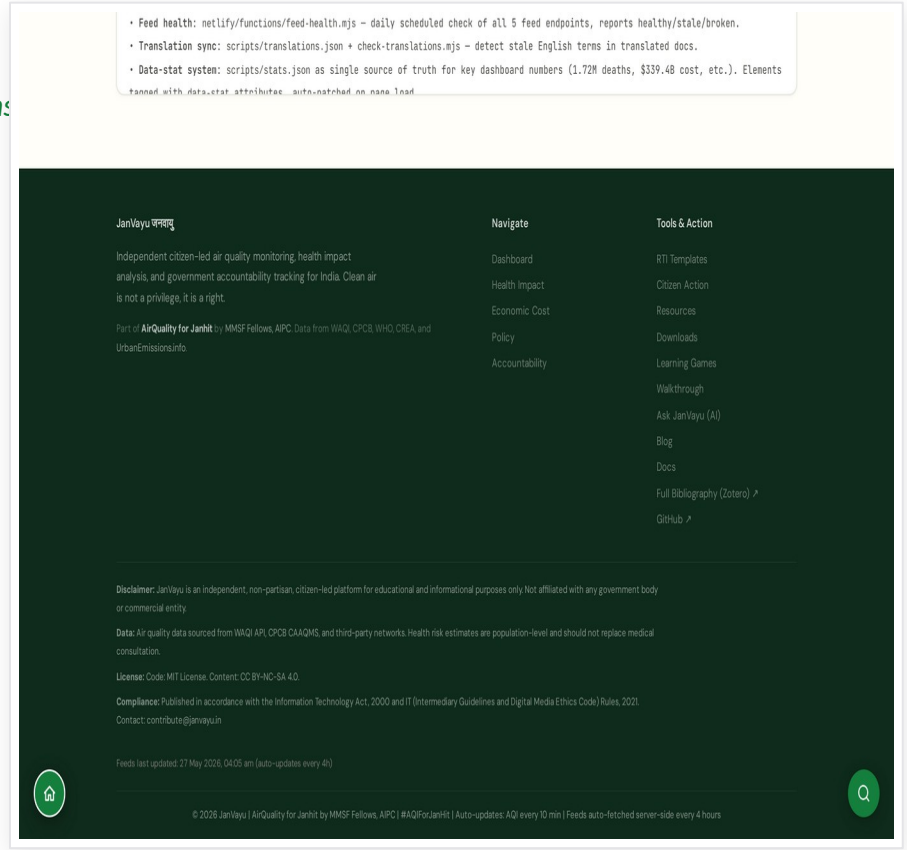


#footer (every page)

Footer & legal compliance

Disclaimer, data accuracy, license, IT Act compliance, all four sections present

- Disclaimer: independent, non-partisan, citizen-led platform; for educational and informational purposes; not affiliated with any government or commercial entity.
- Data accuracy: PM2.5 from WAQI / CPCB CAAQMS / third-party networks; health risk estimates are population-level and do not replace medical consultation.
- Licence: code under MIT; content under CC BY-NC-SA 4.0.
- Compliance: published in accordance with the IT Act 2000 and the IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021. Contact: contribute@janvayu.in.



CHAPTER

Chapter 9
Using JanVayu in your work

Concrete ways researchers, journalists, lawyers, and advocates can use the platform in their daily work.

How to use JanVayu in your work

Research	Data Archive → versioned datasets → cite with the version tag. Reading List → backing literature. Pollution Correlations → exploratory analysis.	`data-archive` · `resources` · `correlations`
Writing	City Scorecards for one-page synthesis. Mission Tracker for evidence-graded claims. Accountability Brief for daily wire scan.	`scorecards` · `mission-tracker` · `accountability-brief`
Advocacy	RTI Assistant for the right RTI to the right authority. Legal Framework for the constitutional and statutory base. Clean Air Wins as counterweight in policy conversations.	`rti-assistant` · `legal` · `progress`
Outreach	Workshops for re-runnable training; Learning Games for school engagement. Ask JanVayu for bilingual Q&A; Tools for embeddable widgets.	`workshops` · `games` · `ask-janvayu` · `tools`
Personal use	Should I Go Outside; AQI Alerts; Exposure Report. Purifier Calculator for household decisions; Migration Calculator for bigger ones.	`go-outside` · `aqi-alerts` · `exposure-report` · `purifier-calc` · `migration-calc`

Tech stack and data sources

PLATFORM

- Single-page HTML application, no framework lock-in
- Vanilla JavaScript + Chart.js (interactive charts)
- Leaflet.js for the live map
- Typography: DM Sans (UI) · Newsreader (editorial) · JetBrains Mono (data)
- Self-hosted variable WOFF2 fonts
- Open source: MIT licensed code on public GitHub

DATA SOURCES

- WAQI API, live PM2.5 readings across cities
- CPCB CAAQMS, Central Pollution Control Board stations
- PRANA Portal, NCAP city data
- NASA FIRMS, satellite fire-count imagery
- IMD, meteorology (wind, temperature, boundary layer)
- RTI responses, Union Budget docs, scheme utilisation
- Lancet, CREA, CSE, Dalberg, World Bank, IQAir, UrbanEmissions.info

What's next, and how to contribute

Q3 2026	Expand Clean Air Mission Tracker beyond Delhi-NCR (12-week city-by-city roadmap).
Q3 2026	Integrate UrbanEmissions.info resources into the Reading List (7 mapped resources incl. 40 by 2040 calculator).
Q4 2026	Watch the XVI Finance Commission successor framework; NCAP funding cliff dashboard once published.
Ongoing	More multilingual coverage (Marathi, Bengali deepening; Telugu and Kannada on the roadmap).
Ongoing	Workshop kits in vernacular languages for school and RWA outreach.

Contribute · Data, code, or analysis: GitHub PRs welcome · Story leads or RTI tips: contribute@janvayu.in · Workshops in your city: same email

Thank you.

Questions? Things you'd want JanVayu to do that it doesn't yet?

janvayu.in · contribute@janvayu.in · github.com/janvayu