Physical Access of Children with Disabilities to Inclusive Schools

A Survey from Haryana State

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ABSTRACT

Inclusive education for children with disabilities is a key initiative under the Samagra Shiksha Abhiyan. One of the basic requirements for inclusive education is ensuring barrier-free access to schools. This paper presents the findings of a research study aimed at assessing the extent to which schools in Haryana have achieved barrier-free access. The study sampled 84 schools across four districts in the state, selected using a multistage random sampling technique. A survey method was used to conduct an infrastructural audit, employing a self-developed accessibility checklist. The data were analysed using descriptive statistics. The results indicate that the overall situation regarding physical access to schools is disappointing and needs significant improvement. Schools have largely failed to comply with statutory provisions that ensure adequate access for children with disabilities to drinking water areas, ramps, stairs and toilet facilities, independently and safely. The study recommends increasing awareness and understanding among school administrators, school management committees, special educators, civil engineers and other construction personnel about the norms and standards established by the government for creating accessible school infrastructure.

Keywords: *Physical Access, Children with Disabilities, Inclusive Schools*

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Introduction

The status of education for children with disabilities in India is quite disappointing, despite the obligations set forth by the Right to Education (RTE) Act, 2009 and the Rights of Persons with Disabilities (RPwD) Act, 2016, which require the state to provide accessible quality education to all children with disabilities up to the age of 18 (Government of India, 2009). According to a UNESCO report (2019), only 61 per cent of disabled children aged 5–19 years were attending an educational institution, while 27 per cent had never been enrolled in any educational establishment. A prominent national newspaper, *The Hindu,* noted that the situation might be even worse, as this data includes children receiving home-based education, which often only exists on paper (The Hindu, 2019).

Additionally, girls with disabilities are less likely to attend school compared to boys with disabilities. The disparity is also evident when comparing rural and urban populations, with rural individuals lagging behind their urban counterparts. The average attendance rate for students with disabilities in the 5–19 age group is concerning, as only 80 per cent attended school regularly, according to the Census of India (2011). Children with disabilities are more likely to be out of school than other marginalised groups in Indian society (World Bank, 2007; MHRD, 2014). Even when these out-of-school children do attend school, their progress beyond the primary level is rare (World Bank, 2007).

The Ministry of Human Resource Development (MHRD), now Ministry of Education, reported in 2018 that the enrollment of disabled children in higher education is a mere 0.2 per cent of the total enrollment. Kundu (2020) argues that India has failed to provide equitable access to education for all its children. This view is supported by a UNICEF (2016) report, which stated that inclusive education remains a distant dream for most children with disabilities in India. Despite the provisions in the RTE Act and the RPwD Act for universal enrollment and disabled-friendly infrastructure in every school, the current educational conditions for children with disabilities paint a grim picture.

Barriers to the education of disabled students, include issues such as inaccessible drinking water, toilets, playgrounds and slippery floors. Taneja-Johansson, Singal and Samson (2023) identified various structural and other challenges affecting the quality of inclusive education and the needs of children with disabilities. A structural audit of 500 school buildings across

16 States in India revealed that many schools lacked accessible physical features due to insufficient knowledge and expertise about accessibility standards among construction personnel and school administrators (UNICEF, 2016). Limaye (2016) concluded that inadequate infrastructure is a critical factor hindering schools from complying with necessary norms for children with disabilities.

Studies conducted by Alqaryouti (2010), Stumbo et al. (2010), Ahmad (2012) and Tata Institute of Social Sciences (2015) indicated that students with disabilities face challenges accessing spaces that are easily reachable for students without disabilities. An NCERT study found similar results, showing that children with disabilities encounter significant difficulties in accessing disability-friendly infrastructure. This study recommended that at least one section of each class in every school should be developed following Universal Design Guidelines (NITI Aayog, 2017, cited in NCERT, n.d.).

Degenhardt and Schroeder (2016) argued that an inclusive school should provide all instructional and infrastructural areas based on the universal design approach to ensure broad access to the school campus for all children, including those with disabilities. The need for better infrastructural facilities for children with disabilities was also emphasised by Julka and Bharati (2014), while Kundu (2020) advocated for investment in schools to create facilities that cater to students with disabilities.

A UNICEF (2013) report suggested that only 1 per cent of the capital development cost is required to construct new school buildings according to accessibility standards. However, adapting existing buildings to meet new norms for inclusive infrastructure entails higher costs. Another NCERT document stated that the School Management Committee (SMC) must monitor infrastructure facilities, such as barrier-free toilets for girls (NCERT, 2020). It has been noted that the local influential individuals play a significant role in improving infrastructure of schools.

The presence of physical barriers has been a major concern for educators and policymakers. Such barriers hinder the successful implementation of inclusive education and compromise the safety and accessibility of infrastructure for children with disabilities. To address these challenges, the Government of India launched the 'Accessible India Campaign' (Sugamya Bharat Abhiyan)

in 2015, aiming to create an accessible and inclusive society. This initiative includes modifying existing buildings and constructing new infrastructure to provide a barrier-free environment for quality education for all children with disabilities in neighbourhood schools.

The policies and programmes for inclusive education in Haryana stipulate that all schools must be accessible, with properly constructed ramps, adapted toilets, wider doors and non-slip flooring, among other features. While the District Information System for Education (DISE) collects data on disabled-friendly infrastructure in schools in Haryana, this data focus only on the availability of ramps and toilets. It lacks comprehensive information about various aspects of infrastructure, including classrooms, floors, mid-day meal areas, playgrounds, entrances and more. This deficiency leaves important questions regarding the existence of various physical barriers, beyond ramps and toilets that may impede the participation of children with disabilities in education.

Consequently, the lack of authentic evidence and research about the prevalence of physical barriers to inclusive education in Haryana prompted the researchers to conduct this study. The goal is to identify the extent of physical barriers so that appropriate recommendations can be made to remove these obstacles and facilitate inclusive education in accordance with the RTE Act, the RPwD Act and the Accessible India Campaign.

Research Questions

The following research questions guided the study:

1. What is the status of physical access to inclusive education for children with disabilities in Haryana?
2. What kind of strategies are required to remove the barriers to physical access and strengthen the implementation of inclusive education?

Objective

- The study aimed to examine the extent to which the schools have been made barrier-free for children with disabilities after the enactment of the RTE Act 2009, the RPwD Act 2016 and the Accessible India Campaign 2015.

Sample

The sample comprised 84 schools, spread over 4 districts of the state, selected through a multistage random sampling technique. In the first stage, one district namely Hissar, Faridabad, Jind and Rohtak was selected randomly from 22 districts in the State. In the second stage, a list of all schools, falling in the district concerned, was obtained from the office of the District Education Officer (DEO)/District Programme Coordinator (DPC) and twenty-one schools from each district from the list of all schools were selected randomly for in-depth study. At the next stage, these schools were further assigned to educational blocks and also divided into two major groups i.e. urban and rural area schools. The units of sample are presented in Table 1.

Table 1: List of Sample Schools

S. No.	District	Education Block	Urban	Rural
1.	Jind	Jind	5	7
		Alewa	NIL	1
		Safidon	1	2
		Pillukhera	NIL	5
2.	Hisar	Hansi-II (Bass)	NIL	1
		Narnaund	1	2
		Hansi-II	2	15
3.	Rohtak	Meham	1	1
		Lakhan Majra	NIL	3
		Rohtak	NIL	6
		Sampla	NIL	4
		Kalanaur	2	4
4.	Faridabad	Faridabad	14	NIL
		Ballabgarh	3	4
TOTAL			28	56

Research Method

A survey method was used to conduct the research study. The principal investigator visited the sample schools from 2017 to 2020 and collected data using a self-developed 'Accessibility Checklist' for barrier-free schools.

Instrument for Data Collection

The researchers employed an 'accessibility checklist' in 84 schools in 4 districts of the state to verify the accomplishment or status of the infrastructural aspect. The checklist contained 61 items divided into 11 sub-areas, viz., entry from the locality to school, ramps, stairs, corridors, signage, doors, classroom amenities, windows and flooring, drinking-water facilities, toilets and playgrounds. It was assumed that these sub-areas provide a complete picture of physical access to school and the reasons or/and areas where access is yet to be provided fully. The items of the checklist were self-developed based on parameters and guidelines stipulated in the 'Handbook on Barrier-free Access to School' published by the Directorate of Education, Delhi. In addition, the documents, viz., 'Making Schools Accessible to Children with Disabilities' (UNICEF, 2016), 'Guidelines on Barrier-free Environment for Children with Disabilities in Schools' issued by the National Commission for Protection of Child Rights and Ministry of Human Resource Development, Government of India, the 'Handbook on Barrier-free Accessibility' published by the Central Public Works Department, Government of India (CPwD, 2014), and a UNICEF (2015) publication titled 'Access to School and the Learning Environment' was interalia consulted and referred to in developing the checklist. The validity of the tool was established by sending it to experts for content and language vetting. Relevant modifications in the checklist were made after receipt of expert opinions. It was assumed that the information gathered through the checklist may lead to a systematic analysis of the existing position of the physical access of children with disabilities to inclusive education, and provide a sound basis for either appreciation or suggestions for improvement.

Collection of Data

After selecting the schools and developing the tool, the principal investigator contacted the school heads and visited the target schools. A positive rapport was established with the school heads and staff, and assurance was provided that the researchers would keep their observations of the physical infrastructure confidential and use them solely for research purposes. The school heads were informed about the study's objectives. Field visits to each school were planned to gather first-hand information through observations. The observation was chosen as a method for situational analysis because it allowed the investigators to be present in the field to

personally verify the physical infrastructure vis-à-vis the norms framed by the government.

Scoring and Analysis of the Data

The analysis of data gathered through a checklist is based on three types of responses, namely 'Yes', 'No' and 'Not Applicable (N.A.)' to an item. A check to the 'Yes' column means that the physical standard stipulated by authorities is met in the school. A check to the 'No' column means that a particular infrastructural standard was missing in the school or the school has failed to fully comply with the infrastructural norms necessary to meet the access needs of children with disabilities. A check in the column marked 'N.A.' shows that the standard does not apply to the sample school(s).

Findings

Eleven distinguished dimensions were used to examine the status of physical access of children with disabilities to inclusive schools. The data obtained on these 11 dimensions through the accessibility checklist are presented in Tables 2 to 12.

Table 2: Entry from the Locality to School

S. No.	Item	Yes	No	N.A.
1.	Is the path to reach school from the habitation levelled and clear?	80 (95.4)	2 (2.3)	2 (2.3)
2.	Is the path safe for children with disabilities, if the school is situated near a pond, railway track or main road?	76 (90.4)	6 (7.2)	2 (2.3)
3.	Is the entrance and exit gate of the school sufficiently wide?	80 (95.4)	2 (2.3)	2 (2.3)
4.	Is the entrance and exit gate free from obstructions (such as cattle traps, threshold, parking, etc.)?	63 (75.0)	19 (22.7)	2 (2.3)
5.	Is the entry and exit gate levelled with the inner and outer areas?	64 (76.1)	17 (20.2)	3 (3.6)

**The figures in brackets show the percentage of scores.*

Table 2 demonstrates that the way to reach school was maintained and clear in 80 (95.4 per cent) schools. It means accessibility from habitation to school is not a big issue for children with disabilities and it was, by and large, found to be comfortable and

obstacle-free in every school. The Table 2 further reveals that many schools were situated near a pond or on the main road but the paths were found to be safe in 76 (90.4 per cent) schools. The entrance and exit gate was wider enough in 80 (95.4 per cent) schools while the entrance and exit was free from obstructions (such as cattle traps, threshold, parking, etc.) in 63 (75 per cent) schools. It means that children with disabilities did not face much difficulty in reaching and accessing the majority of the schools but barriers to access still exist. In 64 (76.1 per cent) schools, the inner and outer surfaces of entry and exit gates were levelled to avoid any accidental falls, especially during rainy seasons. All five standards or items for the dimension of 'entry from the locality to school' have been marked as 'N.A.' for 2 (2.3 per cent) schools because they are located on the same campus and are considered a single unit for analysis. Regarding item no. 3, the entry and exit gates of another 2 schools were the same despite being located on different but adjacent campuses, that is why they are also considered as one unit and this standard has been indicated as 'N.A.' for three schools against item no. 5.

Table 3: Ramps

S. No.	Item	Yes	No	N.A.
1.	Is a ramp required at the school?	80 (95.3)	2 (2.3)	2 (2.3)
2.	Does a ramp exist on the school premises?	70 (83.4)	12 (14.3)	2 (2.3)
3.	Are the ramp and stairs adjacent to each other?	16 (19.1)	61 (72.6)	7 (8.3)
4.	Is the ramp clearly visible?	70 (83.4)	3 (3.6)	11 (13.0)
5.	Is the ramp gradient steeper than 1:12?	33 (39.3)	40 (47.6)	11 (13.0)
6.	Is the width of the ramp as per standards?	16 (19.1)	57 (67.9)	11 (13.0)
7.	Are continuous handrails present on both sides of the ramp?	18 (21.5)	55 (65.4)	11 (13.0)
7.	Is the height of handrails as per the standards?	5 (5.9)	27 (32.2)	52 (61.9)
8.	Is the landing of the ramp gentle at the turning point?	11 (13.0)	10 (11.9)	63 (75.0)
9.	Is the ramp surface non-slippery?	52 (61.9)	21 (25.0)	11 (13.0)

**The figures in brackets show the percentage of scores.*

Table 3 shows that out of 84 schools, ramps were required in 80 (95.7 per cent) schools while ramps existed in 70 (83.4 per cent) schools. While it is important to have a ramp and stairs constructed adjacently, only 16 (19.7 per cent) schools had such facilities. In 61 schools, there existed either walls or parapet walls. The ramps were easily identifiable in 70 (83.4 per cent) schools. However the gradient and width of the ramp were found as per the standards in 33 (39.4 per cent) and 16 (18.3 per cent) schools, respectively. As per norms, handrails on both sides of the ramp are preferred at a height of 800 to 900 mm from the surface level. However, these parameters were not complied within 18 (21.5 per cent) schools. In some schools, the handrails were installed at the centre of the ramp which decreases the effective walking space and sometimes blocks the movement of children with visual impairments, and those using mobility aids. Gentle landing is required at the turning points but it was found only in 5 (5.9 per cent) schools. The surface of the ramp was found slip-resistant in 52 (61.9 per cent) schools. The requirement for ramps was marked as 'N.A.' in two (2.3 per cent) schools because four schools in two separate cases were found to be located on the same campus.

Additionally, in 5 schools where classrooms and facilities did not necessitate stairs, the norms for having ramps and stairs adjacent to each other were also marked as 'N.A.'. In 11 (13.0 per cent) schools, the visibility of ramps was not an issue because slopes were constructed instead of ramps, or ramps were not needed at all. Consequently, the norms regarding proper gradient, width and handrails have been marked as 'N.A.' for these 11 schools. In 27 schools, the height of handrails did not meet the required standards. For 52 (61.9 per cent) schools, these standards were deemed 'N.A.' either because there were no handrails installed because handrails were unnecessary due to the low height of the ramps or because the ramps existed solely as slopes.

Furthermore, in 63 schools, ramps were either straight without any turning points or did not exist on the campus at all. Thus, this norm was marked as 'N.A.' for those schools. In 11 (13.0 per cent) schools, the surface of the ramp was again not an issue, and hence, marked as 'N.A.' because slopes were found to be constructed instead of ramps in those schools, or ramps were not needed at all because of insignificant difference in the level of ground and floor level.

Table 4: Stairs

S. No.	Item	Yes	No	N.A.
1.	Are the stairs easily visible?	52 (61.9)	2 (2.3)	30 (35.8)
2.	Is the width of the stairs as per standards?	18 (21.5)	36 (42.8)	30 (35.7)
3.	Do the stairs have handrails on both sides?	1 (1.1)	51 (60.8)	32 (38.1)
4.	Are handrails easy to grip?	1 (1.1)	3 (3.6)	80 (95.3)
5.	Are the handrails painted in colours contrasting with the wall colour?	0 (0)	4 (4.7)	80 (95.3)
6.	Are the endpoints of the handrails bent downwards?	1 (1.1)	2 (2.3)	81 (96.5)

**The figures in brackets show the percentage of scores.*

As per norms, while the schools must have stairs that are easily identifiable, preferably through illumination, for effective use, Table 4 shows that this requirement was met by 52 (61.9 per cent) schools only. It is also important that steps of stairs must have a width of 1200 mm but 18 (21.5 per cent) schools had stairs with such specifications. The government stipulates that provision of continuous handrails should exist on both sides of the stairs so that students having strength in only one arm, right or left, may use them effectively while moving up and down the stairs. However, Table 4 reveals that only 1 (1.1 per cent) school had such facility. Regarding the gripping of handrails, only 1 (1.1per cent) school met the norms. Strangely, none of the handrails was painted in colour contrasting to the background walls, thus, defying the norms. The endpoints of handrails were bending downwards in 1 (1.1 per cent) school only. In 30 (35.8 per cent) schools, the criterion for having easily visible stairs is marked as 'N.A.' because the stairs did not exist on the campus for various reasons, or the school only had a thick stone used as stairs. In 80 (95.3 per cent) to 81 (96.5 per cent) schools, the standards regarding the ease of grip for handrails, the colouring of handrails, or the issue of endpoints of handrails are also marked as 'N.A.'. This is because only 4 (4.7 per cent) schools had the provision of handrails out of which only 1 (1.1 per cent) schools had installed the handrails on both sides.

Table 5: Corridors

S. No.	Item	Yes	No	N.A.
1.	Are the corridors obstacle-free?	70 (83.4)	11 (13.0)	3 (3.6)
2.	Is the width of corridors sufficient for movement?	80 (95.3)	1 (1.1)	3 (3.6)
3.	Do the hanging objects give head clearance?	1 (1.1)	2 (2.3)	81 (96.5)

**The figures in brackets show the percentage of scores.*

Schools need to keep corridors free from objects or articles that may create obstructions in the free movement. Sometimes, it has been observed that school corridors are obstructed by vehicles (scooters, bikes, etc.), unused furniture, utensils of mid-day meals, planters, etc., which adversely affect the mobility of all students especially students with visual disabilities and/or physical disabilities. Table 5 further indicates that 70 (83.4 per cent) schools had obstacle-free corridors. The corridors were wide enough for free movement in 80 (95.3 per cent) schools. In all schools, except 1 (1.1 per cent), the corridor either had no hanging objects, or objects or signage hung in the gallery at a height that gives proper head clearance, or the school did not have a corridor at all. The standard for having obstacle-free school corridors with sufficient width is marked as 'N.A.' in 3 (3.6 per cent) schools because those schools did not have any corridors to assess.

Table 6: Signboards

S. No.	Item	Yes	No	N.A.
1.	Are signboards installed in the school?	47 (55.9)	31 (36.9)	6 (7.2)
2.	Are the signs available in Braille and/or pictograms?	0 (0)	78 (92.8)	6 (7.2)
3.	Are the signs present to indicate CwSNs toilet?	9 (10.7)	68 (80.9)	7 (8.4)
4.	Are there signs indicating the mid-day meal area?	58 (69.0)	18 (21.5)	8 (9.5)

**The figures in brackets show the percentage of scores.*

Table 6 indicates that 47 (55.9 per cent) schools had signboards installed or painted on walls. However, none of the schools had signs available in Braille and/or pictograms (except a logo of the Mid-day Meal Scheme, now PM POSHAN). The signs indicating the toilet for CwSNs were found in 9 (10.7 per cent) schools. The mid-day meal area was found marked in 58 (69.0 per cent) schools. The installation of separate signboards for the mid-day meal area and toilets for Children with Special Needs (CwSNs) was marked as 'N.A.' for 6–8 schools. This is because these schools were either part of an attached senior secondary school or a high school, and they were already using the facilities designated for CwSNs or serving mid-day meals within the attached school.

Table 7: Doors

S. No.	Item	Yes	No	N.A.
1.	Are the doors easy to open and close for children with disabilities?	77 (91.7)	1 (1.1)	6 (7.2)
2.	Are doors sufficiently wide for wheelchair users?	74 (88.0)	3 (3.6)	7 (8.3)
3.	Are the door handles fitted at a reachable height?	76 (90.5)	1 (1.1)	7 (8.3)
4.	Are the floors at the door threshold merged with a gentle slope?	62 (73.9)	11 (13.0)	11 (13.0)

**The figures in brackets show the percentage of scores.*

Table 7 reveals that 77 (91.7 per cent) schools had easily operable doors for access to classrooms or offices. The doors were sufficiently wide for wheelchair users in 74 (88.0 per cent) schools. The door handles and other hardware were fitted at a height convenient for use by children with disabilities in 76 (90.5) schools. It is important to merge floors at the door threshold with a gentle slope to facilitate, in particular, the movement of students with visual impairments and wheelchair users. However, these standards were complied with by 62 (73.9 per cent) schools. The norms for doors are marked as 'N.A.' for 6–7 schools because these schools shared the campus with another school. To avoid duplication of data, the dimensions of doors, for these schools have been excluded from the analysis as to whether they comply with the norms or not. Additionally, there are four schools where the norms for merging floors with a gentle slope at the door threshold were not applicable.

Table 8: Classroom Amenities

S. No.	Item	Yes	No	N.A.
1.	Are green or black chalkboards free from glare?	76 (90.5)	3 (3.6)	5 (5.9)
2.	Are green or black chalkboards mounted at a child-friendly height?	81 (96.5)	1 (1.1)	2 (2.3)
3.	Are the desks or benches accessible and comfortable for children with disabilities?	65 (77.4)	17 (20.3)	2 (2.3)
4.	Do the furniture of classrooms accommodate a wheelchair?	63 (75.0)	19 (22.6)	2 (2.3)
5.	Do the classrooms have enough light to see the chalkboard or the teacher?	76 (90.5)	8 (9.5)	–
6.	Are the electric switches reachable to an average-height student?	54 (64.3)	16 (19.0)	14 (16.7)
7.	Do the classrooms have proper ventilation?	81 (96.5)	3 (3.5)	–

**The figures in brackets show the percentage of scores.*

Table 8 indicates that 76 (90.5 per cent) schools had glare-free green or black chalkboards in the classroom. It means that green or black chalkboards as found available in the majority of schools, did not pose any challenge to the education of children with disabilities, especially for children with visual impairments. The green or black chalkboards were mounted at a child-friendly height in 81 (96.5 per cent) schools implying that these were accessible to maximum students including wheelchair users, dwarfs and of short height. In 65 (77.4 per cent) schools, the desks or benches were convenient and accessible to all students including those wearing callipers or using crutches. In 63 (75 per cent) schools the classroom furniture was overcrowded. It makes to infer that such classrooms appear to fail in accommodating wheelchair users or providing clear leg space for caliper users or using other mobility aids. The 76 (90.5 per cent) schools were fitted with windows allowing natural light. Although, neither light switches were available in all classrooms nor electricity was present in many schools on the days of the visit by researchers but it was soothing to see that 54 (64.3 per cent) schools had classes with electric switches reachable to an average height student. Ventilation was reported proper and adequate in

81 (96.5 per cent) schools. In 5 (5.9 per cent) schools, there were no proper black or green boards; instead, walls were painted black for temporary use as chalkboards. However, the damaged plaster made them ineffective, resulting it being marked as 'N.A.' for 'glare'. In two schools, the black paint condition as 'chalkboard' was so poor that it was also marked as 'N.A.' for analysis purposes. Additionally, 2 (2.3 per cent) schools had no students with disabilities, so related norms were marked as 'N.A.'. In 14 (16.7 per cent) schools, the absence of electrical wiring or switches led to this parameter being marked as 'N.A.' to be counted for use by an average-height student.

Table 9: Windows and Flooring

S. No.	Item	Yes	No	N.A.
1.	Do the windows open into the corridors?	77 (91.7)	0 (0)	7 (8.3)
2.	Is the height of the windows appropriate?	77 (91.7)	1 (1.1)	6 (7.2)
3.	Do the windows have grills and shutters/panes?	78 (92.8)	6 (7.2)	–
4.	Is the flooring of the corridors or classrooms non-slippery?	78 (92.8)	1 (1.9)	5 (5.9)
5.	Is the toilet flooring non-slippery?	52 (61.9)	5 (5.9)	27 (32.2)

**The figures in brackets show the percentage of scores.*

Windows and floors are other important areas that restrict or facilitate inclusive education. An inappropriately located window may create obstructions in movements or make it difficult to read books and take notes from green or blackboards by students with visual impairments. Similarly, glossy, uneven, or damaged floors can be dangerous for students with visual or physical disabilities. Table 9 shows that windowpanes were not opening in corridors in 77 (91.7 per cent) schools. Hence, providing a safe passage to all children. The height of windows was found appropriate in 77 (91.7 per cent) schools. About 78 (92.8 per cent) schools had windows fitted with iron grills, nets and panes. In 78 (92.8 per cent) schools, floors of the corridors and classrooms were non-slippery. The floor of the toilets were found to be non-slippery in 52 (61.9 per cent) schools, which highlights a serious lacuna

in the remaining 32 schools. The norm for opening windows in corridors, ensuring non-slip floors and maintaining windows at appropriate heights was marked as 'N.A.' for 7 (8.3 per cent), 5 (5.9 per cent) and 6 (7.2 per cent) schools, respectively. This was because these schools either do not have corridors or are part of campuses that contain multiple schools, thus being counted only once for analysis. Additionally, in the case of 27 (32.2 per cent) schools, there was no suitable flooring to assess the slippery or non-slippery condition, which is why this parameter was also marked as 'N.A.'.

Table 10: Drinking Water Facilities

S. No.	Item	Yes	No	N.A.
1.	Is the drinking water area levelled (i.e., without stairs)?	37 (44.0)	43 (51.2)	4 (4.8)
2.	Are the taps for drinking water available at an appropriate height?	50 (59.5)	30 (35.7)	4 (4.8)
3.	Is the drinking water area dry?	31 (36.9)	49 (58.3)	4 (4.8)

**The figures in brackets show the percentage of scores.*

Table 10 demonstrates that the drinking water area was levelled in 37 (44.0 per cent) schools. Further, the water taps were found installed at an accessible height in 50 (59.5 per cent) schools. The drinking water area was found to be dry and hence, easily usable in 31 (36.9 per cent) schools. The figures indicate that, by and large, the drinking water facilities were not suitable for students who use wheelchairs, crutches or callipers or with visual impairments. There was an almost complete absence of covered drainage systems, basins and sinks resulting in water clogging and wetting of the surface. Drinking water facilities often had a step or stair to reach the taps properly, surfaces were slippery, and drainage systems were open and inoperative. Thus, causing hindrance to the movement of wheelchair users and making the drinking water facilities inconvenient to children with visual impairments. The 4 (4.8 per cent) schools are marked as 'N.A.' for all three norms concerning drinking water facilities. This is because these schools either share their drinking facilities with other on-campus schools or have issues that prevent them from being used in the analysis.

Table 11: Toilets

S. No.	Item	Yes	No	N.A.
1.	Is the way to reach CwSNs toilets clear and levelled?	49 (58.3)	33 (39.3)	2 (2.3)
2.	Is the CwSN toilet accessible?	29 (34.5)	52 (61.9)	3 (3.6)
3.	Are there separate toilets (one each for boys and girls) for children with disabilities?	0 (0)	81 (96.4)	3 (3.6)
4.	Is the size of the toilet as per the standards?	45 (53.6)	32 (38.0)	7 (8.4)
5.	Is there sufficient wheelchair moving space around the commode and washbasin?	38 (45.2)	37 (44.0)	9 (10.8)
6.	Is there a commode in the toilet?	49 (58.3)	26 (30.9)	9 (10.8)
7.	Is the toilet fitted with a grab bar?	10 (11.9)	64 (76.2)	10 (11.9)
8.	Is the washbasin mounted at a usable height from the floor?	28 (33.4)	43 (51.1)	13 (15.5)
9.	Is the mirror fitted at an appropriate height from the floor?	2 (2.3)	63 (75.0)	19 (22.7)
10.	Can the doors be locked from the inside?	37 (44.0)	34 (40.5)	13 (15.5)
11.	Is the toilet easy to flush?	39 (46.5)	29 (34.5)	16 (19.0)
12.	Does the toilet door have a minimum width of 900 mm?	44 (52.4)	28 (33.4)	12 (14.2)
13.	Does the toilet door open outwards?	1 (1.1)	70 (83.4)	13 (15.5)

**The figures in brackets show the percentage of scores.*

Table 11 reveals that out of 84 schools, the path to CwSNs toilet was maintained in 49 (58.3 per cent) schools. The toilets were accessible in 29 (34.5 per cent) schools. None of the schools had separate toilets for boys and girls with disabilities. In terms of size, 45 (53.6 per cent) schools complied with the government standards. Toilets in 38 (45.2 per cent) schools had sufficient

space for manoeuvrability of wheelchairs. CwSN toilets must have western commode seats and grab bars to support the children with disabilities, however, such a facility was found in place in (58.3 per cent) and 10 (11.9 per cent) schools, respectively. It was noticed that in some schools, towel bars or simple iron rods were installed inside the toilet instead of the grab bars. Mirrors were not found mounted in any of the toilets despite provisions. The washbasins were rarely available and wherever existed, their usability was doubtful in the absence of adequate running water. In 37 (44.0 per cent) schools, the toilet doors can be locked from the inside and flushes of toilets was easy to operate in 39 (46.5 per cent) schools. Hassle-free entry to toilets was observed in 42 (50 per cent) schools because the doors were wide enough.

However, in the majority of the schools, the toilet doors open inwards, reflecting ignorance among civil engineers building planners/architects about construction norms. In most cases, CwSN toilets (toilets for children with disabilities are referred to as CwSN Toilets' in the RTE Act/SSA) were constructed in distant areas/corners of the school defeating the basic rationale of inclusive education.

Moreover, in many cases, these were found locked permanently or used by school staff instead of children with disabilities. All CwSNs toilets were unisex which is usually unacceptable in rural areas. The door opening was sliding in 1 (1.1 per cent) school only. The overall scenario of the CwSNs toilet was gloomy since its usage was doubtful due to inadequate water and unhygienic conditions/poor cleanliness. In the case of two (2.3 per cent) schools, the criteria for evaluating the accessibility of the pathway to the toilets for Children with Special Needs (CwSN) were marked as 'Not Applicable.'

Additionally, three (3.6 per cent) schools were also indicated as 'Not Applicable' regarding the norms for the accessibility and availability of separate toilets for CwSN. This was because these schools either shared CwSN toilets with other schools on the same campus or had issues that disqualified them from being categorised as 'yes' or 'no' in the checklist. In some instances, the requirement for having a commode in the toilet could not be assessed because the CwSN toilets were locked or the necessary conditions for evaluation were not met for various reasons, leading to 'Not Applicable', categorising for analysis.

Table 12: Playgrounds

S. No.	Item	Yes	No	N.A.
1.	Is the path from classrooms to playground clear and levelled?	65 (77.4)	12 (14.3)	7 (8.3)
2.	Is the playground levelled?	66 (78.6)	9 (10.7)	9 (10.7)
3.	Is the playground covered with grass?	13 (15.5)	60 (71.5)	11 (13.0)
4.	Is the playground suitable for wheelchair, crutch and walker users?	52 (61.9)	25 (29.8)	7 (8.3)

**The figures in brackets show the percentage of scores.*

Table 12 shows that the path from classrooms to playgrounds was clear and levelled in 65 (77.4 per cent) schools. The playgrounds or playfields were found maintained and levelled in 66 (78.6 per cent) schools. However, out of a total of 66 levelled, 13 (15.5 per cent) playgrounds were covered with grass. In the majority of schools, the playgrounds were formed of mud and sand although there were schools, where the pucca area was used as a playground. In 52 (61.9 per cent) schools, the playgrounds were suitable for wheelchair, crutch and walker users. Many schools located in urban areas lack proper playgrounds and instead have only small open spaces that do not qualify as playgrounds in 7 (8.3 per cent) cases. In the additional two schools, the small open spaces were unlevelled. Additionally, because several schools share the same playgrounds, some were not included in the analysis and were marked as 'N.A.'. The 11 (13.0 per cent) schools indicated as 'N.A.' regarding the requirement for grass on the playground encompass those that share facilities on the same campus or do not have a real playground at all.

Discussion

This study examined the status and extent of physical access to inclusive education for children with disabilities, revealing a concerning picture. Although some efforts have been made by school authorities to remove physical barriers and facilitate access, school infrastructure is yet to be made fully hurdle-free. The existing physical barriers in schools undoubtedly affect the educational journeys of children with disabilities.

In India, every child has a fundamental right to receive elementary education, along with necessary support services. However, the study found that most the school infrastructures do not meet the accessibility requirements for children with disabilities. This lack of access may contribute to issues, such as non-enrolment, poor attendance rates and low educational standards. It is essential to note that under Article 21A of the Indian Constitution, the RTE Act 2009 and the RPwD Act 2016, as well as following India's ratification of the United Nations Convention on the Rights of Persons with Disabilities (2006), inclusive education is a legal obligation of the government. If a child with disability cannot reach school easily and comfortably, other educational provisions and facilities become irrelevant.

The findings of this study align with the work of Taneja-Johansson, Singal and Samson (2023), Limaye (2016), Ahmad (2012), Alqaryouti (2010), Stumbo et al. (2010), are supported by NITI Aayog (2017, cited in NCERT, n.d.) and Kundu (2020), which advocate for investing in schools to create at least one inclusive section per class according to Universal Design guidelines. The results also correspond with findings from NCERT (2020), emphasising the importance of school management committees in monitoring the construction of barrier-free infrastructures.

The overall findings regarding access to schools indicate that children with disabilities did not face significant difficulties in reaching and accessing most schools. A major concern highlighted in the study, despite initiatives like the Accessible India Campaign and existing regulations, is that although ramps were available in all schools, many did not meet construction standards. This suggests either a lack of knowledge among constructors about the required norms or insufficient monitoring by officials. Furthermore, almost two-thirds of schools failed to comply with construction norms related to stairs, while school corridors were largely found to be obstacle-free.

Signage on school campuses is vital as it provides important information for all students. Specifically, signage helps students with visual, hearing and speech disabilities to navigate the school independently. However, the availability of signboards in the sampled schools was found to be deficient, with the majority failing to meet this aspect of physical access.

Doors are also a crucial component of physical access to school, as they can facilitate or impede the movement of children with

disabilities in classrooms, laboratories, libraries and restrooms. The findings reveal that all sampled schools failed to fully meet the necessary standards for doors.

Regarding classroom infrastructure, the study found that significant discomfort affecting the learning of children was largely due to overcrowded furniture. Some schools need to install electrical switches at heights suitable for students, ideally equipped with tactile markings for those with visual impairments.

Notably, only 34.5 per cent of schools had accessible toilet facilities, and none had separate toilets for boys and girls with disabilities. Many toilet facilities were considered unsafe due to their remote locations within schools. A clear and level path to these toilets is essential for ensuring barrier-free access. However, nearly 40 per cent of schools were lacking in this aspect. Improvements are also necessary for drinking water accessibility, as most schools do not provide adequate access for children with locomotor disabilities or those using mobility aids. A potential solution could involve using long rubber hoses with taps at the end to make drinking water more accessible. Additionally, 71.5 per cent of schools had playgrounds that were not covered with grass, posing a risk of injury to children with disabilities. It is important to maintain thin and small grass in play areas to ensure the safety and mobility of children using mobility aids.

To promote barrier-free access, the study recommends that during renovations or new constructions, civil engineers consult and adhere to government norms for accessibility. An 'access audit' should be conducted before the handover of school buildings. To further reduce barriers to physical access, it is proposed that school administrators, School Management Committees (SMCs) and special educators receive training.

Conclusion and Implications of the Study

In summary, the current situation regarding physical access for children with disabilities in schools is unsatisfactory. The physical barriers present on the school campuses must be recognised, addressed and removed as soon as possible to comply with the provisions of the RTE Act, the RPwD Act and the Accessible India Campaign. Achieving this requires the collaboration, commitment and participation of various stakeholders, including policymakers, school administrators, media representatives, village panchayats, architects, civil engineers and parents of children with disabilities.

This study has significant implications for school administrators, SMCs, special educators and construction personnel. It highlights the need for increased awareness and understanding of the accessibility norms, and standards established by the government to create inclusive and accessible infrastructure in schools.

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