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Open Defecation in South Asia: A Literature Review of Sanitation Behaviour, Policy Approaches, and Comparative Outcomes

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Abstract

Open defecation has long been a major public health challenge in South Asia, with India historically accounting for a disproportionately large share of the global population practicing it. Despite higher per-capita income levels and stronger state capacity than neighbouring countries, India lagged behind Bangladesh and Pakistan in reducing open defecation well into the 2010s. This literature review synthesises findings from academic studies, government reports, community-level evaluations, and international datasets to examine the determinants of sanitation behaviour, the evolution of policy interventions, and the divergent outcomes across South Asia. The review identifies four broad themes spanning the literature: structural underinvestment in sanitation and health, the importance of cultural norms and behavioural preferences, institutional weaknesses in programme implementation, and the transformative role of community mobilisation exemplified by Bangladesh's Community-Led Total Sanitation (CLTS) movement. Evidence suggests that India's sanitation challenge cannot be understood through economic indicators alone, as behaviour, social norms, and monitoring systems have been equally influential. Bangladesh's experience highlights the effectiveness of behaviour-centred, community-driven strategies, in contrast to India's emphasis on toilet construction. The review concludes that successful sanitation reform requires long-term behavioural change, strong monitoring systems, and sustained community engagement, suggesting clear lessons for Indian policy.

Keywords: sanitation, open defecation, South Asia, CLTS, Swachh Bharat Mission, behaviour change, Bangladesh, public health, WASH literature

1. Introduction

Open defecation has been one of the most persistent and complex public health challenges in India and the broader South Asian region. In 2014, the year the Swachh Bharat Mission (SBM) began, more than 30 percent of India's population practiced open defecation, including 44 percent of rural residents (World Bank, 2018b; World Bank, 2018c). Paradoxically, countries with lesser economic resources, most notably Bangladesh, achieved far greater sanitation progress, reducing open defecation to near-zero levels despite lower per-capita income (World Bank, 2018a; World Bank, 2018b). This divergence has puzzled scholars, policymakers, and practitioners.

A wide range of literature has sought to explain why open defecation persists in India and why Bangladesh's transition was so successful. Scholars have debated the roles of poverty, cultural norms, state capacity, historical policy choices, behavioural preferences, and programme design. What emerges from this literature is the recognition that sanitation is deeply embedded in social structures and cultural practices, and cannot be addressed through infrastructure provision alone.

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The aim of this paper is to synthesise the existing literature on sanitation outcomes in India. By reviewing the major strands of scholarship, this paper situates India's sanitation challenge in a broader comparative context and identifies the main themes that explain differences in sanitation trajectories across India and Bangladesh.

2. Sanitation and Development: Theoretical Perspectives in the Literature

A significant body of literature examines the relationship between sanitation, poverty, and public health. While economic deprivation is often linked to inadequate sanitation facilities, studies show that income alone does not determine sanitation outcomes (Mariwah et al., 2017; Yogananth & Bhatnagar, 2018). Bangladesh and Pakistan had substantially lower rates of open defecation (4 percent and 17 percent respectively), despite both being poorer than India in 2015 (World Bank, 2018a; World Bank, 2018b; World Bank 2018d). This suggests that socioeconomic status is insufficient to explain India's sanitation deficit. Instead, sanitation behaviour is shaped by a mix of cultural, historical, institutional, and behavioural factors.

Public health literature emphasises the consequences of open defecation, including diarrhoeal diseases, stunting and impaired cognition, and anaemia (Mara, 2017). Development economists highlight the long-term implications for human capital formation, school attendance, and labour productivity (Spears, 2013). Studies also underscore the heightened vulnerabilities women face, from lack of privacy to risk of assault during early morning or late-night defecation episodes (Mara, 2017). Collectively, the literature positions sanitation not merely as an infrastructural problem but as a core development challenge with wide-ranging social and economic implications.

3. India's Sanitation Challenge and Bangladesh's Success

Several scholars argue that India's public health lag traces back to post-independence policy choices. The Nehru–Mahalanobis strategy prioritised heavy industry and capital-intensive growth, leaving social sectors, including sanitation, relatively neglected (Chakravarty, 1987; Dreze & Sen, 2013). States such as Kerala and Tamil Nadu that invested early in health and education outperformed the national average on sanitation, suggesting that political commitment and institutional design shape sanitation outcomes (Dreze & Sen, 2013).

One of the most robust findings across the literature is that open defecation in India persists due to deeply-rooted cultural norms. Coffey et al. (2014) document that many rural households consider latrines dirty, impure, or unsuitable for use within the household compound. In 40% of households with a working latrine, at least one member prefers defecating in the open, indicating that the behaviour is not merely a result of infrastructural scarcity (Coffey et al., 2014). Behavioural inertia, intergenerational practices, and perceptions of purity strongly influence sanitation choices.

The literature also highlights institutional weaknesses in India's sanitation programmes. Reports by the Comptroller and Auditor General identified widespread issues with toilet functionality, water supply shortages, inaccuracies in reporting, and premature declarations of open-defecation-free (ODF) status (Comptroller and Auditor General of India, 2018). Several audit findings such as "paper toilets," lack of durability, and absence of behaviour-change

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follow-up, reveal that administrative incentives often emphasised construction targets rather than sustained usage. These observations align with academic critiques suggesting that India's sanitation policy has historically prioritised infrastructure over behavioural transformation.

Bangladesh's sanitation literature provides a contrasting narrative. The Community-Led Total Sanitation (CLTS) approach is widely credited with catalysing the country's rapid decline in open defecation (Hanchett & Akhter, 2015). CLTS is characterised by triggering community disgust, promoting collective shame, organising community monitoring, and leveraging social pressure to change norms (Clark, 2014). In addition to the active involvement of the

community, NGOs too played a key role in promoting sanitation in Bangladesh. During

Bangladesh's national sanitation campaign, approximately half of the unions achieving

100% household latrine coverage did so with support from NGOs (Hanchett et al., 2018). Unlike India's top-down, subsidy-driven programmes, Bangladesh's model was locally embedded and behaviour-centred. The contrast reveals how community mobilisation and sustained social incentives can produce lasting behavioural change.

4. Comparative Themes Emerging Across the Literature

A comparative analysis of India and Bangladesh's sanitation literature reveals several common themes. First, sanitation outcomes cannot be predicted by income levels alone; behavioural norms and cultural expectations are major determinants. Second, Bangladesh's model succeeded because it placed behaviour change, not infrastructure, at the centre of sanitation policy. India's approach is focused heavily on latrine construction and often overlooks the social and psychological drivers of defecation behaviour.

Third, monitoring structures in Bangladesh were more community-embedded and transparent, whereas Indian audit findings suggest systemic weaknesses in verification systems. Fourth, Bangladesh's reliance on NGOs and decentralised actors fostered trust and accountability, while India's programmes remained more bureaucratised. Finally, the literature suggests that India's sanitation challenge is tied to broader issues of governance, political incentives, and institutional capacity that shape policy design and local implementation.

5. Discussion and Conclusion

The literature reviewed here highlights that India's struggle with open defecation is not solely an infrastructural deficit but a deeply embedded behavioural and institutional challenge. Studies consistently show that toilet access does not automatically translate into toilet use, as cultural norms, perceptions of purity, intergenerational habits, and behavioural preferences shape sanitation choices far more strongly than income or material constraints (Coffey et al., 2014). Historical underinvestment in public health and sanitation, coupled with weak monitoring systems and premature ODF reporting in several states, has further limited the effectiveness of construction-driven programmes.

In contrast, the Bangladesh experience, centred on the CLTS model, demonstrates the effectiveness of community mobilisation, social pressure, and locally grounded behaviour-change strategies (Hanchett et al., 2018). Bangladesh's success suggests that meaningful

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sanitation reform is achievable even in resource-constrained settings when interventions focus on transforming social norms and reinforcing collective responsibility. The divergence between India and Bangladesh underscores the importance of participatory approaches, sustained follow-up, and local institutional engagement, rather than relying primarily on hardware provision.

Together, the literature indicates several policy directions for India. Long-term behaviour-change campaigns must be integrated into sanitation strategies, supported by schools, NGOs, and frontline workers who can anchor community-level engagement. Reliable ODF verification and routine monitoring are essential to ensure that gains are genuine and sustained. Equally important is ensuring water availability and addressing gendered vulnerabilities that shape sanitation decisions for women and girls. Strengthening these elements can help bridge the gap between access and use, improving health outcomes and enabling more durable sanitation transitions.

In conclusion, the diverging experiences demonstrate that sustainable improvements require more than latrine construction: they demand transformations in behaviour, governance, and social norms. A synthesis of the literature makes clear that India's future progress will depend on embedding behavioural, institutional, and community-driven elements at the heart of sanitation policy. By drawing on lessons from Bangladesh and addressing the structural and cultural factors highlighted across the literature, India can move closer to achieving universal, sustained toilet use and the long-term public health gains that follow.

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