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SANITATION AND SCHOOLING IN RURAL BIHAR: EVALUATING THE IMPLEMENTATION OF WASH PROGRAMMES THROUGH A SOCIOLOGICAL LENS

Dr. Orusa Karim
Faculty, Department of Sociology, Jamia Millia Islamia, New Delhi

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ABSTRACT

Sanitation in schools has become an essential aspect of educational equity, health, and dignity. India's Swachh Vidyalaya Abhiyan (2014) and Jal Jeevan Mission (2019) were both efforts to make sure that all schools had access to clean water, sanitation, and hygiene (WASH). Policy frameworks claim to have almost universal coverage, yet in rural India, especially Bihar, there are big gaps between building infrastructure and making it work. This study examines the material and social aspects of sanitation in schools, utilizing official reports-UDISE+ 2021-22, the Comptroller and Auditor General (CAG) Report 2023, and the National Annual Rural Sanitation Survey (NARSS 2022-23) and corroborated by field observations from five government middle schools in Darbhanga district. It contends that sanitation transcends infrastructure issues, representing a societal problem influenced by caste hierarchy, gender norms, and institutional indifference. Even though almost everyone has access to toilets, the lack of maintenance, water, and menstrual hygiene management still pushes rural girls to the edges of society and makes structural inequities worse. The study indicates that substantive sanitation reform in schools necessitates a transition from construction-centric evaluation to a focus on functionality, inclusion, and behavioural modification.

KEYWORDS: *Sanitation, Rural Bihar, WASH, Gender, Caste, Sociology of Education, Darbhanga*

1. INTRODUCTION

The debate about education in India often ignores a very important yet basic factor that affects learning: sanitation. Toilets that are clean, work well, and are sensitive to gender are not just important for hygiene, but also for dignity, attendance, and inclusion. According to the Ministry of Education's UDISE+ 2021-22 report, more than 98% of Indian schools have toilets, and 97% of those schools have separate restrooms for girls. However, these kinds of numbers hide the truth: infrastructure and usefulness are not the same thing.

In rural Bihar, poverty, gender bias, and inadequate governance make sanitation problems even worse. The Comptroller and Auditor General (CAG) Report (2023) showed that almost all government schools have toilets, however 62% of them were broken and 37% did not have flowing water. In places like Darbhanga, teachers routinely lock the bathrooms to "keep them clean," which makes pupils must go to the toilet outside or not go to school at all. Inadequate sanitation directly correlates to absence and dropout among adolescent girls, particularly during menstruation.

From a sociological standpoint, these factors reflect India's systemic disparities. The administration of sanitation, frequently assigned to lower-caste labourers, perpetuates hierarchies of purity and pollution (Dumont,1970). Furthermore, patriarchal reticence regarding menstruation perpetuates gendered marginalization (Bhasin,2019). This study aims to conceptualize sanitation not merely as a public health concern but as a social institution intricately linked to overarching systems of caste, gender, and power.

2. OBJECTIVES OF THE STUDY

1. To evaluate the accessibility and efficacy of sanitation and hygiene infrastructure in designated government schools in rural Bihar.
2. To assess maintenance practices and identify institutional barriers to the sustainability of WASH facilities.
3. To investigate the gendered and caste-based dynamics affecting students' access to sanitation.
4. To propose policy recommendations rooted in sociology for equitable and sustainable school sanitation.

3. RESEARCH METHODOLOGY

3.1 Research Design and Data Sources

The research used a mixed-methods strategy, combining quantitative secondary data with qualitative primary findings from the field. This combination facilitates a macro-level comprehension of sanitation indicators and a micro-level evaluation of the actual conditions in rural schools of Darbhanga, Bihar.

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Quantitative Data:
We made sure that the secondary datasets were reliable by getting them from well-known national repositories. These encompass:

- UDISE+ 2021-22 (Ministry of Education) provides school-level infrastructural statistics concerning sanitation facilities, water accessibility, and student enrollment.
- 2023 CAG Audit Report on compliance, fund usage, and deficiencies in sanitary infrastructure.
- NARSS 2022-23 (Ministry of Jal Shakti) for insights regarding hygiene behaviours and toilet operability.
- The School WASH Report (2021) by WaterAid India contextualizes overarching trends in sanitation accessibility and gender-specific obstacles.

These data sources assist in delineating the magnitude and dispersion of sanitation challenges in rural Bihar.
Qualitative data
Five government middle schools in the blocks of Bahera, Jale, Keoti, Hayaghat, and Alinagar were visited to gather primary qualitative data. Quantitative datasets frequently ignore lived experiences, everyday difficulties, and contextual variances in school sanitary facilities, which are captured by the qualitative component.

3.2 Sample and Research Tools
The study sample encompasses several stakeholders to provide a range of viewpoints on school sanitation.

Participants: There were 20 students in total, 10 girls and 10 boys, and 10 teachers. They all took part in interviews and discussions. Also, talking to two sanitation workers at each school helped me learn about maintenance procedures, problems with staff, and problems with the infrastructure.

Tools and techniques
Observation Checklists: Used to keep track of the condition, cleanliness, availability, and usage of restrooms, handwashing stations, and water supply systems in a methodical way.

Semi-Structured Interview Guides: These let me have focused but flexible conversations with students, teachers, and sanitation workers about things like how people use toilets, where they need to be cleaned, how to deal with menstrual hygiene issues, and how to get water.

Field Notes: Detailed notes were kept to record observations, non-verbal cues, the school setting, and interactions. This added richness to the qualitative study.

Period of Study: Fieldwork took place from July to September 2024, which is during the monsoon season when flooding and drainage problems are common. This timing made it easier to comprehend the true problems that schools have with sanitation.

3.3 Ethical Consideration
To keep the research honest and the participants safe, ethical rules were strictly followed.

- Institutional Permissions: Before starting field trips, school principals and block education authorities must give their permission.
- Informed Consent and Confidentiality: Students, instructors, and sanitation workers were told what the study was for, and they could choose whether to take part. To safeguard people's identities, all replies were made anonymous, especially since sanitation-related topics are sensitive.
- A gender-sensitive approach was used while talking about menstruation, menstrual hygiene management (MHM), and privacy issues. The interviews with female students took place in comfortable settings, and no personal or intrusive questions were asked.

4. REVIEW OF LITERATURE AND POLICY CONTEXT

The correlation between sanitation and educational performance has been a critical issue in policy debates, particularly with the initiation of the Swachh Vidyalaya Abhiyan (2014), which established a national pledge to provide “separate functional toilets for boys and girls in every school”. This program represented a pivotal moment, establishing school sanitation as an essential condition for equity and excellence in education, rather than a marginal infrastructural concern. Notwithstanding the policy initiative, the disparity between construction and functionality persists as a significant concern.
The National Annual Rural Sanitation Survey (NARSS 2023) indicated that 98% of schools in India possess toilet facilities; however, it observed significant disparities in functionality among states, particularly in economically disadvantaged regions like Bihar, Jharkhand, and Odisha, which continue to experience infrastructural deficiencies. The functionality, characterized by water availability, cleanliness, usefulness, and privacy, is inconsistent-this discrepancy directly influences everyday usage habits among students, particularly females.

In Bihar, UDISE+ 2021-22 data reveal nearly universal toilet coverage at 98.8%, however only 68% of these toilets are reported as completely operational. This inconsistency underscores fundamental impediments in maintenance, supply networks, and oversight. The issues identified by UDISE+ correspond with the conclusions of the CAG Audit Report (2023), which highlighted unfinished construction, insufficient flowing water, lack of handwashing stations, and the absence of designated cleaning personnel. Numerous schools depended on contractual or irregular employees, leading to inconsistent sanitation and inadequate maintenance.

Additional qualitative findings from WaterAid India’s School WASH Report (2021) highlighted other gender-specific difficulties. Despite enhancements in toilet availability, hardly one-third of rural schools in Bihar possessed handwashing

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facilities adjacent to or outside toilet blocks, and a scant 15% had menstrual waste disposal systems. This absence adversely impacts hygiene, leading to discomfort, humiliation, and diminished engagement among adolescent girls.

An increasing amount of research connects poor school hygiene to health hazards, educational marginalization, and gender inequity.
Nitya Rao (2018) contends that sanitary issues, particularly during menstruation, directly affect females' absence, diminished classroom participation, and subsequent dropout rates.

Kamla Bhasin (2019) contextualizes these difficulties within the overarching patriarchal domination of women's bodies. She emphasizes that menstrual taboos, secrecy, and shame-entrenched in societal norms-hinder girls from publicly expressing sanitary needs, therefore exacerbating the infrastructural gap with cultural silence.

Sociological theoretical frameworks augment comprehension of these patterns:
Pierre Bourdieu's (1977) idea of habitus posits that sanitation and hygiene behaviours are not solely human actions but are influenced by social learning, environmental factors, and daily school activities. A dysfunctional school sanitary environment consequently fosters attitudes of neglect or avoidance among kids.

Max Weber's (1947) examination of bureaucratic organizations elucidates the reasons behind the frequent deterioration of sanitation infrastructure. Inflexible protocols, disjointed duties, and insufficient accountability within educational and local governance frameworks generate institutional inertia that hinders prompt maintenance and oversight.

Louis Dumont's (1970) theories regarding caste and purity elucidate the entrenched stigma associated with cleaning labour. The historical linkage of sanitation to "polluting" caste groups influences modern perceptions of upkeep, leading to the devaluation of sanitation workers and insufficient allocation of labour resources in educational institutions.

The research collectively highlights a crucial paradox: whereas India has made substantial progress in developing sanitary infrastructure, societal norms, bureaucratic constraints, caste dynamics, and gendered silences persistently hinder its effective utilization. The policy framework establishes the structural basis, while sociological insights reveal how entrenched inequities persistently influence sanitation results and educational experiences.

5. FINDINGS

5.1 Infrastructure and Functionality

All five surveyed government middle schools in Darbhanga indicated the presence of distinct restrooms for boys and girls. Nonetheless, firsthand field observations disclosed a significant disparity between reported infrastructure and its actual functionality. Out of the 10 toilets examined, merely 3 were operational. The remaining units were either secured, devoid of water supply, or exhibited evident degradation.

A headmaster revealed the rationale behind the locked toilets: "The toilets are predominantly kept locked due to the children's tendency to ruin them, and there is no daily cleaning service available."

Only one school hired a designated cleaner funded by panchayat funds; the rest depended on part-time personnel, unpaid labour, or the students themselves for bathroom maintenance.
These micro-level findings correspond with state-level audit observations. The CAG (2023) indicated that 72% of school toilets in Bihar were devoid of running water, and 11% were either incomplete or absent, despite being officially designated as "completed." In a sampling school, a toilet designated as "functional" in UDISE+ was discovered to be utilized as a storage area for building supplies, highlighting discrepancies in administrative reporting.

5.2 Gendered Access and Menstrual Hygiene Management

Despite the existence of toilet facilities, girls' access is significantly hindered by concerns of privacy, hygiene, water availability, and safety. Only one school possessed a girls' restroom equipped with a fully functional closing door. None of the educational institutions have an incinerator or a menstrual waste disposal receptacle.

Due to unpleasant Odors, a shortage of water, or the possibility of being observed by boys, girls reported avoiding using toilets during school hours. A thirteen-year-old student asserted: "We'd rather wait until we get home." I do not attend school during menstruation.
This pattern corroborates UNICEF (2020) studies indicating that one in four rural Indian girls is absent from school during menstruation. Educators acknowledged limited involvement in MHM education, with one remarking: "It is not included in our curriculum." We simply instruct them to maintain cleanliness.

The hesitance to openly address menstruation exemplifies Bhasin's (2019) critique of patriarchy, wherein female physical requirements are suppressed, so converting hygiene from a fundamental right into a stigmatized topic.

5.3 Caste and Labour Hierarchies

In all educational institutions, cleaning duties were allocated to women from Scheduled Caste communities, commonly referred to as "safai didi." Their employment was part-time, with remuneration fluctuating between ₹500 and ₹700 per month, frequently postponed. No cleaning materials were provided from school funding, necessitating the purchase of phenyl or brooms with personal funds.

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In the absence of cleaners, toilets remained locked down leading students to defecate in open spaces behind school structures. Teachers explained their lack of participation: “Cleaning toilets is not within our responsibilities.”

This allocation of labour exemplifies Dumont's (1970) idea of purity and pollution. Notwithstanding the egalitarian assertions of contemporary education, caste-based concepts of "clean" and "unclean" endure, influencing labour dynamics and perpetuating structural disparities.

5.4 Institutional Mechanisms and Funding Gaps

According to the Swachh Vidyalaya rules, schools receive an annual maintenance fund ranging from ₹5,000 to ₹10,000, distributed by School Management Committees (SMCs). In practice, financial support is irregular. In 2023, merely two schools indicated the receipt of sanitary maintenance funds. Teachers described paying for cleaning materials out of pocket: “Funds come late. We buy cleaning items from our own money sometimes.”

Oversight and accountability continue to be inadequate. The report highlights the presence of toilets rather than their functionality, illustrating what Weber (1947) refers to as bureaucratic formalism, where the semblance of adherence eclipses genuine results.

5.5 Behavioural and Educational Impact

There was very little hygiene instruction at any school. Handwashing stations were inoperative or devoid of soap. There were some messages about cleanliness at morning assembly, but there were no structured lectures on hygiene in the curriculum.

Inadequate sanitation facilities directly impacted attendance. School data revealed a 10-15% decline in female attendance during the summer months, attributable to heat, insufficient water, and menstruation discomfort. Teachers noticed that older girls frequently refrained from attending school owing to humiliation associated with use unsanitary or inoperative toilets.

These findings corroborate NARSS (2023), which observes that although open defecation at the home level has diminished, school sanitation facilities are still underutilized due to behavioural obstacles and insufficient maintenance.

6. DISCUSSIONS

The field research suggests that the quantitative enhancement of school sanitation infrastructure has not resulted in qualitative advancements in sanitation practices. The scenario in rural Bihar, especially in Darbhanga, shows how social hierarchies and institutional systems affect sanitation outcomes.

6.1 Infrastructural vs. Functional Divide

Even though toilets have been built to meet government requirements, they still do not work very well. This focus on visible infrastructure achievement instead of long-term usability is an example of what Foucault (1977) calls "disciplinary visibility," where policy performance is judged by what can be seen and tallied instead of by what happens. Consequently, sewage infrastructure becomes symbolic, meeting bureaucratic expectations without addressing daily necessities.

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6.2 Gendered Exclusion

For adolescent females, insufficient sanitation facilities cause anxiety, discomfort, and social stigma. The lack of menstrual hygiene management strengthens patriarchal ideas that make menstruation seem dirty or embarrassing. As a result, schools do not provide the secure and respectful settings that girls need to participate, which goes against the gender-equity aims of the Right to Education Act. This disregard based on gender has a direct effect on attendance, comfort, and long-term academic success.

6.3 Caste and Labour Segregation

School sanitation practices still show how deeply ingrained caste norms are. The notion that cleaning tasks should be done by people from historically marginalized castes reinforces social hierarchies. The unwillingness of upper-caste teachers or pupils to participate in cleaning activities corresponds with Dumont’s (1970) insights regarding purity and pollution, illustrating the coexistence of “modern” sanitation infrastructure with traditional social ideas and labor segregation.

6.4 Institutional and Bureaucratic Neglect

The bureaucratic logic that governs sanitation is based on strict rules and an emphasis on measurable indicators. Weber's concept of bureaucratic rationality elucidates the predominance of measuring progress by the tallying of constructed toilets, rather than through evaluations of usefulness, usage, or user experience. This leads to what Bourdieu (1990) calls "symbolic compliance," which means that schools follow official rules on a formal level but do not modify how they do things every day.

6.5. Educational Implications

Using Sen's (1999) capacity model, we can see that sanitation is a basic ability that allows people to go to school and be free. Girls' ability to go to school, participate, and learn is lessened when they do not have safe and working bathrooms. These shortcomings perpetuate gender inequality and obstruct the transformative capacity of education.

7. SOCIOLOGICAL ANALYSIS

From a sociological perspective, sanitation embodies a microcosm of India's social structure, where material deprivation intersects with symbolic hierarchies. The seemingly mechanical problem of toilet building is intertwined with social dynamics of power, purity, and exclusion.

- Cultural Capital (Bourdieu): Cleanliness, hygiene practices, and familiarity with modern sanitation infrastructures are not merely individual habits; they represent kinds of cultural capital that are inequitably distributed across caste and class divisions. Middle-class and upper-caste households

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frequently regard hygiene as a moral and aesthetic principle, linking it to discipline, respectability, and modernity. Conversely, numerous impoverished rural families may possess the desire to uphold cleanliness but are hindered by inadequate material conditions such as water supply, drainage, and cleaning personnel as well as insufficient institutional support. Educational institutions reflect this disparity: students from underprivileged backgrounds may be stigmatized for "poor habits," despite these behaviours being indicative of systemic deprivation.

- Symbolic Violence: The students' silent acceptance of dysfunctional, unsanitary, or inaccessible bathrooms exemplifies symbolic violence - the normalization of inequitable situations as inherent or unavoidable. When rural youngsters express “aisa hi hota hai” (this is how it is), they assimilate deprivation as an intrinsic aspect of their identity and surroundings. This acquiescence conceals the injustice and hinders collective inquiry, so fortifying the authority of the dominant group without the use of force.
- Gendered Habitus: Girls navigate sanitation inside a gendered habitus influenced by societal norms of shame, modesty, and body regulation. They refrain from consuming water to minimize toilet usage, alleviate discomfort, and regard menstruation as a personal encumbrance. This fosters a physical discipline grounded in stillness and perseverance over time. The school consequently serves as an environment where gendered expectations are perpetuated through quotidian bodily actions.
- Caste Ideology: The distinction between individuals who utilize restrooms and those anticipated to maintain them frequently Dalit laborers - exemplifies persistent caste thinking. In numerous educational institutions, custodial tasks are often unofficially designated for members of lower castes, while students may decline to uphold cleanliness due to beliefs around purity and pollution. Education often perpetuates caste hierarchies instead of eliminating them, manifesting via daily routines, interactions, and the division of labor within educational environments.
- Institutional Rationalization (Weber): Bureaucratic governance prioritizes measurable outcomes, such as the number of toilets constructed, expenses expended, or photos posted, over practical considerations. This exemplifies Weber's notion of instrumental rationalization, wherein procedures supersede lived experiences. The state's obsession with measurable metrics makes dysfunction invisible because success is judged by paperwork instead of student dignity or behaviour patterns.

Therefore, sanitation cannot be only classified as an engineering or public health concern; it is intrinsically a social interaction. Toilets in rural schools are intersections of caste purity, gender norms, bureaucratic efficacy, and class-based cultural capital. Examining sanitation from a sociological perspective uncovers the underlying frameworks that determine access, impose burdens, and degrade dignity within the context of daily education.

8. POLICY RECOMMENDATIONS

1. Monitoring Based on Functionality: Instead of using construction-based indicators, use functionality audits. "Usable toilets with water" should be a separate metric in the UDISE+.
2. Separate Maintenance Budget: Make a separate budget flow for cleaning supplies and repairs, and give it out every three months to avoid delays.
3. Full-Time Sanitation Staff: Make sure that cleaners have regular jobs with appropriate pay, training, and social respect. Stop hiring people based on their caste.
4. Menstrual Hygiene Management (MHM): Give out incinerators, sanitary pads, and trash cans. Teach both boys and girls about menstruation health so that talking about it becomes natural.
5. Education for Behavioural Change: Add hygiene lessons to the curriculum. Instead of relying on caste labour, get youngsters involved in "WASH clubs" to teach them responsibility.
6. Community Participation: Make School Management Committees stronger by include moms and sanitation workers to keep an eye on how well the facilities are being taken care of.
7. Data Transparency: Make the WASH functioning data for each district available to the public so that the community may keep an eye on it.
8. Coordination across departments: Make sure that the Education, Panchayati Raj, and Jal Shakti ministries work together to keep the water supply and cleaning infrastructure going.

9. CONCLUSION

Sanitation in rural Bihar's schools illustrates how development may progress in appearance yet falter in essence. Despite the near-universal implementation of toilet infrastructure, the lack of maintenance, water supply, sanitation, and gender-sensitive facilities demonstrates that infrastructure alone cannot ensure dignity. The field observations from Darbhanga reveal that girls persist in grappling with shame, silence, and physical discomfort; Dalit cleaners remain ensnared in caste-based employment roles; and educators perceive sanitation primarily as bureaucratic adherence rather than a shared obligation.

A sociological analysis of sanitation reveals the underlying structures influencing school life- cultural capital, symbolic violence, caste hierarchy, and gendered habitus. Toilets serve not merely as physical locations but as venues where inequalities are perpetuated and normalized. In this context, sanitation reflects India's incomplete modernity: contemporary infrastructures functioning within traditional social dynamics.

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For education to be truly inclusive, sanitation must be acknowledged as a social right rather than merely an administrative objective. This necessitates the establishment of not only sanitation facilities but also cultures of care, underpinned by equitable labor practices, gender-sensitive design, consistent maintenance, and participatory governance in educational institutions. Development can transition from symbolic achievement to substantial social transformation only when dignity, equality, and empathy are fundamental to school sanitation.

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