

SCHOOL INFRASTRUCTURE IN INDIA: PROGRESS, CHALLENGES, GAPS

Priya Dharshini

LL.M. Student

Department: LLM (Labour Law and Administrative Law)
Dr. Ambedkar Government Law College, Tiruvallur, Tamil Nadu, India

Abstract: The quality and equity of school education closely tied to availability of infrastructure such as classroom, drinking water facilities, toilets, electricity, libraries, playgrounds, and digital resources directly influences the quality of education, enrolment, attendance, and retention of student. Inadequate infrastructure often discourages children, particularly girls and children from disadvantaged backgrounds, from attending school regularly. The study examines the progress and challenges in school infrastructure in India. It adopts a descriptive and analytical approach based on secondary data obtained from Unified District Information System for Education Plus (UDISE+) reports, Comptroller and Auditor General (CAG) reports and relevant reports on water, sanitation, and hygiene. The study assesses improvements in essential school amenities and examines disparities in infrastructure, particularly for Children with Special Needs (CWSN). The significant gap persists in the provision of disability-friendly toilets, ramps, and other inclusive facilities. It also identifies implementation delays, underutilisation of funds, inadequate maintenance, discrepancies in official data, and corruption as major challenges affecting infrastructure development.

Keywords: School Infrastructure, CWSN (Children with Special Needs), UDISE+, CAG

INTRODUCTION

Education is one of the most important instruments for social transformation. For effective learning, the availability of adequate school infrastructure and basic amenities plays a crucial role. The quality and equity of school education closely tied to availability of infrastructure such as classrooms, drinking water facilities, toilets, electricity, libraries, playgrounds, and digital resources directly influences the quality of education, enrolment, attendance, and retention of students. Inadequate infrastructure often discourages children, particularly girls and children from disadvantaged backgrounds, from attending school regularly. It is essential to design educational infrastructure in such a way as to maximize the accessibility and effectiveness of the education being delivered.¹ SDG (Sustainable Development Goal) aims to provide 'inclusive and equitable quality education and to promote lifelong learning opportunities for all'² and there has been a concerted effort to ensure schools are disability-inclusive.

NEP 2020 places strong emphasis on improving school infrastructure to strengthen foundational learning, enabling blended modes of instruction, and expand access across all regions. The RTE Act also not only focuses on access to schooling but also emphasises the provision of adequate infrastructure and essential facilities necessary for creating a child-friendly and inclusive learning environment. Sections 8 and 9 of the RTE Act, read with the Schedule to the Act, lay down specific infrastructural requirements for schools.

Over the years, the Government of India has implemented several schemes, including Sarva Shiksha Abhiyan and Samagra Shiksha, to support states in achieving the infrastructural norms prescribed under the RTE Act. The National Education Policy (NEP), 2020 also emphasises the importance of safe, inclusive, and technology-enabled school infrastructure for improving learning outcomes. Despite considerable progress in the availability of school facilities, challenges relating to implementation, maintenance, delays in infrastructure projects and disparities across states continue to persist. Concerns have also been raised

¹ World Bank's World Development Report (WDR) entitled "Learning to Realize Education's Promise" (World Bank 2018)

² SDG (Sustainable Development Goal) 4

regarding the accuracy of official data and the actual condition of infrastructure facilities in schools, as highlighted in reports of the Comptroller and Auditor General (CAG) of India.

The present study examines current state of School infrastructure in India. The study analyses the progress of school infrastructure by using secondary data from UDISE+ reports and CAG audit findings. It also evaluates the challenges faced in the implementation.

OBJECTIVE OF STUDY

- (i) To analyse the progress of school infrastructure in India after the implementation of the RTE Act
- (ii) To assess the availability of inclusive infrastructure for Children with Special Needs (CWSN).
- (iii) To examine the challenges in implementation.

HYPOTHESIS

The availability of basic school infrastructure in India, Particularly for CWSN (Children With Special Needs)

LITERATURE REVIEW

This research based Quantitative Data. The secondary data has been taken from UDISE+ (Unified District Information System for Education Plus) and the Annual report of CAG in various states and report related to sanitation services and hygiene. Research has findings that there has been significant massive progress in the availability of the drinking water, toilet facility, adequate classroom and Ramps and friendly toilets for the child with special need and libraries. The data from Unified District information system for Education Plus (UDISE+) revealed that gradual improvement in infrastructure across government schools and which has contributed to increased enrolment. However, the reports by the Comptroller and Auditor General of India highlighted inadequate classroom and inadequate maintenance of the toilets and hopelessly inadequate of ramps and friendly toilets to the child with special need including inadequate maintenance of infrastructure and delays in funds utilization.

The WHO/UNICEF Joint Monitoring Programme's report, Progress on Drinking-water, Sanitation and Hygiene in Schools: 2000–2021 Data Update, examines the global availability of drinking water, sanitation, and hygiene services in educational institutions. The report identifies continuing gaps in basic school services and observes that the global rate of progress is insufficient to achieve universal coverage by 2030 without substantial acceleration. It also highlights the limited availability of information on disability-accessible water, sanitation, and hygiene facilities.

Table 1 Source: Report on Unified District Information System For Education Plus (UDISE+) - Ministry Of Education Department Of School Education & Literacy

Facility	2014-15	2020-21	2021-22	2022-23	2023-24	2024-25
Connection of Electricity	*	86.90	89.34	91.7	91.8	93.6
Drinking water Facility	95.3	97.45	98.22	98.4	98.3	99.3
Hand wash facility	*	91.99	93.64	94.1	94.7	95.9
Boys' toilet Facility	85.66	96.20	96.22	95.6	95.7	96.2
Girls' toilet facility	84.6	97.32	97.48	97.0	97.2	97.3
CWSN friendly toilet facility	23.08	25.25	26.96	32.5	34.4	35.6
Ramp with handrail facility for CWSN students	*	48.31	49.72	51.0	52.3	54.9

Playground facility	*	75.76	76.96	82.0	82.4	83.0
Kitchen- Garden	*	26.05	27.65	35.1	36.2	40.2
Library Facility	*	85.58	87.30	88.3	89	89.5
Internet facility	*	24.51	33.91	49.7	53.9	63.5

The infrastructure data from UDISE+ indicated that progress in the facility and amenities, even though disparities still remain in certain areas of inclusion and quality. Essential services such as drinking water (99.3%), girls' toilets (97.3%), boys' toilets (96.2%), and electricity (93.6%) have reached near-universal coverage by 2024–25, indicating strong policy focus on basic amenities. Similarly, facilities like hand washing (95.9%), libraries (89.5%), and playgrounds (83%) reflect steady improvement. Notably, digital infrastructure has seen rapid growth, with internet access rising sharply from 24.5% in 2020–21 to 63.5% in 2024–25, aligning with the push for digital education. However, inclusive infrastructure for Children with Special Needs (CWSN) remains significantly weaker, with only 35.6% schools having friendly toilets and 54.9% having ramps with handrails. This highlights a persistent gap between general infrastructure expansion and inclusive accessibility.

However, Only 25.5 Percentage of all elementary schools/sections RTE compliant in terms of meeting the infrastructural norms(norms included additional classrooms, boys toilets, girls toilets, drinking water, ramp, playground and boundary wall.³

Between 2015 and 2025, the global proportion of schools with no sanitation service was halved, from 23% to 12% while India achieved a 14 % pts reduction, it is a rapid improvement. The report has stated in 2025, 244 million children still had no sanitation service at their school. Over half of them lived in India (50 million), Nigeria (34 million), Ethiopia (26 million), Democratic Republic of the Congo (11 million) or Indonesia (8 million).⁴ Over 9 out of 10 schools surveyed in Jaipur (India) for providing routine health promotion activities, it is reported that 3 out of 5 schools in Jaipur has been providing routine health promotion activities.⁵

Table 2 Percentage of schools by management and availability of Children with Special Needs (CWSN) friendly toilet in Government

Source: UDISE+

State/UT	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
India	24.83	26.4	33.2	33.2	34.6
Andaman and Nicobar Islands	25.15	24.6	27.8	27.9	29
Andhra Pradesh	6.78	14.4	16.7	18.1	19.3
Arunachal Pradesh	4.87	9.7	9.2	10.1	10.2
Assam	21.36	21.4	22.7	24.1	27.5
Bihar	13.1	12.7	14.2	13.8	17.1
Chandigarh	76.86	82.1	86.6	88.2	92.4
Chhattisgarh	77.16	75.4	68.2	67.6	60.2
Dadra & Nagar Haveli and Daman & Diu	88.21	95.4	95.1	95	97
Delhi	99.64	100	99.9	100	99.8
Goa	2.31	3.4	4.1	5.4	8.1
Gujarat	43.49	45.7	46	46.6	47.3

³ UDISE 2019-20(Referred to in reply to part (a) of Lok Sabha unstarred question No. 2186 for reply on 02/08/2021 regarding compliance of RTE guidelines asked by the hon'ble MP Dr Mohammad Javed

⁴ World Health Organization (WHO) and United Nations Children's Fund (UNICEF), Progress on Drinking Water, Sanitation and Hygiene, 2026, p. 21.

⁵ Ibid., p. 34.

Haryana	57.6	60.4	65.4	69	69.9
Himachal Pradesh	21.6	21.8	22.2	25.3	27.7
Jammu and Kashmir	1.66	2.2	4.5	4.8	5
Jharkhand	2.72	4	4.7	5.4	5.5
Karnataka	11.94	13.1	14.5	14.8	15.5
Kerala	41	45.4	51.7	56.6	59.6
Ladakh	33.44	26.9	21.2	20.3	30.3
Lakshadweep	26.67	60.5	56.8	62.2	66.7
Madhya pradesh	3.85	6.1	15.1	14.9	15.2
Maharashtra	46.77	51.2	58.4	59.8	59.9
Manipur	4	4.7	3.3	3.5	9.3
Meghalaya	2.33	2.2	2.4	2.7	3.3
Mizoram	25.65	24.5	25.7	25.9	26.1
Nagaland	5.27	5.5	5.9	7.3	9.3
Odisha	63.08	57.2	68.7	78	74.2
Puducherry	45.73	46.5	46.4	50.2	49.9
Punjab	100	77.3	57.7	59.5	60.3
Rajasthan	9.65	10.6	13.8	14	14.2
Sikkim	13.16	18.8	30.6	32.8	35.2
Tamil Nadu	40.12	36.2	26.1	26.2	36.9
Telangana	5.61	5.1	5	5.9	5.8
Tripura	7.64	8.7	9.6	11.3	13.9
Uttar Pradesh	14.54	23.8	46.7	55.8	61.6
Uttarakhand	3.67	5.4	7.7	7.9	8.1
West Bengal	29.39	29.7	29.9	30.2	30.4

CWSN categorized by disability types (e.g., visual/hearing impairment, locomotor disability, intellectual challenges). The UDISE+ report indicated 34.6% of schools have friendly toilet for CWSN and 54.9% of schools have ramps in Government schools. The availability of CWSN-friendly toilets in government schools has improved from 24.83% in 2020–21 to 34.6% in 2024–25, indicating gradual progress toward inclusive infrastructure. However, this improvement remains limited, as nearly two-thirds of schools still lack such facilities. In comparison, about 54.9% of schools have ramps, highlighting a clear gap between basic physical access and functional usability. Significant interstate disparities persist: regions like Delhi and Chandigarh have achieved near-universal coverage, while states such as Jharkhand and Meghalaya continue to report extremely low availability.

Further Comptroller and Auditor General of India (CAG) Report, 2023 which found that 69% of sampled government and government-aided schools has been lacked CWSN toilet facilities.⁶ The report also highlights substantial discrepancies between UDISE+ data and field audit findings regarding school infrastructure and enrolment statistics. Such inconsistencies raise concerns about the accuracy of implementation reporting and indicate that the actual condition of inclusive infrastructure in schools may be weaker than officially presented.

CHALLENGES OF INFRASTRUCTURE

Delay in the implementation project - Delay in the implementation of infrastructure projects remains one of the major challenges affecting the effectiveness of educational development schemes. The Samagra Shiksha Scheme proposed to improve the public sector education infrastructure by construction of new schools, construction of additional classrooms, undertaking major repair, minor repair, etc. The Audit has been found on the initiatives for construction of new schools/upgradation of upper primary schools approved by PAB during 2017-18 to 2021-22. The works of classrooms (316) commenced during 2018-20 were yet to be completed. Out of the expenditure of ₹577.28 crore, Utilisation Certificates (UCs) for ₹85.23 crore only were received. Hence, in the absence of UCs audit could not ensure the actual expenditure. The delay in completing the classrooms that were initiated between 2018 to 2020, resulted in non-availability of

⁶ Government of Odisha School & Mass Education Department Report No.5 of 2025

classrooms. This would adversely affect the learning environment and impact the overall educational experience and academic progress of the children.⁷

Due to Non-utilisation of available funds - Due to the non-utilisation of available funds, the development of school infrastructure has been significantly affected in many regions. Although funds are allocated and sanctioned for the construction and improvement of educational facilities, ineffective financial management and administrative delays often prevent their proper utilisation. The underutilisation of funds leads to delays in project implementation, poor learning environments, and non-compliance with the norms prescribed under the Right to Education (RTE) Act. Reports of the Comptroller and Auditor General of India have highlighted that a substantial portion of sanctioned funds for school infrastructure remained unspent, reflecting weak planning, insufficient monitoring, and lack of coordination among implementing agencies. Therefore, effective utilisation of allocated funds is essential for ensuring timely and quality infrastructure development in schools. In recent report of that The Parliamentary Standing Committee expressed concern regarding the low utilisation of funds allocated for school education, observing that only nearly half of the sanctioned amount had been utilised. The Committee identified implementation delays and administrative inefficiencies as major obstacles affecting the effective utilisation of educational resources across various states. According to the report, out of the ₹12,500 crore allocated under major school education schemes, only ₹6,639.22 crore had been spent as of February 2026.⁸

Credibility of reports - (Discrepancies in UDISE+ data) - CAG audits has sometimes found discrepancies in UDISE data, Schools reporting facilities that don't exist in reality. This raises questions about whether UDISE reflects ground reality or self-reported data biased. The UDISE+ data is used by the State for infrastructure planning. The State Advisory Council constituted for implementation of the RTE had suggested (November 2016) sample-checking by the State Project Director, OSEPA⁹ to ensure the authenticity and reliability of UDISE+ data being uploaded by the schools. Audit noticed huge disparities between the status of infrastructure as shown in the UDISE+ data (2022-23) and the physical status of infrastructure, observed, in 83 (87 per cent) out of 95 sampled schools.

The recent report of the WHO/UNICEF joint monitoring programme for water supply, sanitation and hygiene stated between 2018 and 2026, the number of countries with estimates for basic hygiene increased by two thirds, but since the 2024 update, population coverage has decreased from 62% to 40%. This is primarily due to the lack of recent national data for India, which means the JMP (Joint Monitoring Programme) can only produce estimates for basic hygiene services in India up to the year 2024.¹⁰ It is shows that there was lack of report.

Maintenance Gaps - One of the biggest challenges faced by the government is improving school infrastructure, particularly maintenance gap. Many schools have basic facilities, such as toilets, school, building, ramps, and other essential amenities. However, providing these facilities is not enough. The government must also ensure that they are properly maintained. Although substantial amounts of money has been invested to reduce the maintaining gaps. Recently the audit conducted by the Cockroach Janata Party under the School thik Karo campaign identified several infrastructure and maintenance problems at Mumbai Public School in Colaba that audit stated just 25 benches for a classroom of 70 students, garbage-strewn classrooms lying unused and toilets in an unsanitary condition.¹¹

Corruption - Corruption remains one of the major obstacles to the successful implementation of infrastructure projects in school. Several cases have demonstrated how financial irregularities, bribery,

⁷ Report of the Comptroller and Auditor General of India on Functioning of Primary Educational Institutions in Karnataka, 2024

⁸ The 376th Report of the Parliamentary Standing Committee Report, chaired by Digvijaya Singh, M.P., Rajya Sabha, was presented to both the Houses of Parliament on 25th March, 2026.

⁹ Odisha School Education Programme Authority

¹⁰ World Health Organization (WHO) and United Nations Children's Fund (UNICEF), Progress on Drinking Water, Sanitation and Hygiene, 2026, p. 3.

¹¹ The Times of India, '25 Benches for 70 Students, Dirty Toilets, Broken Taps: CJP Audit Flags Mumbai Civic School Gaps', 19 August 2026, available at: https://timesofindia.indiatimes.com/city/mumbai/25-benches-for-70-students-dirty-toilets-broken-taps-cjp-audit-flags-mumbai-civic-school-gaps/amp_articleshow/133354194.cms

inflated contracts, and misuse of public funds can undermine project efficiency. For example, the alleged ₹2,000-crore Delhi classroom construction corruption case highlighted concerns regarding cost escalation, lack of transparency, and weak accountability in public infrastructure development. These examples indicate that corruption not only affects economic growth but also limits equitable access to essential public services. Therefore, strengthening transparency, institutional oversight, and anti-corruption measures is essential for improving infrastructure governance and ensuring sustainable development.

RECOMMENDATION

Implementation and Monitoring: The existing monitoring committee such as School Management Committee (SMC) and School Building Committee under Samagra Shiksha have not been effective. Therefore, the effective monitoring committee should be established to supervise and monitor the implementation and monitoring the proper maintenance in each school and take immediate action for any complaint received regarding infrastructure discrepancies and also supervisory measures should be ensured to ensure the accountability and transparency in the implementation measures.

Special project for CWSN: Government should be construction of ramps, provision of disabled-friendly toilets etc., for children with physical disabilities. Environment building has been constructed appropriate to students with visual impairment, hearing impairment, intellectual and mental disorders, specific learning disabilities, and physical/motor disabilities etc., The State have to undertake 10 years projection on the need of providing adequate resources in all schools, including infrastructure and other resources for children with disabilities, through efficient sharing of available school resources.

Maintenance of Existing Infrastructure - Merely constructing infrastructure is insufficient unless proper maintenance is ensured. Separate maintenance should be grants and it is effectively utilised for repair and upkeep of classrooms, toilets, drinking water facilities, and digital infrastructure.

RESULTS AND DISCUSSIONS

Progress in School Infrastructure

Source: Calculation based on the UDISE+ data

Facility	Initial year and % (2014-15)	Final year and % (2024-25)	Improvement (percentage points)	Relative growth
Drinking water	95.30%(2014-15)	99.30%(2024-25)	+4.00	4.20%
Boy Toilets	85.66%(2014-15)	96.20%(2024-25)	+10.54	12.31%
Girls Toilets	84.60%(2014-15)	97.30%(2024-25)	+12.70	15.01%
CWSN friendly toilets (all Schools)	23.08%(2014-15)	35.60%(2024-25)	+12.52	54.25%
Electricity	86.90% (2020-21)	93.60%(2024-25)	+6.70	7.71%
Hand washing facility	91.99% (2020-21)	95.90%(2024-25)	+3.91	4.25%

Table 1 shows that progress made in the provision of basic infrastructure and facilities in Government schools. However, government has not yet achieved 100% coverage in the provision of basic infrastructure and facilities in schools. It is indicated that universal access to adequate school infrastructure has not yet been achieved. The recent report of progress on drinking water, sanitation and hygiene by world Health organisation and UNICEF has reported 50 million of student has no sanitation service at their schools. It is

clearly showed that the lack of progress and not achieved the 100% access of education. CAG audits has also sometimes found discrepancies in UDISE data, Schools reporting facilities that don't exist in reality

Table 2 shows that Initial value of the CWSN-Friendly toilets in Government Schools (2020–21) is 24.83% and Final value (2024–25) is 34.60%. The result is that the reported availability of CWSN-friendly toilets in government schools increased by 9.77 percentage points, equivalent to a relative increase of approximately 39.35% between 2020–21 and 2024–25. However, only 34.6% of government schools reported this facility in 2024–25, indicating that substantial accessibility gaps remain.

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