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Adapted Physical Education in India and the Paralympic Paradox: A Rights-Based Approach toward Inclusivity under the National Education Policy 2020

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Abstract
Children with special needs (CWSN) remain among the most educationally marginalized groups in India despite decades of policy reform. This study undertakes a descriptive-analytical, document-based examination of Adapted Physical Education (APE) in India as a mechanism for realizing the equitable and inclusive education vision articulated in the National Education Policy 2020 (NEP-2020) and its associated National Guidelines and Implementation Framework on Equitable and Inclusive Education. Drawing on secondary quantitative indicators from the Census of India (2011) and UDISE+ (2021-2022), together with the constitutional, international, and statutory legal framework governing disability and education in India, the study quantifies the scale of educational exclusion facing children with disabilities (disability prevalence = 2.2% nationally; gross enrolment ratio declining from 103.39% at the primary level to 57.56% at the higher secondary level; functional toilets available for students with disabilities in only 25.7% of schools; access ramps with handrails in only 49.72% of schools) and situates APE within this landscape as an under-resourced but policy–mandated instructional domain. The study further synthesizes the conceptual foundations of APE and inclusive physical education, the principles of adaptation, workforce roles, and disability-specific pedagogical strategies, and identifies four recurrent implementation barriers–infrastructure and accessibility, educator awareness and training, funding, and cultural attitudes. The findings indicate a persistent gap between NEP-2020's rights-based policy architecture and ground-level APE implementation capacity, and the study concludes with policy and practice recommendations for narrowing this gap, including standardized data collection, mandatory APE competencies in teacher education, and cross-sectoral implementation committees.

Keywords: Adapted Physical Education; Inclusive education; Right to education; NEP-2020; Children with special needs; Disability policy; Global citizenship.

1. Introduction

The right to education is affirmed as a universal human right under Article 26 of the 1948 Universal De-

claration of Human Rights, and Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) specifically obligates ratifying states to develop inclusive education systems that realize this right for persons with disabilities (United Nations, 1948, 2006). India ratified the UNCRPD in 2007 and has subsequently enacted a body of domestic legislation – including the Right of Children to Free and Compulsory Education Act (2009) and the Rights of Persons with Disabilities Act (2016) – intended to operationalize this obligation (Government of India, 2009, 2016). Despite this legal architecture, children with special needs (CWSN) remain disproportionately excluded from full participation in Indian schooling relative to their non-disabled peers (Grimes et al., 2021).

Adapted Physical Education (APE), the individualized, needs-based design, implementation, and monitoring of physical education instruction for learners with disabilities, generally serving students aged three to twenty-one years is one domain in which this exclusion is especially pronounced (Nanjundaiah, 2016). APE is intended to furnish learners with disabilities the motor, fitness, and lifetime-recreation skills afforded to their peers through general physical education, adapted to individual capacity through a comprehensive assessment-based instructional process. Awareness of APE, however, remains minimal in India relative to general inclusive education initiatives, notwithstanding its documented potential to improve confidence, physical independence, and social integration among CWSN (Chennapragada, 2021).

The National Education Policy 2020 (NEP-2020) articulates an explicit vision of *"equitable and inclusive education"* intended to ensure that all learners, regardless of social or economic background, can thrive within a single, unified school system (Government of India, 2020). This vision is elaborated through the National Guidelines and Implementation Framework on Equitable and Inclusive Education (NGIFEIE), which extends across government, private, and alternative schooling systems and situates children with disabilities among the Socio-Economically Disadvantaged Groups (SEDGs) whose needs the policy is designed to address. The present study examines the extent to which this rights-based policy architecture translates into implementation capacity for APE specifically, using secondary national statistical indicators to quantify the scale of the gap between policy intent and ground-level provision.

2. Objectives

1. To examine the constitutional, international, and statutory legal framework governing disability-inclusive education in India.
2. To quantify, using secondary national data, the scale of educational exclusion and infrastructural deficit facing children with disabilities in India.
3. To synthesize the conceptual and pedagogical foundations of Adapted Physical Education and inclusive physical education as applied within the Indian schooling context.
4. To identify the principal implementation barriers to APE under NEP-2020 and to propose corresponding policy recommendations.

3. Methodology

This study adopts a descriptive-analytical, document-based research design combining doctrinal legal-policy analysis with descriptive statistical synthesis of secondary quantitative data. Primary sources comprised NEP-2020 and the NGIFEIE, the UNCRPD (2006), the Right of Children to Free and Compulsory Education Act (2009), and the Rights of Persons with Disabilities Act (2016). Secondary

quantitative indicators were drawn from the Census of India (2011) for disability prevalence, and from UDISE+ (2021-2022), India's national administrative school data system maintained by the Department of School Education and Literacy, Ministry of Education, for enrolment, gross enrolment ratio (GER), and school infrastructure accessibility indicators. Paralympic participation data were drawn from official Paralympic Games records. Data were tabulated and visualized descriptively (means, percentages, and ratios as reported in source data); no inferential statistical testing was performed, consistent with the descriptive-analytical nature of the secondary indicators available.

4. Legal and Policy Framework

India's disability-inclusive education framework rests on overlapping international and domestic instruments. Internationally, India ratified the Convention on the Rights of the Child in 1992 and the UNCRPD in 2007, though it has not ratified the UNCRPD's Optional Protocol. Domestically, this international commitment has been progressively codified through the Rehabilitation Council of India Act (1992), the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act (1999), the National Policy for Persons with Disabilities (2006), the Right of Children to Free and Compulsory Education Act (2009), the National Policy for Children (2013), the Rights of Persons with Disabilities Act (2016), the *Samagra Shiksha* integrated scheme (2018), and NEP-2020 (Government of India, 2020; Grimes et al., 2021). Table 1 summarizes this legal and policy timeline.

Table 1

Timeline of International and Domestic Legal Instruments on Disability and Education in India

Instrument	Type	Year
Convention on the Rights of the Child	International (ratified)	1992
Rehabilitation Council of India Act	Domestic law	1992
National Trust Act (Autism, CP, MR & MD)	Domestic law	1999
National Charter for Children	Domestic policy	2003
National Policy for Persons with Disabilities	Domestic policy	2006
UN Convention on the Rights of Persons with Disabilities	International (ratified)	2007
Right of Children to Free and Compulsory Education Act	Domestic law	2009
National Policy for Children	Domestic policy	2013
Rights of Persons with Disabilities Act	Domestic law	2016
Samagra Shiksha Scheme	Domestic scheme	2018
National Education Policy	Domestic policy	2020

Note. Adapted from Grimes et al. (2021), Disability-Inclusive Education Practices in India (UNICEF Regional Office for South Asia).

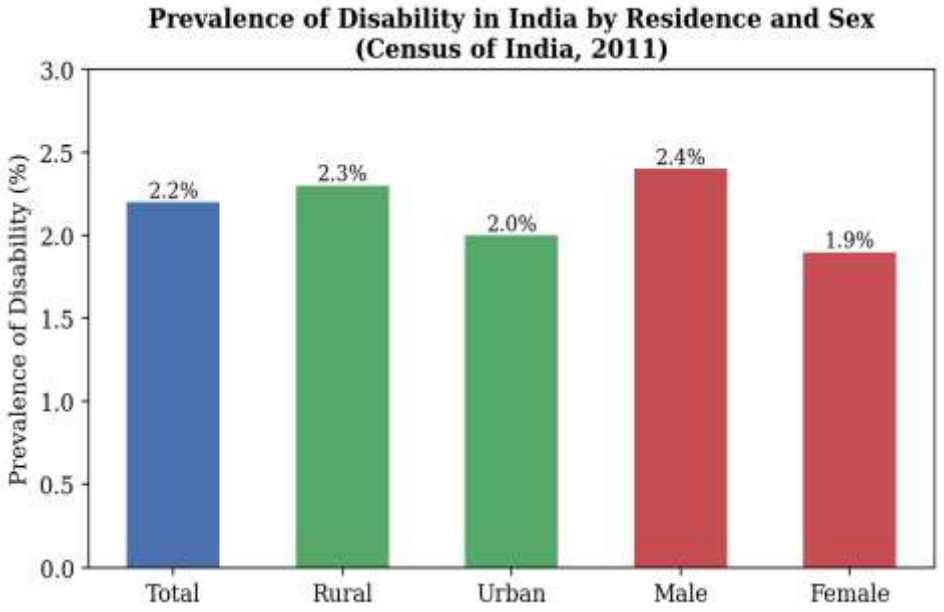
5. Quantifying Educational Exclusion: Secondary National Data

5.1. Disability Prevalence

According to the Census of India (2011), the national prevalence of disability was 2.2%, with a higher prevalence in rural areas (2.3%) than urban areas (2.0%), and a higher prevalence among males (2.4%) than females (1.9%). Persons with movement (physical) disabilities constituted the largest disability sub-group nationally (Census of India, 2011).

Figure 1

Prevalence of Disability in India by Residence and Sex (Census of India, 2011)

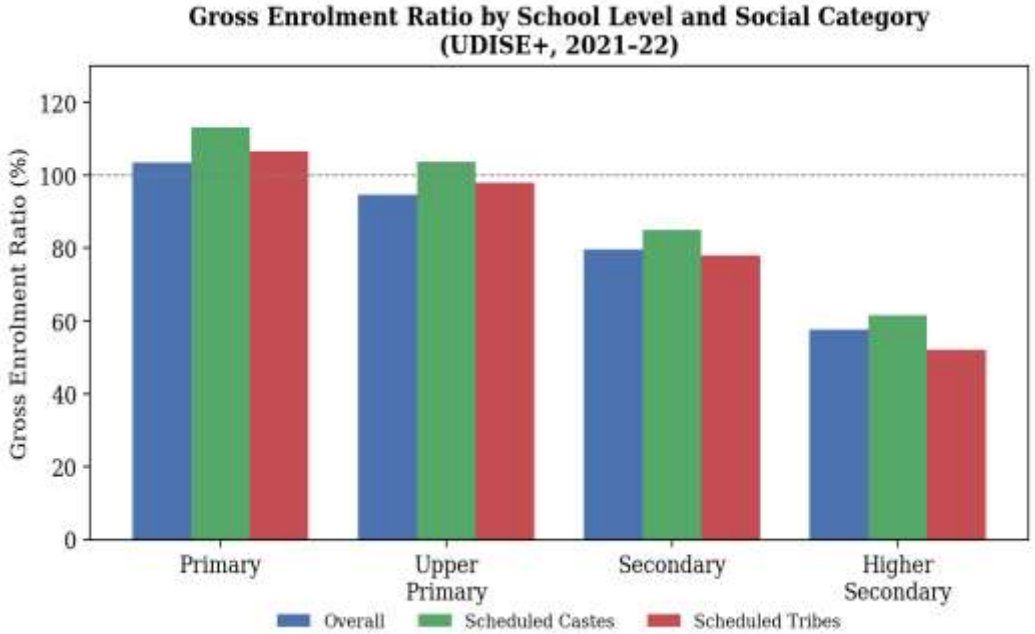


5.2. Enrolment and Attrition

UDISE+ (2021-2022) recorded approximately 26.52 crore children enrolled from pre-primary to higher secondary level nationally, of whom 22.67 lakh were students with disabilities (SwDs). The gross enrolment ratio (GER) declined sharply across school levels for the overall student population – from 103.39% at the primary level to 94.67% at upper primary, 79.56% at secondary, and 57.56% at higher secondary – with a similar, and in most cases steeper, decline evident among Scheduled Caste (SC) and Scheduled Tribe (ST) students (Ministry of Education, 2022). Figure 2 presents this trend.

Figure 2

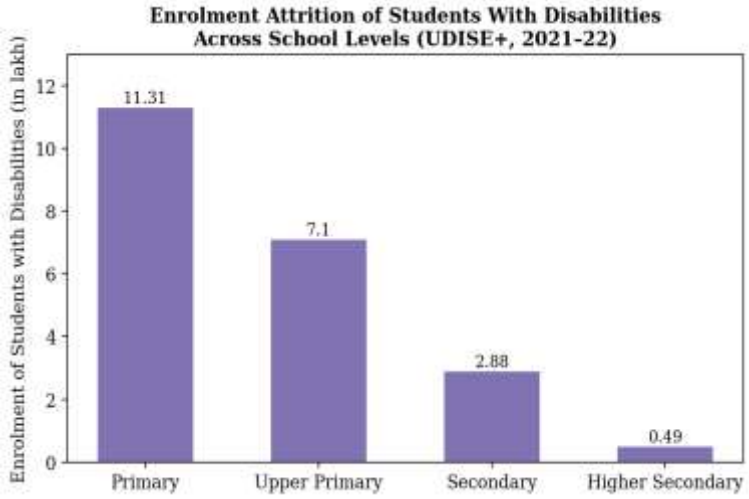
Gross Enrolment Ratio by School Level and Social Category (UDISE+, 2021-2022)



This attrition is markedly more severe among students with disabilities specifically; UDISE+ (2021-2022) recorded 11.31 lakh SwDs enrolled at the primary level, falling to 7.10 lakh at upper primary, 2.88 lakh at secondary, and just 0.49 lakh at higher secondary – a decline of roughly 96% between the primary and higher secondary levels (Ministry of Education, 2022). Figure 3 illustrates this attrition.

Figure 3

Enrolment Attrition of Students with Disabilities across School Levels (UDISE+, 2021-2022)

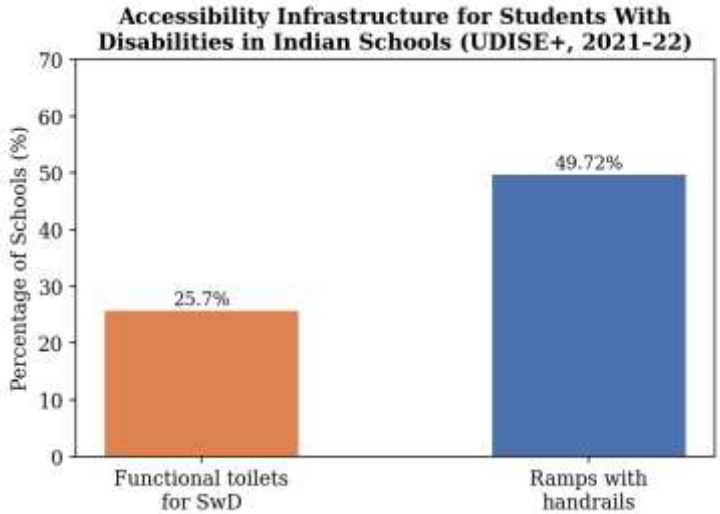


5.3. Infrastructure and Accessibility

UDISE+ (2021-2022) data further indicate substantial infrastructural deficits directly relevant to APE provision: functional toilets accessible to SwDs were available in only 25.7% of schools nationally, and ramps with handrails – a baseline requirement for physical education space accessibility – were available in only 49.72% of schools (Ministry of Education, 2022). These figures suggest that fewer than half, and in the case of sanitation facilities barely a quarter, of Indian schools meet baseline physical accessibility standards, independent of any APE-specific equipment or trained personnel.

Figure 4

Accessibility Infrastructure for Students with Disabilities in Indian Schools (UDISE+, 2021-2022)

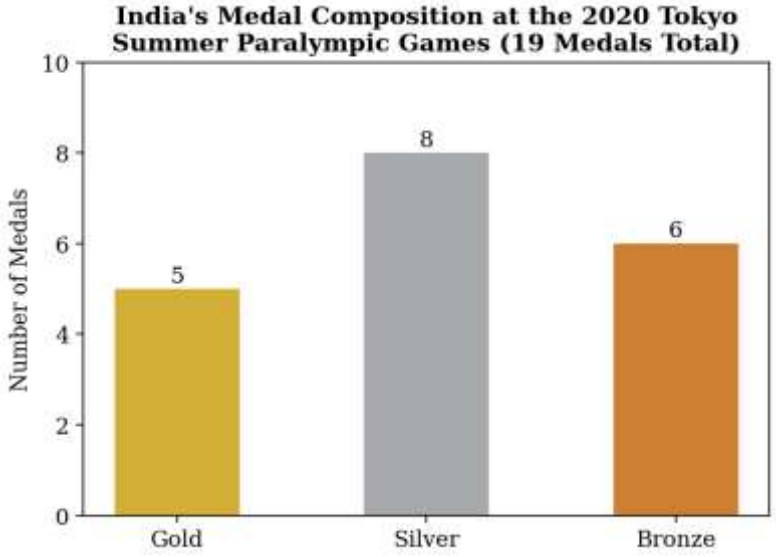


5.4. Elite Disability Sport as a Counter-Indicator

Notwithstanding this school-level exclusion, India has achieved measurable success in elite disability sport, participating in every Summer Paralympic Games since 1984 following its 1968 debut, and recording its best-ever performance at the 2020 Tokyo Games with 19 medals (5 gold, 8 silver, 6 bronze), placing 24th in the overall medal table (International Paralympic Committee, n.d.). This achievement, illustrated in Figure 5, underscores a structural paradox: elite Paralympic success has developed in the relative absence of the systemic, school-level APE infrastructure that would be expected to feed a broader athlete pipeline, suggesting that India's Paralympic performance to date has been achieved despite, rather than because of, school-based APE provision.

Figure 5

India's Medal Composition at the 2020 Tokyo Summer Paralympic Games



6. Conceptual and Pedagogical Foundations of APE

6.1. Defining APE and Inclusive Physical Education

APE is an individualized program of physical education instruction created for students with disabilities, in which *"adapt"* denotes adjusting or fitting instructional modification to student need (Nanjundaiah, 2016). As a sub-discipline of physical education, APE retains the same developmental and remedial components as general physical education while requiring assessment and instruction by personnel qualified to gather assessment data and deliver individualized instruction. *"Inclusive Physical Education,"* by contrast, denotes a program in which students with and without disabilities is educated together, with modification or adaptation applied as needed so that students with disabilities learn the same core concepts, skills, and content as their peers within a shared instructional environment (Singal, 2016).

The documented benefits of APE include promotion of an active lifestyle, development of motor skills necessary for peer participation in sport, enhancement of self-esteem and self-image, increased physical independence and self-help capacity, reduction of health-related complications, and development of motor competencies that support participation alongside typically developing peers.

6.2. Principles of Adaptation

Effective APE practice is guided by five recurrent principles: (a) adapt only when necessary, since many individuals with disabilities require minimal additional accommodation; (b) adapt on an individual basis, ensuring modifications are relevant to the specific participant; (c) treat adaptations as transitional rather than permanent, pending skill development; (d) adapt for congruence, so that modifications make sense both to the participant and to observers; and (e) adapt for availability, recognizing that equipment or support available in one setting may not be replicable in another.

6.3. Workforce Roles in Inclusive Physical Education

Effective APE delivery depends on a multidisciplinary workforce: school counsellors coordinating academic, personal, and social support; occupational therapists modifying tasks and environments to promote participation and independence; physical education teachers delivering instruction and building social and collaborative skills; physiotherapists supporting posture, breathing, and prevention of secondary deformity; speech therapists addressing communication needs, including for students with autism spectrum disorder or hearing impairment; and special education teachers supporting instruction in both dedicated and inclusive classroom settings.

6.4. Instructional Formats and Disability-Specific Strategies

APE settings commonly employ seven instructional formats: one-to-one instruction, small-group instruction (3-10 students), large-group instruction, mixed-format instruction, peer teaching, rotating teaching stations, and self-paced independent work. Instructional strategy is further differentiated by disability type. For students with intellectual disabilities, effective practice favors shorter sentences, gestural and demonstrative instruction over verbal instruction, brief activities suited to shorter attention spans, and a reduced number of curricular objectives. For students with attention-deficit/hyperactivity disorder, reinforcement through structured reward systems supports engagement given documented motor delays. For students with autism spectrum disorder, gradual, low-anxiety introduction to the physical education setting and peer-tutor support are recommended. For students with hearing impairment, instruction should employ the student's preferred communication mode, visual aids, and confirmation of comprehension through repetition. For students with visual impairment, extended time for environmental orientation and patient, repeated instruction support skill mastery and full sport participation.

7. Implementation Barriers

Synthesizing the policy and infrastructural evidence above, four recurrent barriers constrain APE implementation in Indian schools. Table 2 summarizes these barriers alongside the corresponding mitigation strategies reported in the literature.

Table 2

Implementation Barriers to Adapted Physical Education in India and Corresponding Mitigation Strategies

Barrier	Description	Mitigation Strategy
Infrastructure and accessibility	Lack of accessible sports fields, indoor spaces, and specialized equipment	Partnerships with NGOs and private enterprises to access resources and equipment
Educator awareness	Limited pre-service and in-service training	Structured professional

and training	of teachers and coaches in adaptive sport	development, workshops, and exchange programs
Funding and resources	Additional costs of equipment, training, and facility adjustment	Cross-sectoral funding partnerships and targeted scheme allocation
Cultural and social attitudes	Stereotypes and negative perceptions of disability constraining acceptance	Community awareness campaigns involving parents, students, and local leaders

8. Discussion

The secondary data synthesized in this study indicate a substantial gap between NEP-2020's rights-based policy commitments and the ground-level conditions necessary for APE implementation. Although NEP-2020 and the NGIFEIE articulate a comprehensive vision of equitable and inclusive education extending to physical education specifically, UDISE+ (2021-2022) data show that fewer than half of Indian schools have basic physical accessibility infrastructure such as handrail ramps, and roughly three-quarters lack functional toilets accessible to SwDs – conditions that would constrain not only classroom inclusion but specifically the delivery of any physical activity or sport-based instruction requiring mobility and hygiene infrastructure. The steep attrition in SwD enrolment across school levels – a roughly 96% decline in enrolment between the primary and higher secondary levels – further suggests that whatever APE or inclusive physical education provision exists at the primary level is reaching a rapidly diminishing population of students with disabilities as they progress through the schooling system, consistent with broader findings that inclusive education implementation in India weakens at higher educational stages (Singal, 2019).

At the same time, India's Paralympic achievements – particularly its record 19-medal performance at the Tokyo 2020 Games – demonstrate that elite disability sport talent exists and can be developed within the Indian system, even though this development has evidently occurred largely outside, rather than through, systemic school-based APE pathways. This pattern is consistent with observations that inclusive education policy in India has tended to outpace implementation capacity, with pre-service and in-service teacher training remaining a persistent gap (Kaushik, 2016; Sarkar, 2020). Addressing this gap would require, at minimum, the four categories of intervention identified in Table 2: infrastructural investment, mandatory educator training in adaptive sport, dedicated funding streams, and sustained community engagement to shift attitudinal barriers – each of which NEP-2020 and the NGIFEIE frame as policy priorities but do not yet operationalize with disability- or APE-specific targets, timelines, or budget lines.

9. Limitations

This study is limited by its reliance on secondary, publicly reported national statistics, which are subject to the data-quality and reporting limitations inherent in large-scale administrative systems such as UDISE+, and which do not permit disaggregation of APE-specific (as opposed to general inclusive education) infrastructure or personnel availability. The absence of primary survey or interview data from APE practitioners, students, or parents in India limits the study's capacity to characterize lived implementation experience, and is identified as a priority for future primary research.

10. Recommendations

Adopt standardized national criteria for APE-specific data collection, disaggregated from general inclusive education indicators, within UDISE+ and related administrative systems. To review and align existing disability and education legislation to explicitly reference physical education and sport participation as a component of the right to inclusive education. Establish a cross-sectoral committee, spanning education, health, and social welfare ministries, to coordinate APE implementation under the Samagra Shiksha Scheme. Embed APE-specific knowledge, skills, and attitudes within national professional standards for physical education teachers. Review pre-service and in-service physical education teacher training curricula to mandate APE competency. Develop a dedicated professional development strategy and career pathway for APE specialists. Establish clear transition mechanisms and continuity of APE provision across primary, secondary, and higher secondary levels to counter the attrition documented in Figure 3. Integrate APE-specific accessibility standards (equipment, playing surfaces, and sanitation) into school infrastructure quality standards and monitoring frameworks. Finally, to commission primary research on APE practitioner knowledge, attitudes, and implementation experience across Indian states.

11. Conclusion

Adapted Physical Education occupies a rights-based, policy-endorsed position within India's NEP-2020 vision of equitable and inclusive education, yet the secondary national data examined in this study indicate that school-level infrastructure, enrolment retention, and, by extension, APE implementation capacity remain substantially short of that vision. Realizing NEP-2020's aim of an education system with equitable access to the highest-quality education for all learners by 2040 will require APE-specific data collection, dedicated teacher training, targeted infrastructural investment, and sustained cross-sectoral coordination. Absent such measures, children with special needs in India will likely continue to experience physical education, and the broader benefits of sport and physical activity participation, as a right guaranteed in policy but inconsistently realized in practice.

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