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Bridging The Digital Divide for Divyangjan: A Legal, Policy, and Conceptual Analysis of Accessible Information Provision in Indian Braille Libraries

Statutory Harmonization, Copyright Exceptions, and Empirical Policy-to-Practice Compliance in Gujarat State

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Abstract

Equitable access to information is universally recognized as a foundational human right and an indispensable prerequisite for inclusive socio-economic development, higher education, and democratic participation. In India, home to 26.81 million persons with disabilities according to the 2011 Census and an estimated 2.2% population prevalence in the 76th Round of the National Sample Survey (2018), individuals with visual and print impairments—administratively designated as Divyangjan since 2015—have historically confronted systemic structural, legal, and technological barriers in accessing published knowledge. This research paper presents a comprehensive legal, policy, and conceptual analysis of accessible information provision within Indian Braille libraries, contextualized through empirical policy-compliance indicators from 14 specialized Braille libraries in Gujarat State. First, the study traces the theoretical evolution of disability from deficit-oriented charity and medical paradigms to the social model, the World Health Organization's (2011) International Classification of Functioning, Disability and Health (ICF) biopsychosocial framework, and contemporary human rights jurisprudence. Second, it critically interrogates the 2015 administrative shift from 'Viklang' (disabled) to 'Divyangjan' (persons with divine abilities), weighing its cultural intentions of destigmatization against disability rights critiques regarding the potential depoliticization of statutory entitlements. Third, the paper conducts a doctrinal comparative analysis of India's legislative trajectory—spanning the Rehabilitation Council of India Act (1992), the Persons with Disabilities Act (1995), the National

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Trust Act (1999), the Copyright (Amendment) Act (2012) Section 52(1)(zb), the landmark Rights of Persons with Disabilities (RPWD) Act (2016) (Sections 16, 17, 40, and 42), and the National Education Policy (NEP) 2020—alongside binding international covenants including the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2006) and the WIPO Marrakesh Treaty (2013). Finally, juxtaposing these statutory mandates against empirical baseline indicators from Gujarat's Braille library network reveals a stark policy-to-practice chasm: while 100% of surveyed libraries fulfill traditional tactile Braille mandates, only 35.7% provide screen-reading software and merely 14.3% maintain logically structured, accessible web portals. The paper concludes with a legally enforceable, six-point statutory compliance roadmap for Indian library authorities.

Keywords: *Divyangjan, Braille Libraries, Rights of Persons with Disabilities Act 2016, Marrakesh Treaty, Copyright Section 52(1)(zb), UNCRPD, National Education Policy 2020, Digital Accessibility, Information Equity.*

1. Introduction and Theoretical Conceptualization of Disability

1.1 Information Equity as a Fundamental Human Right

In every democratic civilization, unimpeded access to recorded knowledge serves as the bedrock of intellectual autonomy, educational mobility, and civic empowerment. As Todaro (2005) observed in her foundational investigation of Latin American library systems, societies that restrict information access to a sighted or physically privileged elite inadvertently perpetuate cycles of socio-economic marginalization, institutional intolerance, and structural inequality. Within the broader ecology of public and academic knowledge institutions, libraries and information centers bear the primary institutional responsibility for democratizing information access across spatial, economic, and sensory boundaries (Irvall & Nielsen, 2005). With the rapid proliferation of Information and Communication Technologies (ICT), electronic publishing, and networked digital repositories over the past two decades, the theoretical potential to eliminate the 'book famine' experienced by print-disabled populations has never been greater (Kerscher, 2001; World Intellectual Property Organization [WIPO], 2013).

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Yet the mere existence of digital technologies does not automatically guarantee digital inclusion. As Gautam and Sharma (2023) and Bhardwaj and Kumar (2017) demonstrate in the Indian context, poorly designed digital interfaces, unstandardized optical character recognition (OCR) workflows, restrictive digital rights management (DRM) locks, and the absence of native screen-reader compatibility frequently erect a secondary digital divide that is just as exclusionary as traditional ink-print media.Globally, the World Health Organization (WHO, 2011) estimated in its landmark World Report on Disability that over one billion people—roughly 15% of the global population—live with some form of disability. More recently, the World Report on Vision (WHO, 2019) documented that at least 2.2 billion individuals worldwide experience near or distant vision impairment, of whom nearly half reside in low- and middle-income nations where assistive technologies and accessible library infrastructures remain severely underfunded.

In the Indian demographic context, the 2011 Decennial Census enumerated 26,810,557 (2.68 crore) persons with disabilities, representing 2.21% of the national population (Census of India, 2011). Among this population, visual impairment ('in seeing') constituted one of the largest single disability categories, accounting for 5,032,463 individuals (18.77% of all persons with disabilities nationwide). Within the western industrial and cultural state of Gujarat, the 2011 Census recorded 1,092,302 (10.92 lakh) persons with disabilities, including 214,150 individuals with visual impairments (19.61% of the state's disabled populace). Subsequent data from the 76th Round of the National Sample Survey (NSS Report No. 583, July–December 2018) conducted by the Ministry of Statistics and Programme Implementation (MoSPI, 2019) further underscored the educational vulnerability of this demographic: among persons with disabilities aged 7 years and above in India, only 52.2% were literate compared tonearly 77.7% of the general population, and barely 19.3% of persons with severe visual impairments had completed secondary education or higher. Addressing this stark educational and informational disparity requires an integrated understanding of how theoretical models of disability shape national legislation, copyright exceptions, and institutional library practices.

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1.2 Evolution of Theoretical Models of Disability

The manner in which public institutions, legislators, and library professionals conceptualize disability directly governs how resources are allocated and how services are engineered (Oliver, 2009; Shakespeare, 2013). Historically, institutional responses to visual and sensory impairments evolved across four distinct theoretical paradigms, each carrying profound implications for Braille and talking book libraries:

- **The Charity and Moral/Religious Model:** Predominant in pre-modern and colonial welfare frameworks, the charity model framed sensory or physical impairment either as a karmic/spiritual affliction or as a tragic personal misfortune requiring philanthropic benevolence, custodial asylum care, and moral sympathy. Within this paradigm, Braille reading rooms were conceived not as statutory entitlements for autonomous scholars, but as charitable shelters dependent on voluntary alms and philanthropic trusts (Advani & Jain, 1994).
- **The Medical (Individual Deficit) Model:** Emerging alongside 19th- and 20th-century clinical ophthalmology and rehabilitation medicine, the medical model located the 'problem' of disability exclusively within the biological or physiological deficit of the individual patient. Under this clinical lens, visual impairment—defined ophthalmologically by visual acuity thresholds such as 6/60 or 20/200 Snellen ratios or visual field contractions under 20 degrees—demanded surgical correction, optical prosthetics, or specialized clinical rehabilitation so the individual could approximate sighted norms. While essential for clinical healthcare, the medical model treated library inaccessibility as an inevitable consequence of the patron's blindness rather than a design failure of the information system (Oliver, 2009).
- **The Social Model of Disability:** Articulated by disability rights scholars in the late 20th century (Oliver, 2009; Venter et al., 2002), the social model introduced a radical analytical distinction between physiological 'impairment' (the biological condition of the eye or optic nerve) and 'disability' (the socially constructed disadvantage, exclusion, and restriction of activity caused by contemporary social, architectural, and informational arrangements). Applied to library and information science, the social model posits that a visually impaired

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scholar is not disabled by blindness per se, but by a library ecosystem that stocks exclusively ink-print books, lacks tactile pathways, deploys unlabelled graphical OPAC interfaces, and fails to train library staff in assistive technologies (Saloojee, 2001; Barrier Break Technologies, 2013).

- **The WHO Biopsychosocial (ICF) and Human Rights-Based Models:** Synthesizing the valid insights of both clinical and structural perspectives, the World Health Organization's (2011) International Classification of Functioning, Disability and Health (ICF) established a biopsychosocial model wherein disability is understood as a dynamic, complex interaction between an individual's health condition, personal factors, and environmental facilitators or barriers. Building directly on this synthesis, the modern Rights-Based Model—codified internationally in the UNCRPD (United Nations, 2006)—transforms accessible information from a discretionary welfare service into a justiciable civil and human right. Under the rights-based framework, state and public library authorities are legally obligated to dismantle environmental barriers through Universal Design, reasonable accommodation, and affirmative digital accessibility standards.

Table 1

Comparative Theoretical Matrix of Disability Models and Their Operational Implications for Braille Libraries

Analytical Dimension	Charity / Philanthropic Model	Medical / Clinical Deficit Model	Social Model of Disability	Biopsychosocial & Rights-Based Model
Core Locus of Disability	Moral misfortune or spiritual destiny requiring societal pity and custodial care.	Anatomical, physiological, or ophthalmic pathology residing within the individual.	Systemic architectural, attitudinal, and informational barriers erected by society.	Dynamic interaction of health conditions with environmental barriers; denial of statutory rights.
Perception of the Visually	Passive beneficiary or ward of charitable trusts	Patient or rehabilitation client requiring clinical	Socially marginalized citizen excluded by print-centric	Autonomous rights-holder entitled to equitable digital

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Impaired Patron	and philanthropic donors.	intervention and special adjustment.	knowledge infrastructures.	and tactile information access.
Library Collection & Service Orientation	Donations of religious texts, basic recreational Braille, and volunteer oral reading.	Segregated special-school book corners focused on clinical/rehabilitative adaptation.	Removal of physical and format barriers; provision of Braille, audio, and large print.	Universal Design for Learning (UDL), WCAG-compliant OPACs, DAISY, and Marrakesh cross-border access.
Governance & Funding Mechanism	Voluntary charitable endowments, alms, and ad-hoc community donations.	Health and medical rehabilitation grants administered by clinical welfare boards.	Public infrastructure reform and anti-discrimination policy advocacy.	Statutory budget mandates (RPWD Act Sec. 42), constitutional guarantees, and enforceable audits.
Primary Institutional Limitation	Stigmatizes users; creates severe fiscal instability and geographic service gaps.	Blames the individual's sensory impairment for systemic failures in library design.	Can understate the diversity of compounding sensory/cognitive impairments.	Requires strong regulatory enforcement and professional LIS capacity to operationalize.

Note. Synthesized from Oliver (2009), World Health Organization (2011), Shakespeare (2013), and Chapter 4 of the Gujarat Braille Library study.

2. Sociolinguistic Discourse and the Terminological Shift to 'Divyangjan'

2.1 Administrative Genesis of the 'Divyangjan' Nomenclature (2015–Present)

Language exercises a profound constitutive power over public policy, institutional culture, and the lived dignity of marginalized populations. For decades following Indian independence, official administrative, census, and statutory documents employed the Hindi term 'Viklang' (literally translating to 'malformed limb' or 'defective organ') alongside English terms such as 'handicapped' or 'disabled'. Disability sociologists and psychologists long noted that deficit-laden nomenclature reinforced deep-seated cultural stereotypes of dependency, incapacity, and social inferiority, frequently discouraging families from enrolling visually impaired children in mainstream educational or library programs (Advani & Jain, 1994; Venugopal, 2015).

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On December 27, 2015, during the national radio broadcast Mann Ki Baat, the Prime Minister of India formally proposed replacing the derogatory and deficit-oriented word 'Viklang' with the Sanskrit-derived compound 'Divyang' (and its plural honorific 'Divyangjan'), translating to 'divine body' or 'persons possessing a divine organ/ability' (Press Information Bureau [PIB], 2015; Venugopal, 2015). Following this pronouncement, the Department of Empowerment of Persons with Disabilities (DEPwD) under the Ministry of Social Justice and Empowerment formally rebranded itself in Hindi as 'Divyangjan Sashaktikaran Vibhag', and national flagship initiatives—including the Accessible India Campaign (Sugamya Bharat Abhiyan) and the national online library Sugamya Pustakalaya—adopted 'Divyangjan' across all official circulars, institutional signage, and welfare schemes.

2.2 Critical Academic Evaluation: Cultural Destigmatization vs. Rights-Based Realism

Within Indian disability studies and library science discourse, the terminological transition to 'Divyangjan' has generated a nuanced scholarly debate that directly impacts how library services are framed and delivered. Proponents of the linguistic shift emphasize its socio-cultural resonance within the Indian ethos: by replacing a term of anatomical deficiency ('Viklang') with an honorific denoting dignity and latent capability, the state sought to combat grassroots social ostracism, sensitize public officials, and foster a welcoming, respectful atmosphere in schools and public reading rooms (Gautam & Sharma, 2023).

Conversely, disability rights scholars, legal theorists, and advocacy coalitions have raised substantive critiques grounded in the UNCRPD human rights framework (Shakespeare, 2013; Venugopal, 2015). Critics argue that sacralizing or romanticizing disability through spiritual metaphors of 'divinity' risks reverting to a benevolent charity or super-crip paradigm. Specifically, attributing 'extraordinary' or 'divine' compensatory powers to visually impaired individuals can inadvertently obscure the mundane, structural realities of their exclusion—such as the absence of wheelchair ramps, the lack of refreshable Braille displays, uncatalogued tactile collections, and non-compliant government websites. When an individual is viewed as possessing 'divine' adaptive powers, institutional authorities may feel less urgency to enforce strict statutory accommodations under the law. Consequently, while utilizing the official administrative designation 'Divyangjan'

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to maintain contextual alignment with Indian state policy, contemporary LIS scholarship must anchor its operational analysis firmly in internationally recognized, rights-based terminology—specifically 'persons with disabilities' and 'persons with print disabilities' as codified in the UNCRPD (2006) and the RPWD Act (2016).

3. Evolution of Statutory Disability Law and Library Mandates in India

3.1 Foundational Late-Twentieth-Century Legislation (1992–1999)

India's statutory architecture governing disability welfare and educational access crystallized during the final decade of the twentieth century through a triad of foundational parliamentary enactments, each addressing a distinct pillar of institutional rehabilitation and civil participation:

- **The Rehabilitation Council of India (RCI) Act, 1992 (Act No. 34 of 1992):** Constituted as a statutory body in 1993 and amended in 2000, the RCI Act standardized and regulated the training of rehabilitation professionals, special educators, Braille transcribers, and orientation-and-mobility instructors across India. By mandating uniform curricula and maintaining the Central Rehabilitation Register, the RCI Act established the human-resource foundation essential for staffing special schools and Braille libraries, though it notably omitted mandatory assistive technology certification for mainstream university and public librarians.
- **The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (Act No. 1 of 1996):** Enacted following India's adoption of the Proclamation on the Full Participation and Equality of People with Disabilities in the Asian and Pacific Region (Beijing, 1992), the 1995 PwD Act represented India's first comprehensive rights-oriented statute. It recognized seven categories of disability (blindness, low vision, leprosy-cured, hearing impairment, locomotor disability, mental retardation, and mental illness) and mandated free education up to age 18, a 3% reservation in government employment and educational admissions, and the creation of barrier-free built environments. However, because the 1995 Act was drafted prior to the internet and digital publishing revolution, it contained no statutory provisions regarding web accessibility, electronic information storage, screen-reader software, or digital library catalogs—and its

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implementation clauses were repeatedly weakened by the qualifier 'within the limits of the state's economic capacity and development' (Dutta, 2002).

- **The National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 (Act No. 44 of 1999):** Complementing the 1995 Act, the National Trust Act established legal guardianship, supported living frameworks, and institutional care for individuals with high-support cognitive and compounding multiple disabilities—a demographic that accounts for 2.15% of patrons in Gujarat's Braille libraries who experience concurrent visual, auditory, or speech impairments.

3.2 The Rights of Persons with Disabilities (RPWD) Act, 2016: Statutory Overhaul

To bring domestic law into full compliance with the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which India ratified in October 2007, Parliament enacted the Rights of Persons with Disabilities (RPWD) Act, 2016 (Act No. 49 of 2016, enforced from April 19, 2017), repealing the 1995 statute (Ministry of Law and Justice, 2016). The RPWD Act expanded the statutory schedule of recognized disabilities from 7 to 21 distinct conditions grouped across physical disabilities (locomotor, visual, hearing, speech/language), intellectual disabilities (including specific learning disabilities and autism spectrum disorder), mental behaviour, chronic neurological conditions, blood disorders, and multiple disabilities including deaf-blindness.

Crucially for Braille and talking book libraries, the Schedule to the RPWD Act (2016) codifies precise functional and clinical definitions for the two subcategories of visual impairment, which dictate the exact format combinations a library must stock:

- **Blindness:** Defined as a condition where a person has any of the following conditions, after best correction: (i) total absence of sight; or (ii) visual acuity less than 3/60 or less than 10/200 (Snellen) in the better eye with best possible correction; or (iii) limitation of the field of vision subtending an angle of less than 10 degrees. Patrons in this category rely primarily on tactile embossed Braille, refreshable Braille displays, DAISY audio-navigated talking books, and synthesized speech screen readers.
- **Low Vision:** Defined as a condition where a person has any of the following conditions: (i) visual acuity not exceeding 6/18 or less than 20/60 up to 3/60 or up to 10/200 (Snellen) in the

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better eye with best possible corrections; or (ii) limitation of the field of vision subtending an angle of less than 40 degrees up to 10 degrees. Patrons with low vision require large-print publications (18-point font or higher), high-contrast adjustable display software, screen magnifiers, and glare-free reading illumination.

Unlike the aspirational language of the 1995 Act, the RPWD Act (2016) imposes binding, time-bound statutory duties on educational institutions, public libraries, and information providers through five interconnected sections:

- **Section 16 (Duty of Educational Institutions to Provide Inclusive Education):** Mandates that all educational institutions funded or recognized by the government shall provide inclusive education to children with disabilities, Specifically, Section 16(iii) requires institutions to 'provide reasonable accommodation according to the individual's requirements', Section 16(iv) mandates 'necessary support individualized or otherwise in environments that maximize academic and social development', and Section 16(v) obligates institutions to 'ensure that the education to persons who are blind or deaf or both is imparted in the most appropriate languages and modes and means of communication'.
- **Section 17 (Specific Measures to Promote and Facilitate Inclusive Education):** Directs the government and local authorities to establish adequate numbers of resource centers (Section 17(e)), equip professionals with training in Braille, sign language, and assistive devices (Section 17(c)), and provide books, other learning materials, and appropriate assistive devices free of cost to students with benchmark disabilities up to the age of 18 years (Section 17(g)).
- **Section 40 (Accessibility Standards for Physical and Digital Environments):** Empowers the Central Government, in consultation with the Chief Commissioner for Persons with Disabilities, to formulate mandatory accessibility rules and standards across physical built environments, transportation, and Information and Communication Technologies (ICT), including public websites, digital catalogs, and institutional portals.
- **Section 42 (Access to Information and Communication Technology):** Serves as the cornerstone statutory mandate for modern digital libraries. Section 42(i) obligates the government to take measures to ensure that 'all contents available in audio, print and

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electronic media are in accessible format'; Section 42(ii) mandates that 'persons with disabilities have access to electronic media by providing audio description, sign language interpretation and close captioning'; and Section 42(iii) requires that 'electronic goods and equipment which are meant for everyday use are available in universal design'. Under Section 42, operating a public or academic library whose digital catalog or e-book repository is unreadable by screen readers constitutes a direct statutory violation.

- **Section 46 (Time Limit for Accessibility by Service Providers):** Mandated that all existing public and private service providers—explicitly encompassing educational and library services—achieve full compliance with accessibility standards notified under Section 40 within two years of notification, establishing a strict statutory compliance horizon that remains widely unfulfilled across regional libraries.

4. Copyright Exceptions, National Policy, and International Treaty Architecture

4.1 Overcoming the 'Book Famine': The Marrakesh Treaty (2013) and Section 52(1)(zb) of the Indian Copyright Act

For over a century, one of the most formidable barriers preventing Braille libraries from digitizing or embossing contemporary textbooks and scholarly monographs was intellectual property law. Because converting an ink-print book into embossed Braille, DAISY talking book, or screen-reader-compatible EPUB format technically involves reproducing and adapting the copyrighted work, libraries historically had to negotiate individual licenses with publishers—a slow, costly process that resulted in less than 7% of global published literature ever being made available in accessible formats (WIPO, 2013; Kerscher, 2006).

India emerged as a global pioneer in dismantling this copyright barrier. Even prior to international treaty adoption, Parliament enacted the Copyright (Amendment) Act, 2012 (Act No. 27 of 2012), inserting Section 52(1)(zb) into the Indian Copyright Act, 1957. Section 52(1)(zb) establishes a broad statutory fair-dealing exception, declaring that the adaptation, reproduction, issue of copies, or communication to the public of any work in any accessible format by any person to facilitate persons with disabilities to access works—including sharing with any person with a disability for private or personal use, educational purpose, or research—does not constitute

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copyright infringement, provided that such copies are made on a non-profit basis and incorporate reasonable safeguards against unauthorized commercial distribution.

On June 27, 2013, diplomatic delegates of the World Intellectual Property Organization adopted the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (WIPO, 2013). On June 24, 2014, India became the very first nation in the world to ratify the Marrakesh Treaty, which subsequently entered into international force on September 30, 2016. The Marrakesh Treaty accomplishes two transformative legal objectives for Braille libraries: first, it requires contracting nations to enact domestic copyright exceptions permitting 'Authorized Entities' (such as non-profit Braille libraries, universities, and government trusts) to produce and distribute accessible format copies without copyright holder permission; second, under Articles 5 and 6, it legalizes the cross-border import and export of accessible format files across national boundaries without duplicate transcription.

4.2 Operationalizing Copyright Exceptions: Sugamya Pustakalaya and Global Consortia

The legal synergy between Section 52(1)(zb) of the Copyright Act and the Marrakesh Treaty enabled the Ministry of Social Justice and Empowerment, in collaboration with the DAISY Forum of India (a network of over 100 Indian NGOs and Braille libraries) and Tata Consultancy Services (TCS), to launch Sugamya Pustakalaya on August 24, 2016 (DAISY Forum of India, 2017; WIPO, 2016). Operating as India's national cloud-based aggregator of accessible publications, Sugamya Pustakalaya unified the fragmented digital catalogs of Indian Braille presses (over 200,000 domestic titles in Gujarati, Hindi, English, and regional languages) and integrated them directly with international Marrakesh-enabled repositories—most notably Bookshare (Benetech, USA) and the WIPO Accessible Books Consortium (ABC) Global Book Service—providing registered Divyangjan patrons access to over 1 million accessible titles worldwide (Jadav, 2023). As documented in empirical user evaluations at C. N. Braille Library in Ahmedabad, while 100% of surveyed higher-education Divyangjan patrons were aware of Sugamya Pustakalaya and 72.5% utilized it intensively for competitive examination preparation, 67.5% still identified website navigation and screen-reader interface complexity as critical areas requiring redesign (Jadav, 2023).

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4.3 National Education Policy (NEP) 2020 and Universal Design for Learning (UDL)

Complementing the statutory mandates of the RPWD Act (2016), the National Education Policy (NEP) 2020 (Ministry of Education, 2020) embeds disability inclusion directly into the pedagogical and infrastructural architecture of Indian school and higher education (Chapters 6 and 14). NEP 2020 moves beyond reactive accommodation to mandate Universal Design for Learning (UDL) at the point of content creation. Specifically, Paragraph 6.11 of NEP 2020 stipulates that all textbooks, reference works, and digital learning repositories (such as DIKSHA and e-PG Pathshala) must be developed 'born-accessible' with integrated audio-descriptions, tactile graphics, large-print options, and Indian Sign Language (ISL) modules. Furthermore, NEP 2020 mandates that school complexes and higher education institutions establish dedicated Disability Resource Centers stocked with assistive hardware (refreshable Braille displays, DAISY players, screen readers) and staffed by special educators and trained library professionals.

Table 2

Comprehensive Matrix of National and International Legal Instruments Governing Accessible Library Provision in India

Legal / Policy Instrument	Enactment / Ratification Year	Key Statutory Articles / Sections	Binding Mandate for Braille & Academic Libraries	Enforcement Mechanism & Identified Bottleneck
UNCRPD (United Nations Convention on the Rights of Persons with Disabilities)	Adopted 2006; Ratified by India Oct 2007	Articles 9 (Accessibility), 21 (Access to Info), 24 (Education), 30 (Cultural Life)	Obligates state parties to provide information in Braille, audio, sign language, and accessible ICT formats at no additional cost.	Periodic UN Committee reporting; relies on domestic statutory incorporation for local enforcement.
Indian Copyright (Amendment) Act, 2012	Enacted June 2012 (Sec. 52(1)(zb))	Section 52(1)(zb) & Section 31B (Compulsory Licensing)	Exempts non-profit Braille libraries and educational institutions from copyright infringement when converting texts into accessible formats.	Eliminates publisher permission delays, but smaller rural trusts lack OCR/DAISY production studios to utilize the exception.

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WIPO Marrakesh VIP Treaty	Adopted June 2013; Ratified by India June 2014	Articles 4 (Domestic Exceptions), 5 & 6 (Cross-Border Exchange)	Permits Authorized Entities (libraries) to import/export accessible digital files (DAISY, EPUB3, BRF) globally via ABC and Bookshare.	Operationalized via Sugamya Pustakalaya; hindered by low internet connectivity (57.1%) and institutional registration barriers.
Rights of Persons with Disabilities (RPWD) Act, 2016	Enacted Dec 2016; Enforced April 2017	Sections 16, 17, 40, 42 (Accessible ICT/Media), and 46 (Time-bound compliance)	Mandates inclusive pedagogy, free assistive devices up to age 18, universal design, and conversion of all print/electronic media.	Enforced by Chief/State Commissioners for PwDs; undermined by stagnant annual state grants (Rs. 94k–200k) and lack of WCAG audits.
National Education Policy (NEP) 2020	Approved July 2020	Section 6 (Equitable & Inclusive Education) & Section 24 (Digital Technology)	Mandates Universal Design for Learning (UDL), born-accessible textbooks, assistive tech resource rooms, and educator/staff sensitization.	Advisory policy framework; LIS degree curricula have not yet mandated assistive technology coursework nationwide.
IFLA Checklist & Guidelines for Persons with Disabilities	2005 (Report No. 89) & 2014 (Dyslexia /Print)	Physical Access, Media Formats, Assistive Workstations, Staff Training, OPAC	Sets international professional benchmarks for barrier-free shelving, tactile pathways, DAISY playback, and WCAG-compliant OPACs.	Voluntary professional benchmark; requires formal adoption by state directorates of libraries.

Note. Compiled from United Nations (2006), WIPO (2013), Ministry of Law and Justice (2016), Ministry of Education (2020), and Irvall & Nielsen (2005).

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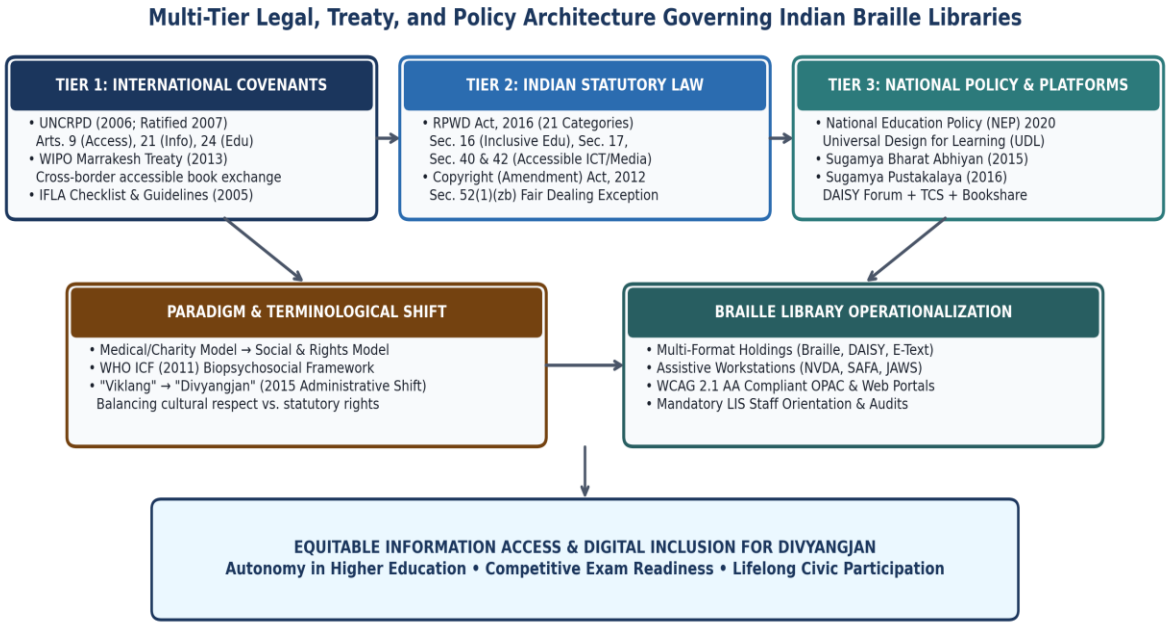

Figure 1. *Multi-Tier Legal, Treaty, and Policy Architecture Governing Accessible Information Provision in Indian Braille Libraries.* Note: Illustrates the top-down statutory flow from international human rights and copyright treaties (Tier 1) through domestic legislation (Tier 2) and national digital platforms (Tier 3) to institutional Braille library operationalization.

5. Comparative Empirical Audit: Statutory Mandates vs. Ground Realities

5.1 Demographic Imperatives: National and Regional Visual Disability Profiles

To evaluate the real-world efficacy of India's legislative and policy apparatus, statutory mandates must be examined alongside empirical demographic and institutional data. A comparative synthesis of the Census of India (2011) and the NSSO 76th Round Disability Survey (MoSPI, 2019) demonstrates why specialized Braille libraries remain indispensable public infrastructure. As detailed in Table 3 and illustrated in Figure 2 (Panel A), visual impairment represents nearly one-fifth of the total disability burden in both India (18.77%) and Gujarat State (19.61%). Furthermore, because visual impairment prevalence rises sharply with socio-economic deprivation and rural residence—where access to private broadband internet and commercial assistive hardware (such as JAWS licenses costing over $1,000 or refreshable Braille displays

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costing $1,500–$3,000) is virtually non-existent—institutional Braille libraries serve as the sole gateway to educational and civic information for the vast majority of Divyangjan.

Table 3

Comparative Demographic Distribution of Persons with Disabilities in India and Gujarat State with Corresponding Library Format Mandates

Disability Category (Census / NSS Classification)	India Population (Census 2011)	India Share (%)	Gujarat Population (Census 2011)	Gujarat Share (%)	Primary Library & Assistive Format Requirement
In Seeing (Blindness & Low Vision)	5,032,463	18.77%	214,150	19.61%	Embossed Braille, DAISY Talking Books, Screen Readers (NVDA/SAFA), Large Print (18pt+).
In Movement (Locomotor Disability)	5,436,604	20.28%	238,122	21.80%	Ramps, unobstructed aisles (≥36 in), wheelchair-reachable shelves, adaptive keyboards.
In Hearing (Deaf & Hard of Hearing)	5,071,007	18.91%	190,060	17.40%	Simplified text, visual pictograms, closed-captioned video books, text/SMS alerts.
In Speech and Language	1,998,535	7.45%	74,276	6.80%	Non-verbal catalog interfaces, text/email reference support, AAC communication boards.
Mental / Intellectual & Specific Learning	2,228,450	8.31%	97,215	8.90%	Multi-sensory DAISY synchronized text-audio, clear typography, structured orientation.
Multiple Disabilities & Any Other	7,043,498	26.27%	278,479	25.50%	Tactile-haptic devices, refreshable Braille displays, individualized librarian assistance.
Total Disabled Population	**26,810,557**	**100.00 %**	**1,092,302**	**100.00 %**	**Comprehensive Universal Design for Learning (UDL) and WCAG 2.1 AA Digital Compliance.**

Note. Demographic figures derived from Census of India (2011) C-Series Table C-20 and Ministry of Statistics and Programme Implementation (2019) NSS 76th Round Report No. 583.

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5.2 The Policy-to-Practice Chasm in Indian Braille Libraries

When the binding provisions of the RPWD Act (2016), NEP 2020, and the UNCRPD are benchmarked against empirical evidence from the 14 Braille libraries operating across Gujarat State (and corroborated by national surveys of academic libraries by Tripathi & Shukla, 2014; Sanaman & Kumar, 2014; and Dodamani & Dodamani, 2019), four systemic implementation bottlenecks emerge:

- **1. Asymmetry Between Physical Tactile Compliance and Digital ICT Compliance:** As illustrated in Figure 2 (Panel B), Indian Braille libraries exhibit near-universal compliance with traditional physical mandates: 100% of the 14 surveyed libraries in Gujarat maintain embossed Braille collections and reading rooms, and 92.85% provide dedicated sections for Divyangjan patrons. However, compliance collapses in the digital domain mandated by Section 42 of the RPWD Act: only 57.1% of libraries have basic internet connectivity, only 42.9% have automated their operations or offer plain-text alternatives to PDF/DOC files, only 35.7% provide screen-reading software, and a mere 14.3% maintain logically structured, accessible website content.
- **2. Fiscal Starvation and Reliance on Non-Governmental Charitable Trusts:** Although the RPWD Act (2016) frames accessible information as a state obligation, institutional governance remains overwhelmingly delegated to the voluntary sector, with 85.7% of Gujarat's Braille libraries managed by charitable public trusts. State grant-in-aid allocations remain capped at a maximum of Rs. 2,00,000 ($2,400 USD) per year even for major urban centers whose actual operating expenditures exceed Rs. 7,82,000, leaving zero capital budget for procuring refreshable Braille displays or commercial screen readers.
- **3. Curricular Deficits in Library and Information Science (LIS) Education:** Both Section 17(c) of the RPWD Act and NEP 2020 emphasize capacity building for professionals serving Divyangjan. Yet bachelor's and master's degree curricula in Library and Information Science (BLISc/MLISc) across Indian universities rarely include mandatory practical modules on assistive technology management, DAISY book production, Braille cataloging, or WCAG web auditing. Consequently, 71.4% of head librarians in the Gujarat survey explicitly

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reported an urgent need for specialized staff training, and 67.1% of Divyangjan patrons reported never having received formal library orientation.

- **4. Absence of Enforceable Digital Accessibility Audits:** While the Government of India issued the Guidelines for Indian Government Websites (GIGW) aligned with WCAG 2.0/2.1 Level AA under the Sugamya Bharat Abhiyan, public-trust and university library portals are not subjected to periodic third-party accessibility audits. As a result, 92.9% of surveyed Braille libraries fail to separate content from presentation via CSS style sheets or eliminate screen-reader-blocking frames and moving text.

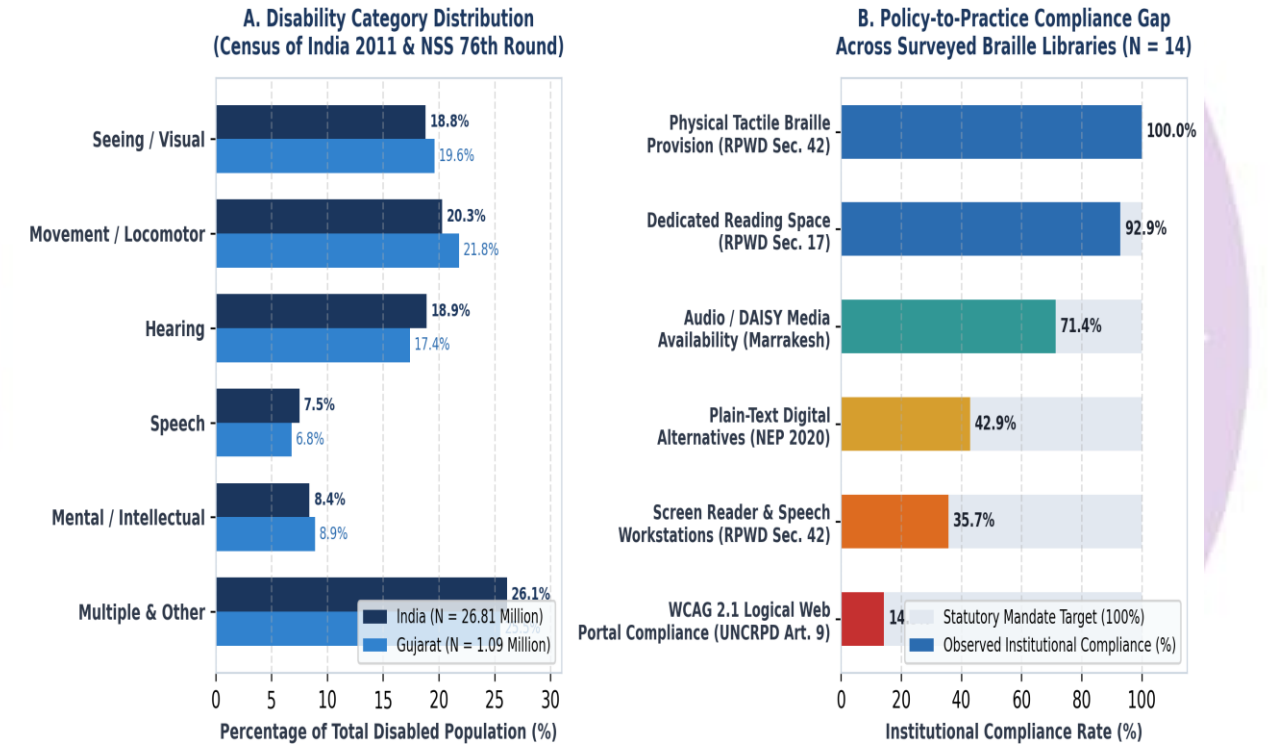

Figure 2. *National vs. Gujarat Disability Demography (Panel A) and the Empirical Policy-to-Practice Compliance Gap in Surveyed Braille Libraries (Panel B).* Note: Panel A compares Census 2011 disability proportions across India and Gujarat; Panel B contrasts the 100% statutory compliance target under the RPWD Act (2016) against observed institutional implementation across N = 14 Braille libraries.

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Table 4

Statutory Compliance Audit Comparing Legal Mandates Against Empirical Indicators in Gujarat and National LIS Literature

Statutory / Policy Provision	Target Requirement Under Law	Observed Compliance in Gujarat Braille Libraries	National Academic Library Benchmark (Literature)	Compliance Verdict & Primary Root Cause
RPWD Act Sec. 16 & 17: Inclusive Resource Rooms & Tactile Books	100% provision of Braille books and dedicated reading spaces.	100.0% Braille books; 100.0% reading rooms; 92.85% separate sections.	85.0%–92.0% in specialized NCR libraries (Sanaman & Kumar, 2014).	HIGH COMPLIANCE: Strong historical foundation in embossed print lending.
Marrakesh Treaty & Copyright Sec. 52(1)(zb): Audio/DAISY Media	Unrestricted non-profit conversion and lending of talking books.	71.4% provide CD/DVD/DAISY audio media; 64.3% active talking book lending.	62.5% in central universities (Tripathi & Shukla, 2014).	MODERATE COMPLIANCE: Concentrated in urban hubs (Ahmedabad, Bhuj, Dhoraji).
RPWD Act Sec. 42(i): Plain-Text Digital Alternatives (.txt/.doc)	All electronic media must be converted into screen-reader-ready formats.	42.9% offer unformatted plain-text alternatives; 83.0% of users report some digital books.	45.0% in Indian university libraries (Dodamani & Dodamani, 2019).	PARTIAL COMPLIANCE: Lack of standardized OCR and EPUB3 conversion workflows.
RPWD Act Sec. 42(iii): Assistive Workstations & Screen Readers	Universal design workstations with screen readers, magnifiers, and adaptive keys.	35.7% offer screen readers/magnifiers ; 21.4% adaptive keyboards; 14.3% wheelchair desks.	37.5%–42.0% in surveyed Indian academic libraries (Bhardwaj & Kumar, 2017).	LOW COMPLIANCE: Severe capital grant deficits and reliance on legacy PCs.
UNCRPD Art. 9 & RPWD Sec. 40: WCAG 2.1 Logical Web	100% of library web portals and OPACs compliant with WCAG 2.1 Level AA.	14.3% logical website design; 7.1% CSS separation; 7.1% frame/table avoidance.	<18.0% of Indian university library portals pass WCAG 2.0 AA checks.	CRITICAL DEFICIT: Absence of technical web standards and

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& OPAC Design				mandatory audits.
NEP 2020 & RCI Mandate: Staff Training & User Orientation	Trained assistive-tech librarians and mandatory patron orientation.	71.4% of librarians need training; 67.1% of patrons lacked formal orientation.	68.0% of Indian academic libraries lack trained disability support staff.	CRITICAL DEFICIT: LIS degree programs omit assistive technology training.

Note. Empirical Gujarat data derived from Chapter 6 (N = 14 librarians, N = 280 users); national benchmarks synthesized from Sanaman & Kumar (2014), Tripathi & Shukla (2014), Bhardwaj & Kumar (2017), and Dodamani & Dodamani (2019).

6. Policy Recommendations and Conclusion

6.1 Six-Point Statutory and Policy Reform Roadmap

Closing the gap between India's progressive legislative architecture and the lived reality of Divyangjan library users requires moving from declaratory policy statements to enforceable institutional mechanisms. Grounded in the doctrinal and empirical findings of this study, six actionable policy reforms are proposed for central and state library authorities:

- **1. Notification of Binding Library Accessibility Rules under Section 40 of the RPWD Act:** The Ministry of Social Justice and Empowerment, in coordination with the Ministry of Culture and State Directorates of Libraries, must notify dedicated 'Accessible Library and Information Service Standards' under Section 40 of the RPWD Act (2016). These standards should mandate a minimum baseline of two NVDA/SAFA-equipped workstations, one refreshable Braille display, one high-speed document scanner with OCR, and WCAG 2.1 Level AA OPAC compliance in every state-funded and public-trust library.
- **2. Mandatory Annual WCAG 2.1/2.2 Level AA Audits for Library Portals:** In accordance with Section 42 and Section 46 of the RPWD Act, state grant renewal for public and charitable trust libraries must be linked to an annual digital accessibility audit verifying keyboard-only navigation, semantic HTML5/CSS separation, text alternatives for audio/visual content, and compatibility with NVDA and TalkBack screen readers.

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- **3. Operationalizing Marrakesh Treaty Consortia at the District Level:** While metropolitan hubs such as C. N. Braille Library (Ahmedabad) and Shri Gyanjyot Braille Library (Madhapar, Kutch) actively integrate Sugamya Pustakalaya and Bookshare, smaller district trusts remain isolated. The State Government should establish a Gujarat State Accessible Digital Library Consortium that provides pre-configured Sugamya Pustakalaya institutional memberships, broadband subsidies, and local offline synchronization servers to all 14+ Braille libraries.
- **4. Restructuring State Grant-in-Aid Formulas to Include Assistive Technology Capital Heads:** The outdated grant ceiling of Rs. 2,00,000 per library must be revised to a per-capita, inflation-indexed funding formula that includes a dedicated 'Assistive ICT & Digital Storage Capital Grant' distinct from staff honorariums and physical book binding.
- **5. National Curricular Reform in Library and Information Science (UGC & RCI Joint Mandate):** The University Grants Commission (UGC) and the Rehabilitation Council of India (RCI) should mandate a compulsory credit course on 'Assistive Technologies, Universal Design, and Inclusive Library Services for Divyangjan' across all BLISc and MLISc programs, paired with 40-hour Continuing Professional Development (CPD) certification for practicing librarians.
- **6. Institutionalizing Participatory Governance by Divyangjan Patrons:** Reflecting the human rights principle of 'Nothing About Us Without Us' (UNCRPD Article 4.3), library trust boards must mandate minimum 33% representation of Divyangjan readers in collection acquisition and technology procurement committees.

6.2 Conclusion

Over the past three decades, India has constructed one of the developing world's most progressive legal and copyright frameworks for print-disabled citizens—culminating in the Copyright (Amendment) Act (2012) Section 52(1)(zb), early ratification of the Marrakesh Treaty (2013), the Rights of Persons with Disabilities Act (2016), and the Universal Design mandates of the National Education Policy (2020). Coupled with the conceptual evolution from deficit-based medical models to the WHO biopsychosocial and UNCRPD human-rights paradigms, the statutory

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right of Divyangjan to access knowledge in tactile, auditory, and digital formats is unequivocally established in Indian law. Yet, as empirical evidence from Gujarat's Braille libraries reveals, legislation without fiscal provisioning, professional LIS training, and technical web enforcement risks leaving digital inclusion an unfulfilled promise. By translating Section 42 of the RPWD Act and the Marrakesh Treaty into funded assistive workstations, WCAG-compliant portals, and certified librarian training, Indian Braille libraries can truly bridge the digital divide and uphold information access as a pillar of human dignity.

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