The State of India's Pollution Control Boards

Working Paper Series

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EXECUTIVE SUMMARY

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Background

Deteriorating air quality in India, particularly in the Indo-Gangetic Plain (IGP), has received significant attention from the media and public in recent years. There is mounting evidence of the harmful effects of short and long-term exposure to high levels of air pollution experienced in the IGP region on people's health, and thus the economy (1–6). The shortcomings of the current regulatory and institutional framework in arresting air pollution are actively debated by many from the civil society, and the judiciary. In particular, the State Pollution Control Boards (SPCBs) and their counterparts in union territories, the Pollution Control Committees (PCCs), the frontline pollution control agencies, have come under fire for failing to effectively deliver on their mandate of curbing air pollution (7–9).

Although SPCBs were set up under the Water (Prevention and Control of Pollution) Act 1974 [the Water Act], over time their mandate has expanded significantly beyond water-related issues. They are responsible for regulating air and noise pollution, waste (including municipal, bio-medical, electronic, and hazardous wastes), regulating the use of plastic, among other tasks. Empowered under the Water Act, the Air (Prevention and Control of Pollution) Act 1981, and the Environment (Protection) Act 1986, the Boards perform four broad functions under these various sets of rules:

1. Granting and managing consents (to establish and operate industry)
2. Setting standards for emissions and effluents among other pollutants
3. Monitoring compliance of industry with these standards
4. Enforcing these standards through an escalating series of actions

Over the years, several studies commissioned by the government, as well as some undertaken independently, reveal that the SPCBs do not have the resources and capacity to perform the functions assigned to them under various laws. The lack of capacity in SPCBs has been attributed to various factors: inadequate sanctioned strength of personnel, high numbers of vacancies especially in technical positions, absence of proper training, lack of pollution monitoring and abatement equipment, absence of technically competent leadership, protracted enforcement mechanisms, and insufficient funds (7,8,10–14). These problems have persisted for many years, yet they remain unresolved.

These challenges are, perhaps, particularly salient in the IGP, an inter-connected airshed with meteorology and geography playing a key role in transporting and maintaining high levels of exposure to air pollution all the way from Punjab in the west to West Bengal in the east, especially in winter. With a plurality of sources emitting a range of pollutants, regulating air pollution here is an extremely difficult and complex task, with discourse often devolving into political blame games around the origins of air pollution beyond state boundaries. The mandate of managing this plurality of sources and emissions falls on the SPCBs/PCCs primarily. In addition to their fundamental "command-and-control" approach to pollution management while regulating industrial sources, SPCBs/PCCs have the responsibility of coordinating with other sectors and departments.

The evolving policy regime around air quality has also substantially expanded the convening and coordinating roles of the SPCBs and has introduced newer frameworks for them to adapt to. For example, under the National Clean Air Program (NCAP) and the Fifteenth Finance Commission (XVFC) grants to Urban Local Bodies (ULBs), SPCBs play

a key technical advisory role in formulating and implementing action plans for non-attainment cities. Under the Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM), the first effort by the government to regulate air quality at an airshed level, there is greater emphasis on the SPCBs in the region to deliver on coordinated action across state boundaries.

Given that they are a determinative factor for the effective implementation of India's pollution control laws, what is the ability and capacity of the SPCBs and PCCs to perform their statutory functions? What is the role of the Board? Does the leadership of the SPCBs and PCCs in the IGP have the necessary expertise? In its leadership? Are there adequate numbers of technically qualified people staffing these agencies?

In '*The State of India's Pollution Control Boards*', we explore some of these key institutional issues through a series of working papers:

1) **"Who has a seat at the table?"** – Composition of the Boards and their ability to engage in policymaking and take decisions in furtherance of statutory goals;
2) **"Who is at the helm?"** – Qualifications of the Boards' leadership and whether they are well-placed to guide the Boards' functioning; and
3) **"Who is in the field?"** – Adequacy of the Board's capacity – particularly technical capacity – to perform critical functions like consent granting, inspection, monitoring, and enforcement.

Methods

To facilitate this work, we collected a range of information from ten SPCBs/PCC (Punjab, Haryana, Delhi, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh and West Bengal) through applications filed under the Right to Information Act, 2005 (RTIs). This included data on the following:

- Composition of the Board, presence of non-official members, industry, academia and air quality experts
- Tenure and qualifications of their last five Chairpersons and member secretaries, whether their role was full-time or part-time, recruitment rules for these positions
- Current sanctioned strength and vacancies across technical positions, attempts to fill vacancies, number of consents issued

To understand the functioning of the SPCBs/PCCs and their perception of their capacities and constraints, we conducted a series of semi-structured, key informant interviews. We spoke to 18 current and former senior leadership of the CPCB and SPCBs (Chairpersons, Member Secretaries, Environmental Engineers, and Legal Officers) across the IGP states. These data were supplemented by a review of previously published reports on SPCB functioning, and data that are available on various government websites.

Key Takeaways

Based on our analyses of the RTI responses received, and data collected through interviews, the following key takeaways emerged, which are further detailed in the three papers referred to above:

BOARD MEMBERSHIP AND COMPOSITION

1. Representation on the Boards largely comprises government departments, public sector units and other industry representatives. There is limited representation from civil society (including those working on environmental and labour issues), academia, public health, and the medical community. (Table 1)

2. The statutory requirement of having at least two Board members who have knowledge and experience in air quality management is not met by most Boards. The three Boards which claim that two members have the necessary qualifications have not provided any evidence to support this claim.
3. The considerable presence of polluting industry and government departments tasked with regulating these industries on the Boards raises questions about potential conflicts of interest.
4. There is little substantive discussion on air pollution control or planning in Board meetings, which are largely procedural in nature.

Table 1. Representation on the Board of SPCBs/PCC

State	State Government Departments	Local Authorities	Related to Industry or Infrastructure	Other State-Owned Companies, Corporations or Boards	Academics, Scientists, Medical Practitioners, Researchers	Political or Religious Representatives
Bihar	5	4	1	2	0	0
Chhattisgarh	1	1	1	1	0	0
Delhi	5	1	3	0	2	0
Haryana	4	5	3	1	1	0
Jharkhand	5	5	3	2	0	0
Punjab	5	3	5	1	1	1
Rajasthan	5	0	2	1	0	0
Uttarakhand	5	5	2	1	2	0
Uttar Pradesh	5	1	1	1	0	2
West Bengal	5	5	1	2	3	0
Total	45	30	22	12	9	3
Share	37%	25%	18%	10%	7%	2%

LEADERSHIP

1. There is a clear preference for candidates who are, or have been, in government service for the roles of Chairperson and Member Secretary. Candidates taking up these positions often did not have any educational qualifications or background in environmental management.
2. Many interviewees believed that Chairpersons would be better equipped if they were in-service civil servants, while the Member Secretary should be from a "technical background". The preference for civil servants in leadership roles is based on the belief that such a person will be able to ensure better inter-departmental coordination, and align the SPCB's work with State government priorities, even if they are intended to be autonomous bodies.
3. The Chairperson's post is not full-time in several states. Chairpersons often hold additional posts in other government departments and are thus not in a position to focus fully on the SPCB's mandate and functioning.
4. The tenure of Chairpersons and Member Secretaries varies widely despite most States having a fixed-term tenure for both positions. Several Chairpersons and Member Secretaries have held their posts for less than a year (Figure 1). Average tenures across the last five Chairpersons are greater than three years in two states only because of massive outliers who have held posts for as many as seven years. Brief tenures make it challenging to effectively conceptualize and deliver on long-term plans for pollution mitigation as most of their time is spent coming up to speed with the demands of their role.

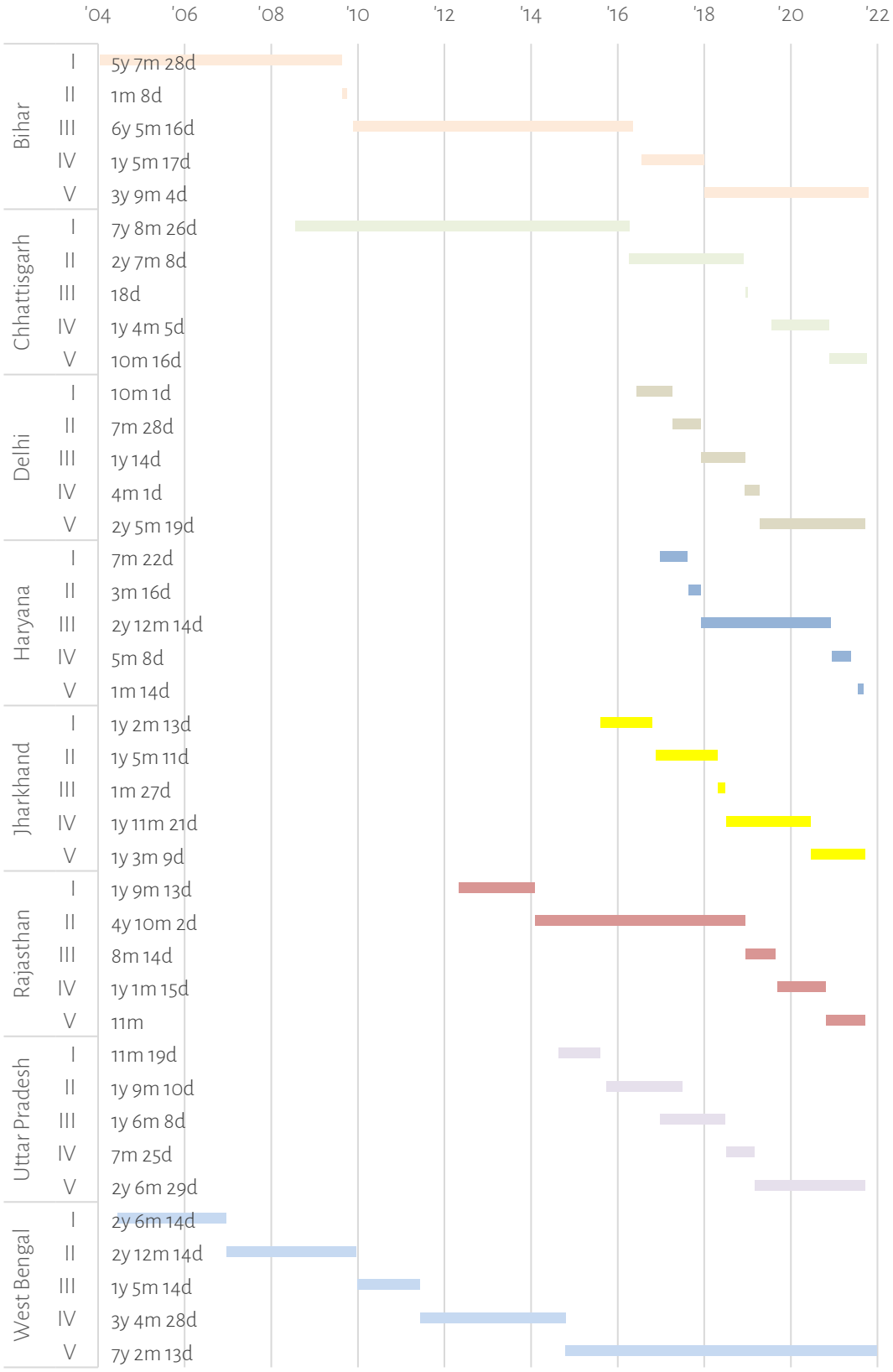

Figure 1. Tenures of previous 5 Chairpersons at 8 SPCBs/PCC. Coloured bars indicate the duration of tenures, while the data labels indicate the length of tenures in days. Tenure end date for those in position V has been considered to be the date of filing the RTI response by the SPCB/PCC and not their last day in office.

STAFF

1. Sanctioned posts and (in particular) occupied posts have not kept up with both increasing levels of industrialization in states, as well as increasing responsibilities for the SPCB staff. At least 40% posts are vacant across all 9 SPCBs/PCC. Vacancy levels are as high as 84% in Jharkhand.
2. 7 out of 8 SPCBs have at least 40% vacancies in the technical staff category. The high vacancy levels impede the regular functioning of Boards (Figure 2).
3. 4 of 7 states have less than a day available per occupied post of environmental engineer (EE) to process a single consent application. None of the states have more than 2 days available (Figure 3).
4. Regional offices (ROs) also suffer from a shortage of staff. Some ROs only have 1 or 2 EEs and have had to issue as many as 800 consents per EE annually. On average, each EE at an RO issued 200 consents in 2020-21.
5. Legal cells in most Boards have sanctioned strength of five or less, and vacancies are very high in most Boards.
6. Interview respondents indicated a number of factors that have affected their ability to hire and retain technical talent including pay and benefits, options for career growth, political pressure, and the lack of defined service rules.
7. Despite the staffing crisis across the Boards, half of them either did not provide any response to the query, or perhaps more worryingly, stated that no advertisements had been posted recently.

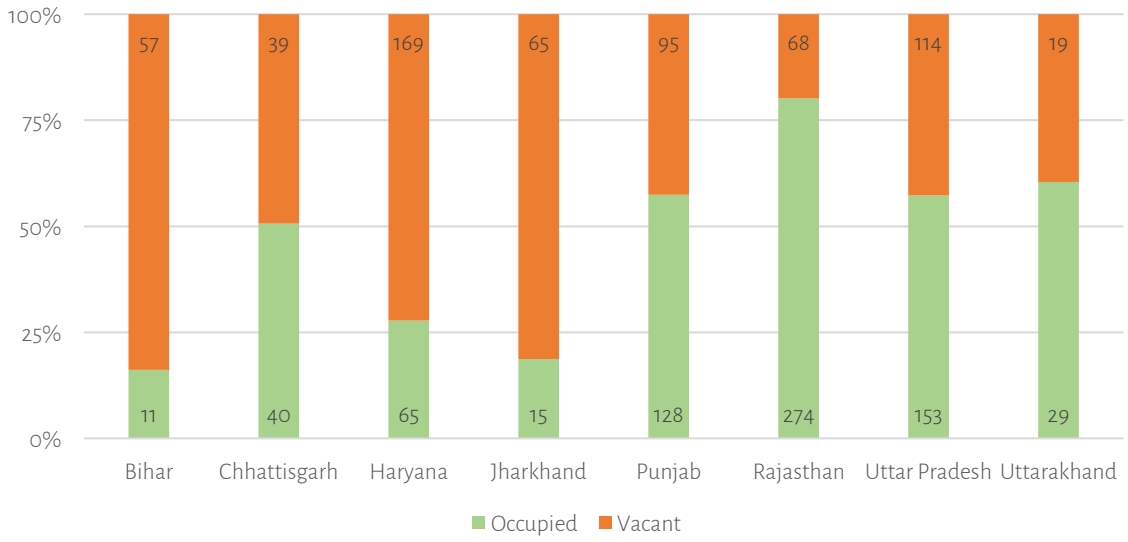

Figure 2. Snapshot of technical posts (environmental engineers + scientists) across 8 SPCBs[1]

[1] West Bengal PCB, Delhi PCC and Bihar SPCB did not provide the required information in response to our RTI queries with data. For Bihar SPCB, information from our interview notes has been used.

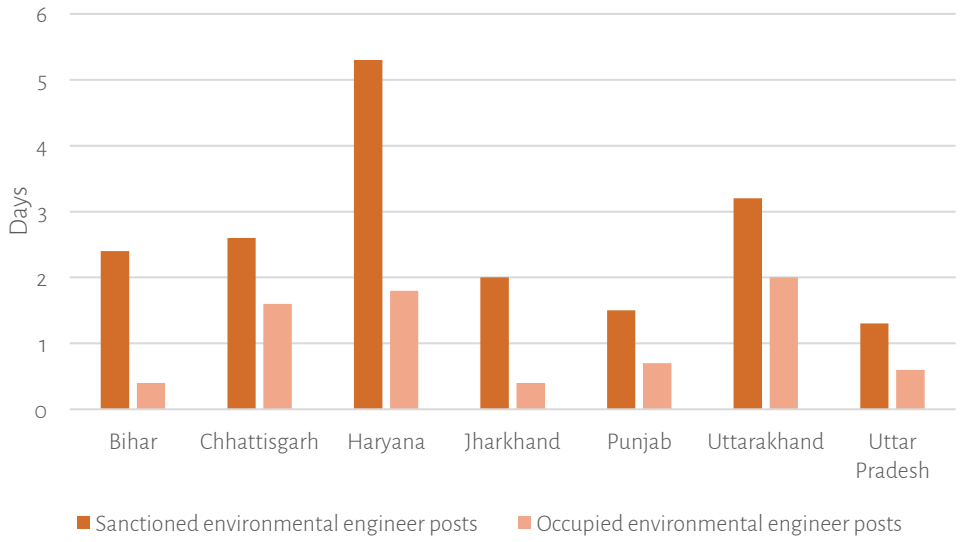

Figure 3. Number of days available per environmental engineer post to process one consent application

Conclusion

In this series of papers, we have sought to highlight an issue that has been identified time and again as a significant constraint to effective environmental management by Parliamentary standing committees, academic and civil society organizations, and the government. Air pollution in the IGP is an ongoing public health emergency and the distinct lack of progress made in strengthening our frontline environmental regulators is a symptom of executive apathy.

The challenges faced by SPCBs in executing routine tasks has been substantially exacerbated by India's rapid industrialization and their expanded mandate, now encompassing not just air and water pollution but a range of other environmental concerns. The expanded mandate, coupled with the staff crunch, has meant that regulatory scrutiny of polluting sources is much less than desirable. At the same time, SPCBs have become increasingly reliant on technological innovations such as the Continuous Emissions Monitoring Systems (CEMS)and mechanisms of *de facto* self-regulation such as industry-hired third-party inspectors as means to foster more efficient regulation. However, these mechanisms are yet to succeed on the ground for a number of reasons.

Given the nature of air pollution, we need impactful inter-sectoral coordination to drive preventive and mitigation actions. There is also a growing interest in deploying complex market-based mechanisms such as emissions trading schemes nationwide. All this requires robust institutional frameworks for convening, implementation, evaluation, and accountability. In a context where SPCBs are flailing in their attempts to fulfil their basic mandate, how can we expect them to upskill and empower themselves sufficiently to convene and facilitate far more complex regulatory processes such as market-based mechanisms?

The Union Government has established ambitious targets for improvement in air quality through the National Clean Air Program. Achieving these targets however requires promptly addressing the antecedents of effective environmental regulation - competent regulators with sufficient capacity. As it stands, while plans may well be ambitious, given the state of India's pollution control Boards, they may well remain just on paper unless these lacunae are urgently addressed.

References

1. deSouza PN, Dey S, Mwenda KM, Kim R, Subramanian SV, Kinney PL. Robust relationship between ambient air pollution and infant mortality in India. Sci Total Environ. 2022 Apr 1;815:152755.

2. Singh N, Mhawish A, Banerjee T, Ghosh S, Singh RS, Mall RK. Association of aerosols, trace gases and black carbon with mortality in an urban pollution hotspot over central Indo-Gangetic Plain. Atmospheric Environment. 2021 Feb 1;246:118088.

3. Krishna B, Mandal S, Madhipatla K, Reddy KS, Prabhakaran D, Schwartz JD. Daily nonaccidental mortality associated with short-term PM2.5 exposures in Delhi, India. Environmental Epidemiology. 2021 Aug;5(4):e167.

4. Pandey A, Brauer M, Cropper ML, Balakrishnan K, Mathur P, Dey S, et al. Health and economic impact of air pollution in the states of India: the Global Burden of Disease Study 2019. The Lancet Planetary Health. 2021 Jan;5(1):e25–38.

5. The World Bank, Institute for Health Metrics and Evaluation, University of Washington. The Cost of Air Pollution: Strengthening the Economic Case for Action. 2016. Available from: https://openknowledge.worldbank.org/handle/10986/25013

6. Confederation of Indian Industry. Air pollution in India and the impact on business. 2021 Apr [cited 2022 Sep 29]. Available from: https://www.cleanairfund.org/resource/air-pollution-in-india-and-the-impact-on-business/

7. Standing Committee. Report of Committee on Science, Technology, Environment and Forests on Functioning of Central Pollution Control Board. 2008. Report No.: 192.

8. Centre for Science and Environment. Turnaround: Reform Agenda for India's Environmental Regulators. 2009 [cited 2022 Sep 19].

9. *Techi Tagi Tara v Rajinder Singh Bhandari*, 2018 SCC 11 734.

10. Bahuguna V, Krishna B. Strengthening Pollution Control Boards to achieve the National Ambient Air Quality Standards in India. 2020. Available from: https://www.ceh.org.in/wp-content/uploads/2020/11/NAAQS-report_final_revised_22-10-20.pdf

11. Belliappa PM. Belliappa Committee Report on Common Staffing Pattern for State Pollution Control Boards. 1990.

12. Bhattacharya SP. Report of the Committee to Strengthen the Infrastructure Facilities of the Central and State Pollution Control Board. Department of Environment, Government of India; 1984.

13. Central Pollution Control Board. Report of the Performance Audit of State Pollution Control Boards/ Pollution Control Committees. 2020 Sep. Available from: https://bit.ly/3Dgjsmm

14. Planning Commission PEO. Evaluation Study on The functioning of State Pollution Control Boards [Internet]. 2001. Available from: http://www.indiaenvironmentportal.org.in/files/spcb-final.pdf

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