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## **Status of Barrier-Free Environment for Students with Visual Impairment in Mizoram**

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### **ABSTRACT**

The present study investigates the status of barrier-free environments for students with visual impairment in inclusive schools in Mizoram. A barrier-free environment is fundamental in ensuring that students with disabilities can access educational opportunities equally with their peers. Despite the mandates of policies such as the Rights of Persons with Disabilities (RPwD) Act, 2016, challenges remain in translating provisions into practice within school settings. The objectives of this study were to examine the availability and adequacy of infrastructural facilities such as entry and exit points, signage, classrooms, toilets, and playgrounds for students with visual impairment. The findings revealed that while some facilities, such as classrooms, toilets, and playgrounds, were moderately adequate, entry/exit facilities and signage were largely inadequate. The results suggest that while inclusive schools in Mizoram provide basic infrastructure, significant gaps persist in ensuring accessibility and safety for students with visual impairment.

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### **Introduction**

Inclusive education is rooted in the principle that all children, regardless of their abilities or disabilities, have the right to quality education within mainstream schools. A crucial prerequisite for



achieving this vision is the establishment of a barrier-free environment that ensures equal participation and accessibility for students with disabilities. A barrier-free environment refers to the physical, infrastructural, and organizational arrangements that eliminate obstacles to mobility, communication, and learning for individuals with disabilities (UNESCO, 2017). For students with visual impairment, such provisions are essential not only for access to classrooms and resources but also for fostering independence, self-confidence, and academic achievement.

In India, the movement towards inclusive education has gained momentum with the enactment of policies and legislation, particularly the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act of 1995 and its successor, the Rights of Persons with Disabilities (RPwD) Act of 2016. These legislations mandate the creation of barrier-free educational institutions and provides a framework for equal access to learning opportunities. Despite these policy interventions, significant gaps remain in the implementation of inclusive practices, particularly in the infrastructural readiness of schools.

Mizoram, a northeastern state of India, has a growing number of students with visual impairment enrolled in both special and inclusive schools. However, research focusing on the status of barrier-free environments in the state remains limited. Students with visual impairment face multifaceted challenges, ranging from inadequate infrastructural support, such as inaccessible classrooms and toilets, to a lack of signage and assistive facilities. These challenges hinder their mobility, participation, and learning outcomes.

The present study, titled “Status of Barrier-Free Environment for Students with Visual Impairment in Mizoram,” seeks to address this gap by systematically assessing the adequacy and accessibility of physical infrastructures in selected schools. Specifically, the study focuses on five domains: entry/exit points, signage, classroom facilities, toilets, and playgrounds. By examining these facilities, the research aims to provide empirical evidence on the extent to which schools in Mizoram align with inclusive education mandates.

### **Objectives of this study**

- To find out the status of entry/exit facilities available for students with visual impairment.
- To find out the status of signage facilities available for students with visual impairment.
- To find out the status of classroom facilities available for students with visual impairment.
- To find out the status of toilet facilities available for students with visual impairment.



- To find out the status of playground facilities available for students with visual impairment.
- To assess the adequacy and accessibility of barrier-free environments in schools for students with visual impairment.

## Literature Review

Inclusive education requires schools to create learning environments that are free from physical, instructional, and systemic barriers. For students with visual impairment, the concept of a barrier-free environment has been widely discussed in research, particularly with reference to infrastructure, classroom accessibility, and supportive policies.

## Conceptual Foundations of Barrier-Free Education

The philosophy of inclusive education is anchored in the belief that all children should learn together, irrespective of differences in ability, disability, or social background. UNESCO (2017) emphasizes that accessibility is an essential component of inclusion, requiring adjustments in the school's physical and instructional environment. Researchers such as Ainscow (2005) argue that inclusion should go beyond physical access, extending to participation, equality, and belonging. For students with visual impairment, however, physical infrastructure remains the most visible and immediate determinant of inclusion (Pandey, 2017).

Barrier-free environments are understood as physical and social conditions that eliminate obstacles for students with disabilities. These include ramps, accessible classrooms, signage in Braille, safe toilets, and navigable playgrounds (Scales, 2002). The lack of such facilities not only hinders access but also undermines the psychological and social development of students with disabilities, affecting their academic performance and self-esteem (Jagota & Agnihotri, 2021).

## Infrastructural Accessibility in Schools

Research across different contexts indicates that schools often fail to meet accessibility standards for students with disabilities. Scales (2002) found that signage in educational institutions is often inadequate and inaccessible, leaving students with visual impairment without proper guidance. Similarly, Jagota (2021) highlighted that entrances and exits in many schools are not designed with disability-friendly features, making mobility difficult.

Toilets and sanitation facilities are another critical concern. Jagota and Agnihotri (2021) reported that while toilets are available, they are frequently poorly maintained, lack adequate illumination, and are



not designed for students with disabilities. Classrooms, too, may not be adaptable to the needs of visually impaired learners, as furniture and seating arrangements often limit mobility (Pandey, 2017).

Playgrounds, while present in many schools, are often neglected in terms of accessibility. Uneven grounds and the absence of tactile or auditory markers make it difficult for visually impaired students to use these facilities independently. This aligns with findings by international researchers such as Sharma and Deppeler (2005), who argue that physical access to recreational spaces is a prerequisite for inclusion but is often overlooked.

### **Policy and Legislative Context**

Globally, policies and conventions have stressed the importance of inclusive education. The Salamanca Statement (UNESCO, 1994) laid the foundation for inclusive education, advocating for schools to accommodate all children. In India, the Persons with Disabilities Act, 1995, and the Rights of Persons with Disabilities (RPwD) Act, 2016, mandate barrier-free infrastructure in schools. The National Policy on Education (1986, revised 1992) and the Sarva Shiksha Abhiyan also emphasize inclusive schooling as a national priority.

Despite these policies, implementation remains inconsistent. Studies conducted in Indian contexts (Ukwoma, Iwundu, & Iwundu, 2016; Farajollahi, Sarmadi, Zandi, & Keshavarz, 2016) note that infrastructural gaps persist due to financial constraints, lack of awareness, and inadequate monitoring. Researchers such as Chan, Churchill, and Chiu (2017) further argue that accessibility should not be seen as an “add-on” but as an integral part of school design.

### **Gaps in Research and Practice**

While a significant body of literature highlights the challenges of accessibility, there is limited empirical research specifically examining the status of barrier-free environments for students with visual impairment in the Indian context, particularly in northeastern states like Mizoram. Existing studies often focus on general disability or inclusive education frameworks without disaggregating the unique challenges faced by students with visual impairment.

Moreover, much of the available research is urban-centric, neglecting rural and semi-urban areas where infrastructural challenges are often more acute. There is also a lack of comprehensive assessments that evaluate multiple domains of accessibility simultaneously, such as entry/exit facilities, signage,



classrooms, toilets, and playgrounds. This creates a gap in understanding the holistic status of barrier-free environments for students with visual impairment.

### Synthesis

The literature indicates that although policies mandate accessible schools, practical implementation is inadequate, and significant disparities exist between legal frameworks and ground realities. For students with visual impairment, the absence of barrier-free environments continues to hinder mobility, participation, and learning outcomes. Given this backdrop, the present study addresses a critical research gap by assessing the status of barrier-free environments in inclusive schools in Mizoram, focusing on infrastructural domains that directly affect students’ educational experiences.

### Methodology

#### Research Design

Descriptive research design

#### Sample

Students with visual impairment

#### Tools

School Infrastructure Facilities for Students with Visual Impairment

**Validity:** Content validation

**Reliability:** Test-retest reliability

**Statistical Tests:** Descriptive statistics

### Results

**Table 1: Background Characteristics of Selected Schools**

Type	Level	No. of SwVI
Private unaided	Primary–Secondary	28
Private unaided	Primary–Middle	3
Government	Higher Secondary	4
Private aided	Higher Secondary	2
Total		<b>37</b>

As shown in Table 1, half of the schools were private unaided institutions, while the remaining were government and private-aided schools. The majority of students with visual impairment (n = 28) were enrolled in a private unaided school, reflecting its central role in catering to this population.

**Table 2: Status of Barrier-Free Facilities in Inclusive Schools**

Domain	No. of Items	“Yes” (%)	“No” (%)	Interpretation
Entry/Exit	4	30	70	Mostly inadequate
Signage	4	0	100	Completely absent
Classroom	5	60	40	Moderately adequate
Toilets	4	75	25	Largely adequate
Playground	4	75	25	Largely adequate

The analysis revealed significant variability across the five infrastructural domains. Only 30% of schools had disability-friendly entry/exit provisions, while 70% lacked them. This indicates that mobility and safe access remain major challenges. None of the schools had Braille or tactile signage systems, making navigation difficult for students with visual impairment. About 60% of schools had classroom arrangements that were at least moderately suitable, while 40% did not. Fixed furniture and a lack of spatial flexibility often restricted mobility. A majority (75%) of schools provided adequate toilet facilities; however, issues of maintenance and illumination were observed. Similarly, 75% of schools offered accessible playgrounds, but many were uneven or unmaintained, posing safety risks.

On aggregate, the study found that 67% of schools had moderately adequate barrier-free environments. While basic infrastructural facilities were present in most institutions, significant gaps persisted in signage and entry/exit accessibility. The findings suggest that while schools have made some progress toward inclusivity, they fall short of ensuring comprehensive accessibility for students with visual impairment.

## Discussion

This finding resonates with broader research across India and globally. Studies by Ukwoma, Iwundu, and Iwundu (2016) and Farajollahi, Sarmadi, Zandi, and Keshavarz (2016) emphasize that, despite legal frameworks, infrastructural gaps persist due to financial constraints, lack of enforcement, and inadequate awareness. The present study supports this argument, showing that while schools comply with some aspects of inclusivity, they fail in others.

## Implications for Inclusive Education



The results carry significant implications for policy and practice in Mizoram. First, the lack of signage and inadequate entry/exit facilities indicate a failure to view accessibility comprehensively. Policymakers and school authorities must recognize that barrier-free environments go beyond ramps and toilets; they encompass all aspects of school life, from classrooms to recreational spaces.

Second, the variability across schools suggests uneven implementation of inclusive education policies. Government schools and private-aided institutions lagged in certain facilities, while private unaided schools fared better in specific areas. This inconsistency underscores the need for standardized accessibility audits and targeted interventions.

Finally, the study highlights the importance of teacher and administrator sensitization. Infrastructure alone is insufficient unless school staff are trained to support students with visual impairment effectively. As Chan, Churchill, and Chiu (2017) argue, accessibility must be integrated into the very design and ethos of schools, rather than treated as an afterthought.

Overall, the findings of this study align with much of the existing literature, reinforcing the persistent gap between policy provisions and on-ground realities of inclusive education. However, the study contributes new evidence from Mizoram, a region underrepresented in disability research. By highlighting the partial adequacy of facilities and identifying specific gaps, the research adds to the understanding of how inclusivity is practiced in smaller states with unique geographic and social contexts.

## **Conclusion**

The study assessed the status of barrier-free environments for students with visual impairment in inclusive schools in Mizoram, focusing on entry/exit points, signage, classrooms, toilets, and playgrounds. The findings revealed that while schools provided some basic infrastructural facilities, significant gaps persisted in ensuring comprehensive accessibility. Toilets and playgrounds were relatively adequate, classrooms were moderately supportive, but entry/exit facilities and signage were critically inadequate.

Overall, 67% of schools were found to have only moderately adequate barrier-free environments, reflecting a partial implementation of inclusive education mandates. These findings reinforce the persistent gap between policy provisions, such as those outlined in the Rights of Persons with Disabilities (RPwD) Act, 2016, and the realities of school infrastructure in Mizoram. Ensuring accessibility is not



merely a legal obligation but a moral imperative to promote equality, independence, and dignity for students with visual impairment.

### **Recommendations**

- The government should strengthen enforcement of the RPwD Act (2016) by conducting regular accessibility audits in schools.
- Dedicated funds must be allocated to improve infrastructural facilities specifically for students with disabilities.
- Schools should prioritize the installation of ramps at all entry/exit points and ensure that these extend to classrooms, libraries, laboratories, and administrative offices.
- Accessible signage, including Braille and tactile indicators, must be introduced across school campuses.
- Classrooms should adopt flexible seating arrangements and movable furniture to enhance mobility.
- Toilets should be upgraded with handrails, adequate space, and proper lighting to ensure safety.
- Playgrounds should be leveled and equipped with tactile and auditory markers to support safe recreational participation.
- Teachers and administrators should receive training in disability awareness and inclusive practices to complement infrastructural improvements.
- Schools should collaborate with disability organizations and rehabilitation experts to create effective support systems.
- Accessibility should be incorporated into the initial design of school buildings rather than being treated as an add-on feature.
- Barrier-free environments should be viewed holistically, addressing both academic and non-academic spaces such as playgrounds, libraries, and laboratories.

### **Suggestions for Future Research**

To build upon this study, future researchers may consider the following directions:

- Expanding the scope to include other disabilities (hearing, locomotor, learning) for a comparative understanding of accessibility needs.
- Conducting studies in other states or regions of India to capture broader trends and regional variations.



- Investigating systemic and instructional barriers, including curriculum adaptations, teaching practices, and assessment methods.
- Exploring the perspectives of teachers, parents, and policymakers alongside those of students to provide a multi-stakeholder view of inclusivity.
- Examining accessibility in non-school settings, such as government offices, libraries, and public buildings, to extend the discourse beyond education.

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