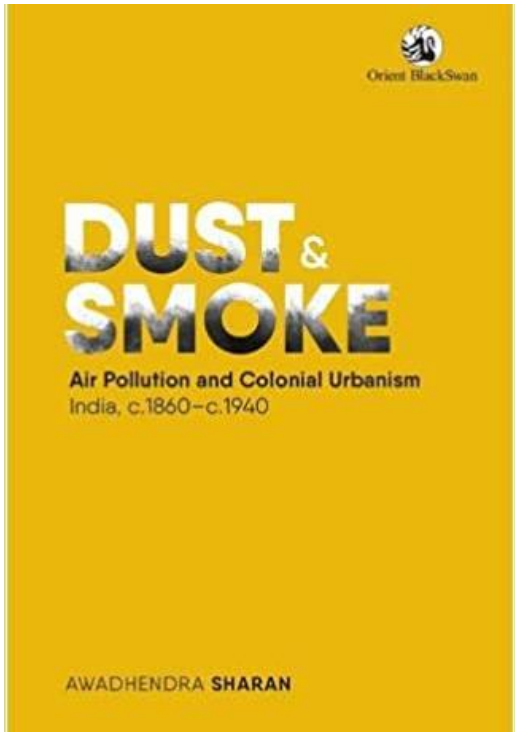
Ecology, Economy and Society–the INSEE Journal 5 (1): 235-238 January 2022

BOOK REVIEW

Revisiting Regulations: Air Pollution and Colonial Urbanism

Ayushi Chauhan*

Awadhendra Sharan. 2020. *Dust and Smoke: Air Pollution and Colonial Urbanism, India, c.1860–c.1940,* Delhi. Orient BlackSwan.



Urban environmental histories of India predominantly focus on water and waste management. Awadhendra Sharan's *Dust and Smoke* clearly deflects from these thematic concerns and explores the history and visualization of smoke as a nuisance in the sprawling colonial cities of Calcutta and Bombay. It is not, however, a simple tale of air pollution and its evolution into a health hazard. Rather, the monograph discusses the colonial concerns regarding air quality that compelled them to tackle the challenges of economic waste in addition to developing a vision for

* Ph.D. Candidate in the Department of History at Boston University. ayushi18@alumni.iitg.ac.in

Published by Indian Society for Ecological Economics (INSEE), c/o Institute of Economic Growth, University Enclave, North Campus, Delhi 110007.

ISSN: 2581-6152 (print); 2581-6101 (web).

DOI: https://doi.org/10.37773/ees.v5i1.509

hygienic cities, documenting health concerns, seeking technological interventions, and debating the social nature of air itself.

Dust and Smoke comprises six main chapters that are richly referenced with archival findings, government reports, commercial advertisements, and a comprehensive list of newspapers. The book outlines the colonial authorities' three-staged response to the problem of smoke: first, discussions around municipal interventions and a steady turn to involving English expertise; second, setting up Smoke Nuisance Commissions, which worked on the twin principles of restricting smoke within time limits as well as prosecuting violators; and finally, a shift of direction to energy conservation, efficient utilization of resources, and direct colonial interventions to abate smoke.

With the emergence of modern sanitary science in the nineteenth century, hygiene was regarded as both a "natural" and a "moral" issue. Although smoke eventually became integral to European sanitary discourse, it was initially perceived as being unnatural and undesirable in British India. The modern understanding of smoke and sanitation paved the way for colonial intervention and regulation in Indian cities.

In the first phase of interventions on smoke abatement, the Act of 1862 was introduced in Bombay with the chief objective of attempting to reduce furnace smoke emanating from factories. Soon after, in 1864, the Government of Bengal passed a similar legislation that directed factories "to consume or burn the smoke" (p. 58). Interestingly, while the initial responsibility for abating smoke in Calcutta was assigned to the Boiler Commission, Bombay, it was later tasked to the municipal commissioner, an administrator.

Sharan argues that the initial smoke laws in British India were drawn from English standards rather than a local comprehension and understanding of smoke. Moreover, smoke inspections in the 1860s and 1870s in Calcutta and Bombay focussed more on prosecution and penalties without providing the administrative machinery to actually reduce smoke levels within the city. British authorities tended to blame excessive smoke on the absence of suitable technology, country coal, and bad firing of smoke (p. 68). By the late nineteenth century, however, mill owners and British authorities began to challenge existing smoke laws, claiming that manufacturers did not provide sufficient evidence for administrators to properly monitor and prosecute smoke polluters. Consequently, there was a percieved need to develop the required expertise to efficiently tackle smoke emissions.

The turn of the century marked the beginning of a new phase, with advanced laws being formulated for a twin strategy involving persuasion

and prosecution, which was based on the expertise of the European mill managers. In Calcutta, the law of 1862 was substituted with the appointment of a Smoke Nuisance Commission to provide better monitoring of smoke, a clear limitation on the maximum amount of smoke that could be emitted per hour, and technical and skilled expertise. In Bombay, however, rather than amending the law of 1864, the municipality's role in enforcing the law was replaced by the Smoke Nuisance Commission in 1912. New regulations were framed based on observations from Calcutta; more importance and power were given to English experts, who dictated new regulations on the permitted degree and density of smoke as well as the time during which it could be emitted.

Even though warnings and prosecutions were relatively fewer in Bombay, the overall reporting pattern remained similar to Calcutta. Commissions were quick to claim success in reducing industrial smoke, which drew global attention towards their achievements. However, Sharan asserts that these claims were far from reliable, as the complaints surrounding smoke pollution continued to pour in from both cities. By the end of the second phase, the Bengal and Bombay commissions accepted that the cities being entirely smoke-free was a naïve idea, especially considering the contribution of industrial smoke. Failing to provide a permanent solution to the smoke problem, the authorities sought to lay blame on railway locomotives and shipping, which, in any case, had been granted exception in the original act.

The third phase steered away from focusing only on the volumes of smoke emitted, and concentrated instead on resource optimization, direct interventions based on expert advice targeting industries, and innovations in combustion engineering. Commissions were repurposed towards ensuring resource conservation and the efficient use of "national resources"—fuel and coal. During WWI, between 1914 and 1918, there followed a further turn towards exploring new energy sources—electricity and hydro electrification. Developing electric power was increasingly put forth as a permanent solution to the smoke nuisance, with electric grids coming up not only in Calcutta and Bombay, but also in Karachi and Ahmedabad.

In the post-war years, the British mandate became more advisory than repressive, and commissions offered advice to factories with regard to furnace and chimney design. However, the amendment of 1916 permitted commissions to enter industrial premises without prior notice, after which the Bombay authorities began to direct attention towards smaller industrial units and petty industries. Unaware of the Act, many small traders were subjected to fines and unexpected inspections. Sharan contends that by the end of this final phase, soon after declaring Calcutta and Bombay as smoke-

free cities, the commissions resorted to large-scale prosecution of the perceived offenders, thus returning matters to the way they were at the turn of the nineteenth century (p. 193).

Through a careful study of these three phases, Sharan insightfully expands our understanding of how the urban air imagery was shaped by industrial smoke laws in British India. Beyond industrial contribution, the question of smoke from homes was generally avoided throughout the nineteenth century. To the colonial administration, the high mortality rates in cities in non-epidemic periods was predominantly caused by poor sewerage systems, the practice of purdah amongst women, poverty, and inadequate housing, rather than the quality of air as a disease factor (p. 228). In the immediate post-war years, however, domestic smoke received more attention in both Calcutta and Bombay and was increasingly linked to urban health. Sharan observed that adoption of alternative energy sources such as gas and electricity by the growing middle classes were now be touted as solutions and were soon heeded to be the means to achieving city health, safety, and beauty. The importance given to the rising middle class, however, worked to breed administrative neglect towards the domestic smoke originating from poor working-class homes, which continued to inversely impact the skies of Bombay and Calcutta.

Dust and Smoke: Air Pollution and Colonial Urbanism makes a compelling case of why we should examine the journey of smoke in India. At a time where air pollution is finally being given more importance, Sharan's work urges us to reconsider the social nature of air in India and suggests that we step beyond colonial modernist and technocratic imaginary.