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Stakeholder Management in Urban Environmental Governance: Lessons from Lahore's Air Pollution Crisis

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Abstract

Lahore's worsening air quality, primarily caused by increased vehicle traffic and unchecked urban expansion, is now one of South Asia's most pressing environmental concerns. This challenge is not just about the environment; it also stems from weak governance, poor enforcement, and a lack of collaboration among key groups. To understand these issues, this study draws on twenty interviews with government officials, urban planners, transport experts, academics, and civil society members. It also reviews two main policy documents: the National Clean Air Policy (2023) and the Punjab Clean Air Action Plan. The findings reveal ongoing issues at various levels of government, including unclear roles, influence from powerful interest groups, rules that are followed in name only, and limited use of independent research in decision-making. Community voices, especially from low-income areas most affected by pollution, are often left out. The paper suggests that real progress will require a new approach, involving collaboration, open data sharing, and joint planning. This could turn scattered efforts into real, lasting results. What happens in Lahore can offer lessons for other fast-growing cities in the Global South facing similar challenges.

Keywords: Urban Governance, Stakeholder Engagement, Air Pollution, Environmental Policy, Collaborative Governance

Introduction

Lahore, a metropolis of more than thirteen million inhabitants, stands today as one of the fastest - growing urban centers in South Asia (UN-Habitat, 2020). Its position as Pakistan's cultural and economic capital has spurred industrial expansion, large-scale infrastructural development, and rapid demographic change. While these transformations have consolidated the city's role as a national hub of commerce and governance, they have simultaneously

generated a web of social and environmental challenges that increasingly threaten urban sustainability (World Bank, 2022). Among these challenges, air pollution has emerged as the most acute and persistent. Vehicular emissions, combined with unregulated industrial activity and poorly coordinated urban planning, have contributed to consistently hazardous levels of air pollutants. Concentrations of fine particulate matter (PM2.5 and PM10) frequently surpass World Health Organization (WHO) standards, placing millions of residents at heightened risk of chronic respiratory illnesses, cardiovascular disease, and reduced life expectancy (Ali et al., 2017; WHO, 2023; Energy Policy Institute at Chicago EPIC, 2022).

The crisis goes beyond technical issues in pollution control and is rooted in the city's social and institutional structures. Socioeconomic inequalities make the effects of environmental damage worse. People living in low-income neighborhoods near busy roads and industrial areas face more health risks, while wealthier areas have better air filtration, private healthcare, and more political influence. This makes Lahore's air pollution a matter of justice and fairness, not just environmental management. The problem is made worse by fragmented institutions. Several agencies, such as the Environmental Protection Department, the Lahore Development Authority, and provincial transport authorities, share responsibility for air quality. These groups often work separately, with overlapping roles and limited resources, which leads to inconsistent policies and weak regulation. Civil society groups and universities have tried to help by providing independent air quality data and practical recommendations. However, their efforts are only sometimes recognized, and there are few ways to include their research or community concerns in government decision-making. This paper examines how key stakeholders such as government agencies, planners, academics, NGOs, and communities shape Lahore's air quality governance. It also explores how stronger participatory mechanisms and stakeholder management can move policies from symbolic gestures to more inclusive, effective, and sustainable actions.

Statement of the Problem

Although the National Clean Air Policy (NCAP) was introduced as a progressive step, Lahore still faces major institutional and social challenges that block real progress in air quality. Government departments often do not coordinate well, their roles overlap, and enforcement is weak. This has led to a system where responsibilities are unclear and accountability is low. As a result, many policies have little real effect. Stakeholder engagement is also limited and inconsistent. Groups like civil society organizations, universities, and community members are rarely treated as equal partners in policy decisions. Instead, most decisions stay within state institutions, which often lack enough resources. This is especially troubling for vulnerable groups, who are most exposed to pollution but have the least say in decisions. Their exclusion is part of a larger pattern of environmental injustice that weakens both the fairness and impact of current policies. To address these issues, Lahore needs a more integrated and participatory approach that improves coordination and puts social equity at the center of air pollution management.

Research Questions

1. How do key stakeholders interact in shaping the governance of Lahore's air quality?
2. What institutional, social, and political barriers hinder effective collaboration and limit the implementation of clean air policies?
3. How can participatory stakeholder management improve sustainable urban air quality solutions?

Significance of the Study

This study makes an important contribution by bridging the fields of urban sociology and environmental governance, offering a sociologically informed understanding of Lahore's air quality crisis. While technical studies have highlighted the health impacts of vehicular emissions and industrial pollutants, less attention has been given to the institutional weaknesses, stakeholder imbalances, and socio-political dynamics that shape policy outcomes. By examining how diverse actors, ranging from government agencies and planners to civil society organizations, academics and vulnerable communities interact in practice, the research highlights both the barriers and the opportunities for collaborative governance. The findings extend beyond Lahore, offering practical insights for rapidly urbanizing cities across the Global South that face similar challenges of fragmented governance and environmental injustice. For policymakers and practitioners, the study provides evidence-based recommendations for strengthening institutional coordination, enhancing stakeholder engagement, and promoting socially equitable approaches to urban environmental management.

Literature Review

Urbanization and Air Quality in the Global South

Urbanization in the Global South is often seen as a way to boost economic growth, but it also brings serious environmental challenges. When cities grow quickly without strong institutions or efforts to reduce inequality air quality gets much worse (Harvey, 2012; UN-Habitat, 2020). In South Asian cities like Lahore, Delhi, and Dhaka, population growth has outpaced investment in infrastructure and environmental protection. This has led to development patterns that focus on short-term gains instead of long-term sustainability. Motorization plays a big role in shaping air quality in the region. Without reliable and affordable public transport, people rely more on motorcycles, cars, and rickshaws, which increases traffic and emissions (Ahmed & Javed, 2022). As low-density housing spreads to the edges of cities, people have to travel farther, which adds to overall emissions. Urban design and transportation choices are closely linked to environmental outcomes, making these fast-growing cities more vulnerable.

Vehicular Emissions as the Primary Pollutant Source

Industrial activity does play a role in urban air pollution, but in most South Asian cities, transport is the main contributor. Khan (2021) points out that old vehicles, poor-quality fuels, and a lack of proper inspection and maintenance all make emissions worse. Informal and poorly regulated transport, like two-stroke rickshaws and old buses, also produce high levels of particulate matter and nitrogen oxides. Studies show that using cleaner fuels, removing older vehicles, and enforcing strict emissions standards can improve air quality (Gurjar et al., 2016; Lelieveld et al., 2015). Cities such as Delhi and Beijing have shown that focused efforts in the transport sector can help reduce pollution, even if challenges remain. In Lahore, though, these kinds of reforms have mostly been limited, held back by weak governance, financial issues, and a lack of long-term planning.

Governance and Institutional Frameworks

Institutional fragmentation remains a significant barrier to effective air quality management in the Global South. In Pakistan, environmental governance is divided among multiple agencies with overlapping responsibilities, including the Environmental Protection Department, Lahore Development Authority, and transport authorities. This fragmentation results in inconsistent enforcement, regulatory overlap, and gaps in accountability. Additionally, economic priorities such as industrial growth, infrastructure projects, and real estate development often take

precedence over environmental concerns. As a result, environmental policies are frequently underfunded and weakly enforced, creating a persistent gap between policy intentions and practical implementation.

Environmental Justice and Socioeconomic Disparities

Air pollution in urban South Asia cannot be understood without considering its socio-spatial dimensions. Environmental justice scholars have long emphasized that pollution burdens are unevenly distributed, disproportionately affecting marginalized populations (Bullard, 2000). In Lahore, low-income households are more likely to reside in close proximity to major traffic corridors, informal industrial estates, or poorly serviced residential areas, thereby increasing their exposure to harmful pollutants. Children, women, and informal workers in these communities bear a particularly high health burden (Rahman & Ali, 2015). Chakraborty and Zandbergen (2007) argue that such disparities are not incidental but reflect deeper patterns of exclusion within urban governance. Wealthier neighborhoods are often better positioned to mitigate environmental risks, whether through private air filtration systems, improved access to healthcare, or greater direct influence over policy decisions. Recent scholarship has extended these observations to South Asian cities more broadly, suggesting that unequal exposure to environmental hazards is both a cause and a consequence of entrenched socio-economic inequality (Anser et al., 2025).

Stakeholder Engagement in Air Quality Governance

Tackling urban issues like air pollution needs different groups to work together. In Lahore, civil society organizations have helped by raising awareness, taking legal action, and monitoring air quality (Hussain & Shah, 2020). These steps have questioned official views and pushed for more open governance. Still, their efforts are scattered and lack formal ways to shape decisions. Universities are also adding research on vehicle emissions, health effects, and policy challenges. But as Bai et al. (2016) point out, this research is not often used in city policies. Policymakers usually seek expert advice only when needed, so research does not always guide their actions. Newig and Fritsch (2009) suggest that bringing together civil society, academics, and communities in formal policy groups can make policies more accountable, creative, and consistent.

International Lessons

Comparative experiences from other cities provide important lessons for Lahore. London's Ultra Low Emission Zone (ULEZ), introduced in 2019, illustrates how coordinated policy frameworks that combine strict vehicle emission standards with public communication and enforcement can yield measurable reductions in pollution levels (Hawkins et al., 2017). Similarly, Beijing's aggressive measures to phase out older vehicles, enforce stringent emissions standards, and invest in mass transit infrastructure have demonstrated the effectiveness of strong regulatory frameworks backed by political will (He et al., 2018). These examples highlight two key insights. First, sustained improvement requires strong state capacity and institutional clarity. Second, public participation and trust are essential to ensure compliance and legitimacy. In Lahore, fragmented mandates, limited capacity, and weak public engagement hinder progress. Structural reforms that strengthen stakeholder management and participatory processes are necessary to move beyond symbolic policies.

Methodology and Framework

This study employed a qualitative, interpretivist research design to examine stakeholder management in Lahore's urban environmental governance. This approach aligns with the

objective of analyzing perceptions, institutional practices, and the complex social relationships influencing air quality governance. The interpretivist framework facilitates understanding of how stakeholders construct meaning regarding policy implementation and environmental challenges, as opposed to viewing governance solely as a technical or administrative process (Bryman, 2021; Creswell & Poth, 2018).

A purposive sampling strategy was employed to ensure participants had direct experience in environmental and transport governance. Purposeful sampling helps identify information-rich cases in qualitative inquiry (Patton, 2015). Twenty participants were interviewed across five key groups: provincial environment officials, municipal and urban planners, transport authorities, academic researchers, and representatives from NGOs and civil society. Semi-structured interviews provided flexibility for participants to elaborate on their perspectives, while also ensuring core themes were covered (Kvale, 2007; Silverman, 2022). The interviews explored stakeholder roles, institutional mandates, coordination challenges, and barriers to effective implementation. To triangulate insights, interview data were supplemented with document analysis of the National Clean Air Policy (NCAP, 2023) and the Punjab Clean Air Action Plan (2023). Data were examined using Braun and Clarke's (2006) thematic coding approach. This method enabled the identification of recurring patterns and themes. Ethical protocols were strictly observed. These included informed consent, anonymization of responses, voluntary participation, and secure data handling (Tracy, 2020).

Table 1. Stakeholder Groups and Sample Size

Stakeholder Group	Number of Participants
Provincial environment officials (EPD)	4
Municipal and Urban Planners (LDA)	4
Transport Authorities (PMTA, TEPA)	4
Academics Researchers	4
NGOs and Civil Society Representatives	4

Findings

By analyzing interviews and policy documents, six connected themes were identified that help explain why air quality governance in Lahore is still ineffective, even though progressive frameworks like the National Clean Air Policy (2023) and the Punjab Clean Air Action Plan (2023) exist. These results point to ongoing institutional weaknesses, political pressures and gaps in participation that keep the city from making real progress on air quality.

1. Institutional Fragmentation

One of the most prominent themes raised by participants was the fragmented nature of institutional responsibility. Air quality governance is divided across multiple agencies. These include the Environmental Protection Department, the Lahore Development Authority and various transport authorities. While each organization plays a role, no single body is empowered to coordinate or lead a comprehensive response. Interviewees repeatedly emphasized that these agencies "work in silos." There is little sharing of information or alignment of strategies. This fragmentation creates duplication in some areas and complete gaps in others. For example, one department may monitor vehicular emissions. Another may focus on industrial pollution, and neither communicates its findings effectively to the other. As a result, interventions are delayed, inconsistent, or abandoned. The lack of a central authority to oversee coordination leaves policies vulnerable to inertia and inter-agency competition.

2. Regulatory Capture and Political Pressures

The second theme was the strong influence of economic and political pressures in decision-making. Participants noted that industrial and transport sector lobbies often resist reforms that could affect their interests, such as stricter vehicle inspections, phasing out older fleets, or regulating small-scale industries. This influence was identified as a major barrier to effective air quality management. Several officials also stated that short-term development projects often take precedence over environmental sustainability. Examples included road expansion, large housing developments, and industrial growth, where economic priorities outweighed environmental concerns. As a result, even when robust policies exist, enforcement agencies encounter political obstacles that delay or weaken implementation.

3. Symbolic Compliance

Closely related to these pressures is the phenomenon of symbolic compliance. Participants widely observed that Lahore has adopted ambitious policies, but many condemned them as predominantly rhetorical. Clean-air frameworks were dismissed as "documents for display" rather than effective tools. Stakeholders emphasized that projects are often announced with great fanfare but stagnate after the initial stages. Pilot initiatives may be unveiled but not expanded, leaving citizens without clear, tangible improvements. This pattern of symbolic governance has provoked frustration among civil society groups and academics, who contend that policies prioritize signaling intent over securing results.

4. Weak Research-Policy Linkages

The findings showed a clear gap between research and policy. Universities and independent groups have collected important data on air quality, emissions, and health effects. Still, many academics felt their work was not considered in policy discussions. Government officials said they often use old monitoring systems or incomplete records, missing out on newer independent studies. This gap weakens the evidence used for decisions, leading to policies that do not fully address real conditions. People from all sectors agreed that better cooperation between researchers and policymakers could make interventions more effective and credible.

5. Limited Public Participation and Environmental Injustice

A significant finding was the insufficient public participation in decision-making processes. Although consultations and hearings are held, community representatives frequently characterized these as merely procedural. Many citizens perceived that their contributions had minimal impact on policy outcomes. This exclusion is especially detrimental to low-income communities, who face disproportionate exposure to environmental pollution. Residents living near major traffic corridors and industrial zones reported elevated health risks and a lack of formal mechanisms to express their concerns. Conversely, affluent groups often reduce their exposure through private measures such as air purification systems or superior healthcare access. This disparity in risk and opportunity distribution has fostered a pervasive sense of injustice. Interviewees consistently indicated that the legitimacy and effectiveness of clean-air policies depend on the inclusion of marginalized communities in governance structures.

6. Emerging Role of Civil Society and Academia

Despite these challenges, the analysis showed that civil society organizations and academic institutions are playing a bigger part in air quality governance. NGOs have helped raise public awareness, pushed state agencies to act through legal action, and carried out independent monitoring. Universities have also contributed by expanding knowledge about emissions, transport systems, and health impacts. Although these efforts are still somewhat fragmented and

not fully used, they show real promise. Both NGOs and academics said they are open to working more closely with government agencies if there are clear ways to partner. Many participants felt that bringing different groups together could turn scattered efforts into ongoing, coordinated work.

Table 2. Overview of Key Themes from the Findings

Theme	Description	Illustrative Quote
Institutional Fragmentation	Agencies work in silos with no central coordination.	Each department has its own mandate, but no one takes overall responsibility.
Regulatory Capture and Political Pressures	Industrial and transport lobbies resist reforms.	Whenever stricter vehicle testing is proposed, the transport lobby pushes back.
Symbolic Compliance	Policies exist but rarely move beyond announcements.	Our policies look great on paper, but they're never enforced.
Weak Research–Policy Linkages	Independent data not integrated into planning.	We produce studies, but they rarely reach policymakers.
Limited Public Participation	Communities consulted only procedurally.	People like us are never part of the decision-making.
Emerging Role of Civil Society & Academia	NGOs and universities raising awareness.	Our monitoring data forced authorities to respond.

Discussion

The findings of this study reaffirm that the challenges surrounding Lahore's air quality crisis are rooted less in technological shortcomings and more in governance dynamics. While the introduction of electric vehicle incentives, smart monitoring sensors, or other technical solutions has been widely promoted, these measures cannot succeed in isolation. Without institutional reform and participatory mechanisms, technological fixes risk becoming symbolic gestures rather than meaningful solutions (Baviskar, 2011; Patel & Prakash, 2020). The problem of fragmentation underscores the need for a statutory **Clean Air Coordination Unit** empowered to align the work of the Environmental Protection Department, the Lahore Development Authority, and transport agencies. Such centralization would mirror approaches in cities like Beijing, where a single coordinating authority proved critical for integrating transport and environmental policies (He et al., 2018).

Addressing regulatory capture requires robust transparency safeguards and mechanisms of accountability. International experiences suggest that when enforcement agencies are insulated from industrial and transport lobbies, as in London's Ultra Low Emission Zone, policies achieve more consistent results (Hawkins et al., 2017). Similarly, Lahore must move beyond partial compliance and adopt mechanisms that resist short-term political and economic pressures. Weak research-policy linkages call for formal joint monitoring platforms where academic institutions, NGOs, and state agencies co-produce data and share findings. This would enhance both the credibility and effectiveness of interventions (Bai et al., 2016). Likewise, the limited public participation observed in Lahore highlights the urgency of

establishing **multi-stakeholder platforms**, consistent with evidence that collaborative governance strengthens accountability and fosters equitable solutions (Newig & Fritsch, 2009; Bullard, 2000). Ultimately, the Lahore case demonstrates that effective enforcement and durable improvements in air quality emerge only when embedded within institutionalized, transparent, and participatory governance models. A shift away from symbolic compliance toward inclusive, coordinated policymaking is therefore essential.

Research Limitations

While this study offers important insights into stakeholder dynamics and governance challenges in Lahore's air quality management, several limitations must be acknowledged. First, the research is based on a qualitative design with a relatively small sample of twenty participants. Although purposive sampling ensured that diverse perspectives were included, from government officials and planners to academics and civil society representatives the findings cannot claim to represent the full spectrum of views across all stakeholder groups. Voices from marginalized communities, in particular, were captured indirectly through civil society advocates rather than through extensive direct engagement, which may have limited the depth of their perspectives. Second, the reliance on semi-structured interviews and document analysis means that the study captures perceptions, institutional practices, and official narratives at a specific point in time. Governance processes are dynamic and subject to political change, and therefore the findings reflect a snapshot rather than a long-term trajectory. Future longitudinal or comparative research could provide a more comprehensive understanding of how stakeholder interactions evolve under different political and institutional conditions. Finally, while the analysis highlights systemic governance challenges, it does not empirically measure health outcomes or environmental quality improvements resulting from specific interventions. This limits the study's ability to directly link governance processes with quantitative changes in air pollution levels. Nevertheless, by foregrounding the institutional and participatory dimensions of environmental governance, the study provides a strong foundation for future research that integrates qualitative insights with quantitative monitoring data.

Conclusion

The study demonstrates that Lahore's escalating air pollution crisis is rooted not in the absence of policies or technologies but in persistent governance failures and weak stakeholder management. Despite the presence of progressive frameworks, fragmented institutions, political pressures, and limited participation have rendered policy responses largely symbolic. To move beyond rhetoric, reforms must focus on strengthening institutional capacity and embedding collaboration at the core of urban environmental governance. This research highlights four critical priorities: the creation of a legally mandated coordination body, the institutionalization of research-policy linkages through joint monitoring platforms, the development of participatory co-production mechanisms, and the design of equity-driven interventions that recognize the disproportionate burdens borne by vulnerable groups. Although limited by its qualitative sample of twenty participants, the study provides actionable insights that are transferable to other rapidly urbanizing cities in the Global South. Future studies should adopt longitudinal and mixed-method approaches to capture evolving governance dynamics and their measurable impacts on air quality.

References

Adger, W. N. (2006). Vulnerability. *Global Environmental Change*, *16*(3), 268–281.

Ahmed, S., & Javed, F. (2022). Urban transport and emissions in South Asia. *Journal of Urban Studies*, *59*(3), 451–470.

Ali, Z., Ahmad, S., & Khan, M. (2017). Vehicular emissions and urban air quality in Pakistan. *Environmental Monitoring Journal, 12*(2), 89–102.
Anser, M. K., et al. (2025). Environmental justice in South Asian cities. *Sustainability, 17*(4), 2025.
Anwar, S., et al. (2023). Socio-spatial inequalities and urban environmental risks in South Asia. *Asian Journal of Environmental Studies, 14*(2), 201–220.*
Bai, X., et al. (2016). Urban science and sustainable governance. *Nature, 531*, 161–164.
Baviskar, A. (2011). Environmental politics in urban India. *Annual Review of Anthropology, 40*, 137–153.
Bullard, R. (2000). *Dumping in Dixie: Race, class, and environmental quality*. Westview Press.
Bulkeley, H., & Betsill, M. (2013). Revisiting the urban politics of climate change. *Environmental Politics, 22*(1), 136–154.
Chakraborty, J., & Zandbergen, P. (2007). Children at risk: Measuring racial/ethnic disparities in hazardous air pollutant risk. *Social Science & Medicine, 65*(1), 38–52.
Energy Policy Institute at Chicago (EPIC). (2022). *Air quality life index*. University of Chicago.
Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford University Press.
Gurjar, B. R., et al. (2016). Human health risks from urban air pollution in South Asia. *Atmospheric Environment, 125*, 160–167.
Harvey, D. (2012). *Rebel cities: From the right to the city to the urban revolution*. Verso.
Hawkins, D., et al. (2017). The effectiveness of London's Ultra Low Emission Zone. *Environmental Science & Policy, 77*, 98–106.
He, G., Fan, M., & Zhou, M. (2018). The effect of air pollution control policies in Beijing. *Journal of Environmental Economics and Management, 92*, 515–532.
Hussain, A., & Shah, S. (2020). Civil society and environmental governance in Pakistan. *Environmental Policy Review, 14*(1), 55–72.
Khan, R. (2021). Vehicular emissions and health impacts in South Asia. *Environmental Health Perspectives, 129*(6), 067001.
Lelieveld, J., et al. (2015). The contribution of outdoor air pollution sources to premature mortality. *Nature, 525*, 367–371.
Mustafa, D., et al. (2019). Fragmented urban governance and environmental risks. *Cities, 85*, 48–55.
National Clean Air Policy (NCAP). (2023). *Ministry of Climate Change, Government of Pakistan*.
Newig, J., & Fritsch, O. (2009). Environmental governance: Participatory, multi-level and effective? *Environmental Policy and Governance, 19*(3), 197–214.
Patel, S., & Prakash, A. (2020). Political economy of urban development in South Asia. *Urban Affairs Review, 56*(4), 1125–1150.
Punjab Clean Air Action Plan (PCAP). (2023). *Environment Protection Department, Government of Punjab*.
Rahman, S., & Ali, T. (2015). Socio-spatial inequality and air pollution in Lahore. *Pakistan Journal of Sociology, 31*(2), 101–118.
Sassen, S. (2005). The global city: Introducing a concept. *Brown Journal of World Affairs, 11*(2), 27–43.
Shah, N., & Khan, M. A. (2022). Private sector and environmental governance in Pakistan's transport sector. *Journal of Environmental Policy Studies, 18*(2), 221–239.*
UN-Habitat. (2020). *World cities report 2020: The value of sustainable urbanization*. United Nations Human Settlements Programme.
World Bank. (2022). *Pakistan urban development report*. World Bank Publications.
World Health Organization (WHO). (2023). *Global air quality guidelines*. WHO Press.