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Evaluation of Public Parks in Bengaluru:

Are they Inclusive for Children with Disabilities?

About Pacta

Pacta is a Bengaluru (India) based boutique law and policy think tank dedicated to supporting civil society organizations, universities, and non-profit initiatives. It has an unflinching commitment to provide legal and policy consulting support for public service delivery. Acknowledging the crucial role of research and scholarship for social development, Pacta engages in law and policy research through self-driven and collaborative projects. Focus areas are – Philanthropy, Disability, Education, Gender, and Information Technology.

Acknowledgments

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Table of Contents

Executive Summary

Schools offer play spaces/grounds for children particularly in gradually urbanizing but lower-middle income countries due to non-availability of sufficient number of parks and green spaces. Access to education and standards of educational infrastructure, however, are not always equitable in these countries. In India, Karnataka is home to 3.30 lakh children with disabilities of whom 21.6% between ages of 5-19 years do not attend school and 15.5% drop out of school. Besides non-attendance of children with disabilities in schools, for those who attend school face multitude of challenges including the absence play areas. In Karnataka, newer schools do not require to have playgrounds (per the Karnataka High Court Ruling of 2015) and children of all abilities are directed to access the local public parks (Bruhat Bengaluru Mahanagara Pallike (BBMP)) for play.

Bengaluru, the ***"garden city of India,"*** has about 1200 public parks managed by the civic body BBMP to allow for play and recreation for children. These public parks and green spaces, only when accessible and inclusive, can offer opportunities for play for children with disabilities. Among the 1200 parks, only 4 parks are said to be inclusive, but lack upkeep. Various international commitments such as the Convention on Rights of the Child, 1989 and United Nations Convention on Rights of Persons with Disabilities (UNCRPD), 2007 and national commitments such as Accessible India Campaign, 2015; Rights of Persons with Disabilities Act, 2016 and the Smart Cities Mission, 2015 were made to increase the accessibility of public spaces to provide children with disabilities the right to play, recreation and leisure activity. Despite the commitments, children with disabilities are unable to engage in play due to the inaccessibility of public parks/infrastructures and a lack of inclusive play spaces in developing urban spaces.

Why we conducted this study?

There is:

- Lack of green spaces for children to engage in play and recreational activities in rapidly developing urban spaces.
- Lack of accessible play areas for children with disabilities.
- Lack of information on inclusion and accessibility of public parks in Bengaluru.
- Lack of information on maintenance of inclusion and access features already existing in parks (too few and too far).

Therefore we wanted...

To understand the state of public parks in Bengaluru to include children with disabilities and to enable various stakeholders to take evidence-backed action using the findings of the study.

What we studied?

We assessed the situation/state of 32 public parks on features of accessibility and inclusivity for children with disabilities using a survey method. The features studied were grouped into the following broad categories:

We developed a framework to assess the accessibility and inclusivity of the public parks in Bengaluru. Each park was scored on accessibility and inclusivity. A total score accessibility and inclusivity of the sample parks was calculated. Using our data, an average park was created using features that were present in at least half of the sample parks.

What we found?

Parks in our sample were found to have more features of inclusion than access.

Accessibility

- **Average score of parks on accessibility** 572/1568
  - Physical Accessibility
  - Maps and Signages
- **Average score of parks on accessibility**
  - External features score: 124/224
  - Internal features score: 490/1302
- **Average functional time of parks per day 8-10 hours**
  - 4.6 hours in the morning
  - 5 hours in the evening

Inclusivity

- **Average score of parks on inclusivity** 687/1216
  - Physical Accessibility
  - Play Equipment

Our other results show that....

- Parks on average were clean and green
- Parks had neighbourhood road/small road entrances
- Gate large enough to accommodate a wheelchair
- Paved pathways present outside and within the park

- **25** Parks did not have toilets
- **31** Parks did not have maps
- **16** Parks had signages

29/32 parks had play areas with play equipment catering to children between ages **4-12 years** that enabled physical and social development.

Our result showed that overall parks performed better on inclusive features than on accessible features. We concluded that without access there cannot be inclusion. Therefore, accessibility must be considered a pathway to inclusion and be an important first goal to making any public infrastructure in a city inclusive.

Making a Case for a Need for Inclusive Public Parks in Bengaluru

Public parks and playgrounds offer an opportunity for children to engage in recreation, play, and leisure activities in urban spaces.[1] In developing countries such as India, where urbanization is often viewed from a western lens, development is lopsided and leads to marginalization of the most vulnerable groups, including children. Parks and green spaces take the least priority in development plans.[2] Children are, thus, left at the mercy of the schools to offer them play spaces within school campuses.

Under the Right to Education Act (2009), playgrounds were mandatory to any school campus. However, a decade ago, the Ministry of Human Resource and Development, Department of School Education and Literacy, stated that schools do not need to provide playgrounds (due to lack of space in urban settings) and that the local municipal parks and playgrounds could be used instead.[3] The Karnataka High Court (2015)[4] ordered new Private Unaided Schools to be located close to BBMP parks and relaxed the mandate of having certain acres of school's land allocated to play grounds. Given such restrictions and changes in laws and policies, children do not have the opportunity to play in open green spaces in an urbanized city like Bengaluru, Karnataka.

The disadvantages amplify for children with disabilities. Karnataka is home to 3.30 lakh children with disabilities[5] and face multiple challenges particularly at school.[6] Children do not have opportunities to engage in play and recreation.[7] Some of the barriers are listed in **Box 1**.

Box 1: Reasons for Lack of Play Opportunities for Children with Disabilities in Karnataka

Opportunities for play do not exist for children with disabilities for the following reasons:

- 21.6% between ages of 5-19 years do not attend school
- 15.5% drop out of school[8]
- 70% of parents and schools report lack of opportunities in participating in sports and play for children with disabilities in schools
- Lack of teacher training to engage children with disabilities in meaningful play in inclusive schools[6]
- Inaccurate data on the need for and opportunities that exist for play and recreation for children with disabilities.

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1 Sugar, S. (n.d.). The necessity of urban Green Space for Children's Optimal Development. Unicef. https://www.unicef.org/media/102391/file/Necessity%20of%20Urban%20Green%20Space%20for%20Children%E2%80%99s%20Optimal%20Development.pdf

2 Merchant, T. (2013, June 6). The importance of parks and public space. Forbes India. https://www.forbesindia.com/blog/economy-policy/the-importance-of-parks-and-public-space/

3 Ministry of Human Resource Development, Department of School Education and Literacy. (2012, October). Requirement of playgrounds specified under schedule to the right of children to free and compulsory education (RTE) act, 2009. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/upload_document/41_0.pdf

4 Karnataka State Private School Managements Federation vs. State of Karnataka, Department of Primary and Higher Secondary Education. (2015, December 3). WRIT PETITION No. 55713 OF 2014 (EDN-REG-P).

5 Office of the Registrar General & Census Commissioner, India. (2011). Census of India. https://censusindia.gov.in/nada/index.php/catalog/43398

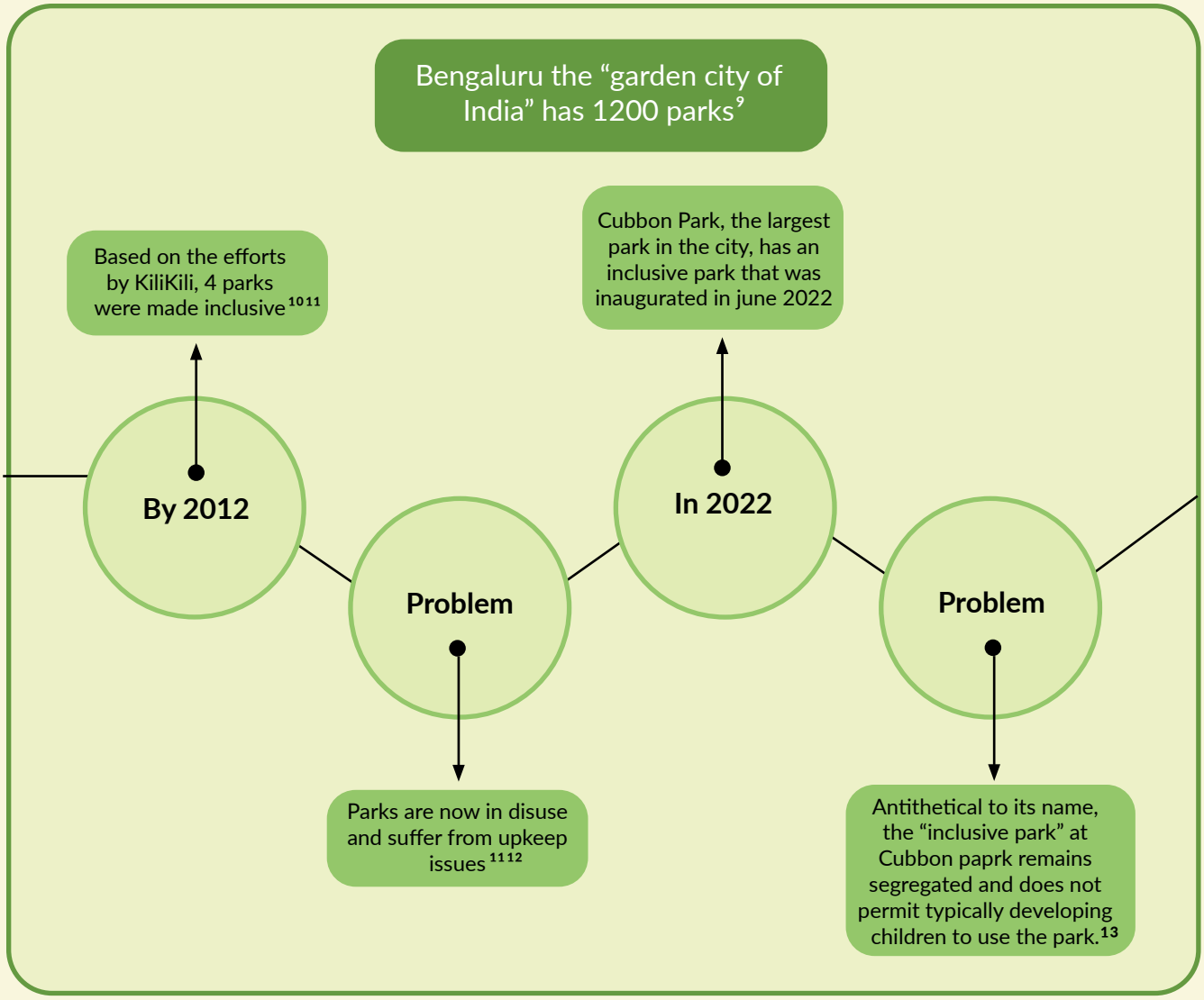
6 Reddy, A. (2022, July 15). How children with special needs are being left out of mainstream education in India. The Wire. https://thewire.in/rights/disabled-children-mainstream-education-exclusion

7 Singh, K. (2022, March 16). A level playing field for children with disabilities. Azim Premji University. https://azimpremjiuniversity.edu.in/news/2022/a-level-playing-field-for-children-with-disabilities

8 United Nations Educational, Scientific and Cultural Organization. (2019). N for nose: State of the education report for India 2019. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000368780

The lack of opportunities leads to restricted play that often results in social isolation, lack of skill development, and lack of physical and mental development and well-being.[6] Therefore, creating inclusive and accessible play areas for children with disabilities becomes critical for their health and well-being.

An Insight into Bengaluru's Public Park



[9] Open City Urban Data Portal (2017). BBMP parks: Parks with children equipment. https://data.opencity.in/dataset/bbmp-parks/resource/bbmp%3a-parks-with-children-equipments

[10] Rao, S. (2012, July 12). Only 3 parks for children with special needs. Times of India. https://timesofindia.indiatimes.com/city/bengaluru/only-3-parks-for-children-with-special-needs/articleshow/14827932.cms

[11] Shekhar, D. (2018, October 9). Inclusive parks in Bengaluru will suffer from upkeep issues. The Economic Times. https://economictimes.indiatimes.com/news/politics-and-nation/inclusive-parks-in-bengaluru-suffer-from-upkeep-issues/articleshow/66130174.cms?from=mdr

[12] Deghalal, A. (2021, October 28). Public playgrounds are not for all. The Soft Copy. http://thesoftcopy.in/2021/10/28/public-playgrounds-not-for-all/

[13] Sindwani, N. (2023, April 15). No place to play for special kids at Cubbon Park in Karnataka. The New Indian Express. https://www.newindianexpress.com/cities/bengaluru/2023/apr/15/no-place-to-play-for-special-kids-at-cubbon-park-inkarnataka-2566020.html

Therefore...

There is a need for greater number of inclusive parks and ways to turn over existing infrastructure (due to inability to add new spaces in developing urban areas) to enable inclusion of children with disabilities in public play spaces.

But...

How accessible and inclusive are existing public parks in Bengaluru for children with disabilities?

How we Conducted this Study?

We adopted a qualitative approach and conducted a survey on a convenience sample of **32 parks** across four clusters in Bengaluru namely, Central Bengaluru, East Bengaluru, West Bengaluru, and South East Bengaluru. Details of the parks surveyed area-wise are shown in the maps below **Figures 1-5.**

Figure 1. *Overview of Surveyed Parks*

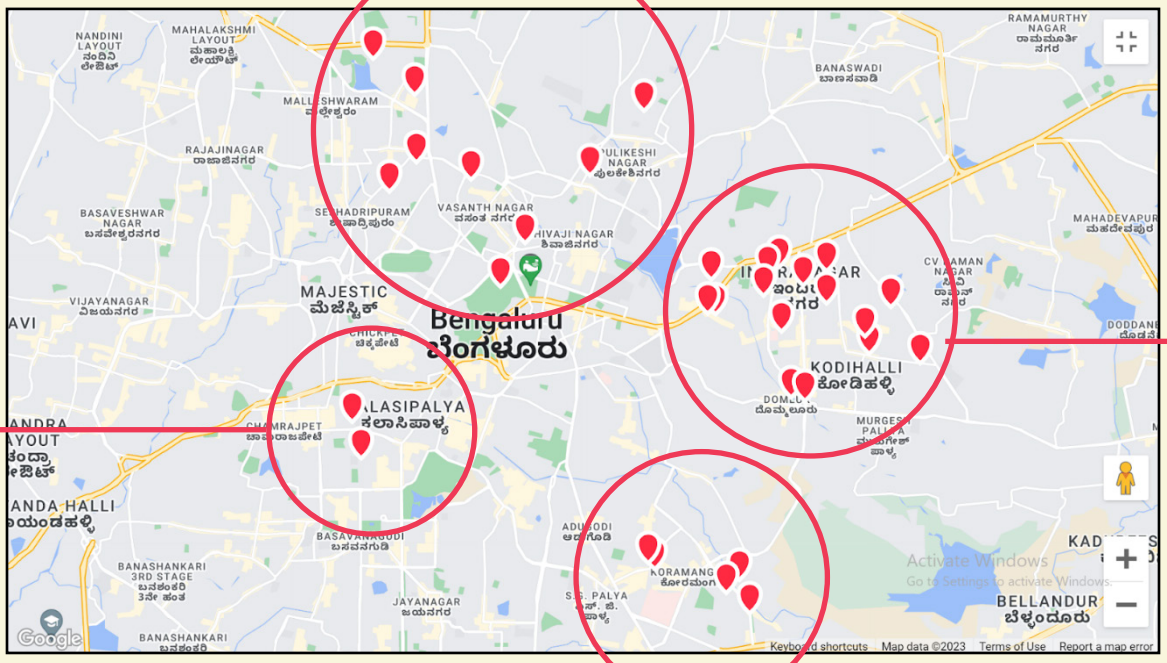


Figure 2. *Parks around West Bengaluru*

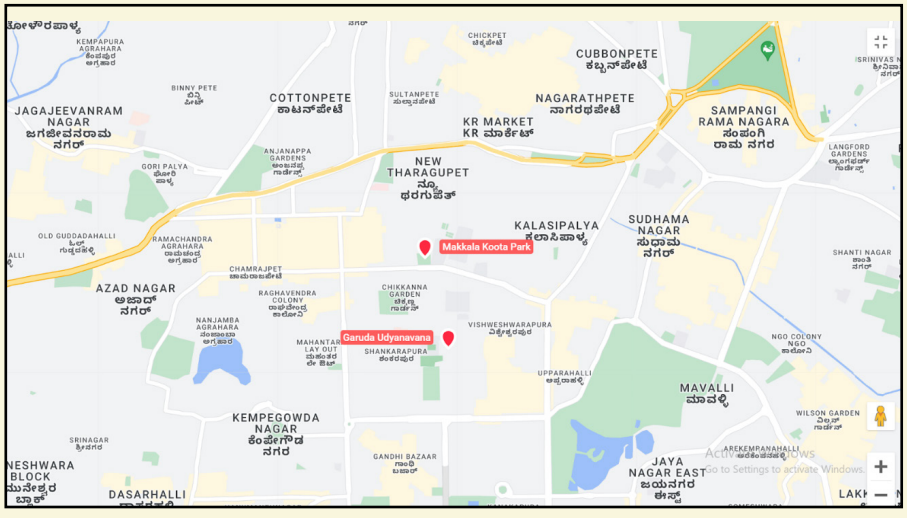


Figure 5. *Parks around Central Bengaluru*

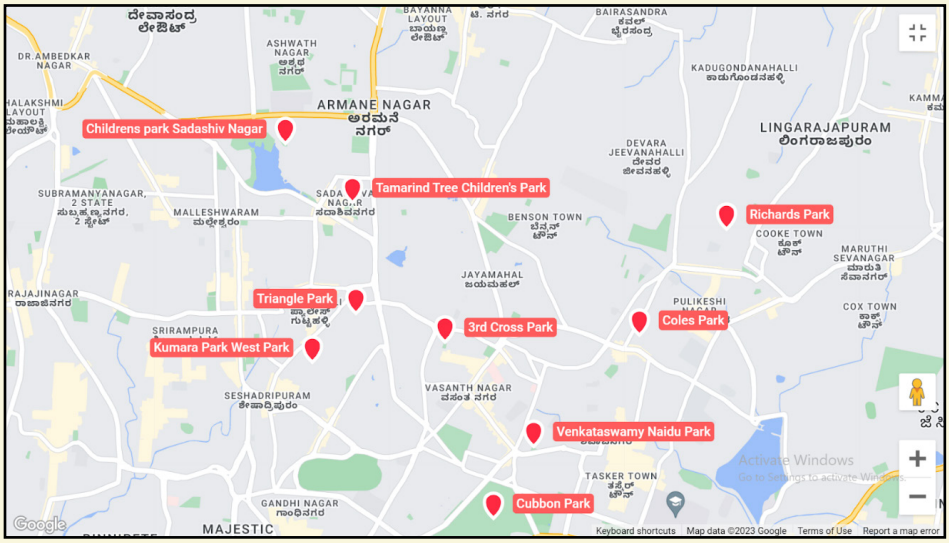


Figure 4. *Parks around East Bengaluru*

Figure 3. *Parks around South-East Bengaluru*

The parks were assessed using a survey instrument developed based on the National Institute of Urban Affairs (NIUA) guidelines on ***"Creating accessible parks and play spaces: A how-to guide for Indian cities"***[14] KiliKili's report ***"For a park of our own: Making Coles Park Accessible"***[15] and ***"Breaking barriers through play."***[16]

The survey instrument had seven categories to assess the accessibility and inclusivity of parks.

Table 1. *Categories and the Number of Features under Each Category*

#	Category	Number of Features
1	Physical Accessebility	20
2	Environment	21
3	Play area	21
4	Play Equipment	19
5	Facilities	23
6	Maps and Signages	14
7	Maintenance of Parks	13

Table 1 shows the number of features under each of the seven categories.

The survey instrument was designed to capture the presence or absence of features of accessibility and inclusivity for children with disabilities.

[14] National Institute of Urban Affairs (NIUA). (2019). Creating accessible parks and play spaces: A how-to guide for Indian cities. NIUA. https://smartnet.niua.org/content/d2c6eb83-bc25-4f05-9a99-760a794977c6

[15] Kilikili. (n.d.). For a park of our own: Making Coles Park accessible. KiliKili. https://www.kilikili.org/pdf/KILIKILI_coles_park_booklet.pdf

[16] Vinita. S., Hiranandani, P., Krishnamoorthy, K., Gopal, R. (2016). Breaking barriers through play. Kilikili. https://www.patientsengage.com/sites/default/files/PDF/Kilikili_Technical_manual_28nov16_web1.pdf

How we did the analysis?

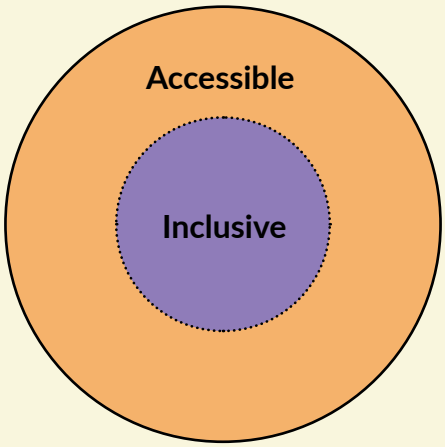
Data was collected on Google Sheets and Google Forms. We collated and entered data into an Excel sheet for further analysis. Data was analyzed using a **yes/no** or **presence/absence** binary scale for each feature under each category.

Definitions

Accessibility: as related to mobility, being barrier-free, and providing the ability to use a facility.

Inclusivity: as enabling participation and engagement and non-segregation of spaces within the park.[17]

Figure 6. *Framework for Analysis of Features*



For the analysis, we used an accessibility inclusivity framework based on the above definitions as shown in **Figure 6.**

In our framework, inclusivity was considered a subset of accessibility in the context of physical structures for analysis purposes (i.e., all inclusive features are accessible, but not all accessible features are inclusive, therefore, not all accessible parks are inclusive and vice versa).[18]

- Inclusive means necessarily accessible I+=A+.
- Accessible does not mean inclusive (A+≠I+)
- Non-accessible means non-inclusive (A-=I-)
- Non-inclusive does not mean non-accessible (I-≠A-)

[17] Playworld. (2023). The Importance of Inclusive Playgrounds. Playworld. https://playworld.com/blog/the-importance-of-inclusive-playgrounds/#gref

[18] Features together make categories; categories together make a park.

Figure 7. *Depiction of Access and Inclusion Relationships*

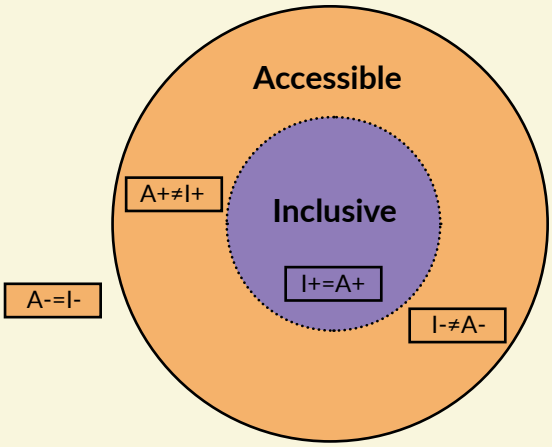


Figure 7 illustrates how each of the above formulae fit within the framework.

The framework was used for analysis based on our categories and features presented in **Table 2** below. Although a belief that is contradictory to the general global consensus that accessibility is a subset of inclusion, based on our data we found that analysis could be achieved only when we considered inclusion to be the subset of accessibility, indicating that access is a critical and first step towards inclusion.

Table 2. *Access and Inclusion Categorization for Each Feature*

Feature Color Codes

Enabling A+

Enabling I+

Fostering I-

N/A

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Road leading to park	Trees and Bushes	Play Area	Types	Benches	Maps	Play Equipment
Main Road (lots of traffic)	Trees in the park	Secluded	Multi-play equipment	Number of benches in the park*	Yes	Clean
Small Road (neighborhood roads)	Flowering trees/plants	Demarcated	Slides	Wooden benches	**Level of maps**	Preserved
Footpath	Bushes and shrubs	**Type of surface**	Swings	Stone benches	At the lower level	Broken/ rusted

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Paved footpath around the park	Adequate shade	Soft flooring	Merry-go-rounds	Arranged to enable social interaction	At a height	Environment
Entrance	**Air**	Sand pits	Ropes and nets	Placed near play area	**Maps**	Clean
Gate large enough to accommodate wheelchairs	Clean and fresh	Pebble pits	Trampolines	Decks and Gazebos	Color	Regular sweeping
Ramps	Pollution free	Ramps leading into play area	Jungle gym	Decks	Braille	Plants watered
Railings	Smells of sewer	Buffer zones between equipment	See-saws	Gazebos	Font legible	Water in pond clean
Revolving gates	**Water bodies**	**Ages**	Interactive equipment	Stairs/step to enter	**Signage**	Functional lighting (was given an N/A because of the time
Stairs	Ponds	0-2	Other	Ramps	Yes	**Facilities**
Walkway Inside	Fountains	2-4	**Material**	Place for wheelchairs	**Accessibility of Signage**	Clean and functional toilets
Stone or gravel walkway throughout the park	Fish in the ponds	4-12	Plastic	Floor smooth	Braille	Clean and functional wash basin
Stairs at the end of walkway	Recreation in water allowed	12-18	Iron	Sitting area	Pictures	Clean and functional drinking water facilities
Stairs at the end of walkway	Birds around the water bodies	18+	Other	**Toilet**	Legible font	Clean and functional benches and decks
Smooth merging of pathway and sections	**Lighting**	**Different types of play to engage in**	**Accessibility of equipment**	Indian style	Large size	Bins cleaned out daily

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Paved walkway connecting different sections of the park	Lamps at the entrance	Cognitive	Wheelchair accessible merry-go-rounds	Western style	Entry and Exit	
Demarcations	Floor lamps illuminating the walkway	Physical (motor planning)	Climbing ladders for slides	Gender neutral toilets	Toilets	
Sections divided by shrubs or bushes	Lights in the play area	Social	Flat seating in swings	Accessible toilets e.g., handrails, large washrooms	Preventing entry of wheelchairs/ denying access to people with disabilities	
Section divided by fences	Lights around the park benches (bollard lighting)	Solitude	Bucket type seating	Wash basin		
Section divided by curbs	Pole lights	Imaginative	Ropes for climbing slides	Drinking water		
Fences	**Safety**	Sensory (tactile, proprioceptive, visual,auditory, vestibular)	Other	Fountains		
High fences around the park	Guard at gate	**Colors**		Water dispensing filters		
Walled Park	Volunteers or support groups	Monotones		Accessible height and placement		
Park timings	Adults accompanying children	Stimulating and engaging		**Trash cans/bins**		

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Allocated time for children	Stray dogs or other animals	Excessive		Present in different locations		
				Few bins at entry/exit		
				Segregation of waste		

*Average number of benches: 21.72

Category	Number of A+ Features	Number of I+ Features	Number of I- Features	Number of N/A Features
Physical Accessibility	8	4	6	2
Environment	11	0	2	8
Play Area	2	8	5	6
Play Equipment	0	2	3	14
Facilities	6	3	3	10+1 (numeric value)
Maps and Signages	12	0	1	1
Maintenance	10	1	0	2
Total	49	18	20	44

A park can score a total of **49 for access** and **38 for inclusion** (i.e., 18 + absence of 20). Comparisons were drawn between Accessibility and Inclusion Scores across parks on seven categories of indicators and total scores of all parks on inclusion and access were calculated. Finally, based on the features that were present in at least half our total sample (i.e., in at least 14-16 parks) an average park was created.

Situating the Importance of the Study within the Literature

Importance of Green Spaces and Parks for Children

Green spaces and parks offer children with opportunities to interact with nature and engage in unstructured outdoor play.

While few studies discuss the benefits of green spaces and play for children with disabilities, the overall health and development benefits for all children have been well-established in the literature. These benefits can directly apply to children with disabilities despite the varying developmental timelines of these children compared to typically developing children.[20]

Chawla (2015) investigated the positive effects of nature interaction on children's well-being and found numerous benefits children gain from spending time in natural settings including greater fitness and general health.[21]

 Physical Development and Well-being	 Cognitive Development	 Socio-Emotional Development and Well-being
The presence of natural features in a green area provides a broad range of experiences for children, which leads to enhanced physical and psychological development, as well as increased awareness and concern for nature.[1]	Parks and green areas boost children's cognitive development and creativity in addition to their physical health.[1]	Exposure to the outdoors helps children's social and emotional development. The outdoors promotes social connections, cooperative play, and the growth of empathy and interpersonal skills.[21]
Unstructured outdoor play[22] can improve physical activity levels and cardiorespiratory fitness, and reduce sedentary behavior, thus, having the potential to improve overall health and well–being in children.[23]	Nature improves cognitive abilities such as problem-solving, critical thinking, and concentration.[24] [25]	Green areas in urban neighborhoods help increase children's emotional and behavioral resiliency.[26]

[21] Shankar, C. (n.d.). Play Is serious business. Leaflet. https://www.kilikili.org/pdf/Pamphlet_devptal_benefits_play.pdf

[22] Chawla, L. (2015). Benefits of nature contact for children. Journal of Planning Literature, 30(4). https://doi.org/10.1177/0885412215595441 self-selected, self-directed, free of external goals, and done only for enjoyment

[23] Taylor, L. G., Vanderloo, L. M., Arbour-Nicitopoulos, K. P., Leo, J., Gilliland, J., & Tucker, P. (2022). Playground inclusivity for children with a disability: Protocol for a scoping review. JMIR Research Protocols, 11(7), e37312. https://doi.org/10.2196/37312

[24] Stenfors, C. U. D., Van Hedger, S. C., Schertz, K. E., Meyer, F. A. C., Smith, K. E. L., Norman, G. J., Bourrier, S. C., Enns, J. T., Kardan, O., Jonides, J., & Berman, M. G. (2019). Positive effects of nature on cognitive performance across multiple experiments: Test order but not affect modulates the cognitive effects. Frontiers in Psychology, 10, 1413. https://doi.org/10.3389/fpsyg.2019.01413

[25] Schertz, K. E., & Berman, M. G. (2019). Understanding nature and its cognitive benefits. Current Directions in Psychological Sciences, 28(5), 496-502. https://doi.org/10.1177/0963721419854100

Importance of Play and Parks for Children with Disabilities

Young children with disabilities frequently face additional problems in their daily lives, resulting in physical and emotional discomfort and stress.[27] In this setting, play emerges as a critical component that brings much-needed pleasure and satisfaction into the lives of these children, providing respite from the hardships they experience on a daily basis.

Box 2: Benefits of Play for Children with Disabilities

Play can be beneficial in the following ways:

- Play is adaptable, which can be used under different circumstances.
- Play allows for social and verbal interactions among peers.
- Play promotes learning in natural contexts and creates the foundation for developing leisure skills.
- Play serves as a conceptual framework for social, language, and cognitive development.[27]

Importance of Inclusive Parks

There has been an increasing focus on inclusion of persons with disabilities in education, employment, health, infrastructure. For instance, inclusive education for children with disabilities is also a goal of India's National Education Policy, 2020. It has been widely postulated that inclusion of persons with disabilities in all spheres of development is essential. Thus, States are in active pursuit of the **"no person left behind"** goal set under the Sustainable Development Goals. Efforts are underway to make public infrastructures such as in Information and Communication Technology (ICT), transportation, and buildings inclusive.[28]

[26] Flouri, E., Midouhas, E., & Joshi, H. (2014). The role of urban neighborhood green space in children's emotional and behavioral resilience. Journal of Environmental Psychology, 40, 179–186. https://doi.org/10.1016/j.jenvp.2014.06.007

[27] Buchanan, M., & Johnson, T. G. (2009). A second look at the play of young children with disabilities. American Journal of Play, 2(1), 41-59. https://eric.ed.gov/?id=EJ1069230

[28] Ministry of Social Justice and Empowerment. (2023). Harmonized guidelines and space standards for universal accessibility in India are now available in India. Press Information Bureau, Government of India. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1932296

Box 3: Importance of Inclusive Parks

Inclusive parks that offer a space for children of all abilities and ages to play are important for the following reasons:

- Provide safe social environments,
- Offers interactive family time,
- Encourages community engagement,
- Increases self-esteem and boosts confidence,
- Promotes sensory play for all,
- Sets community standards.[17]

Legal Policy Frameworks that Guide the Need for Accessible Public Spaces

International

Name	Description
Convention on the Rights of the Child (1989)	**Article 31** emphasizes the right of the child to engage in play and recreational activities. *"States Parties recognize the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts."*
United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) (2007)	**Article 30** recognizes the right of persons with disabilities to participate equally in recreation, leisure, and sports. **Article 9** highlights the right to accessibility, emphasizing that people with disabilities have the right to live independently and fully participate in all aspects of life. **Article 2** advocates the use of universal design principles, which involve creating settings, goods, and services that are usable by everyone, regardless of ability.
Sustainable Development Goals (2030)	Parks help fulfill Goals 3 (Good Health and Well-Being), 4 (Quality Education), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), 13 (Climate Action) and 15 (Life on Land).

National

Name	Description
Rights of Persons with Disabilities (RPwD) Act (2016)	The Rights of Persons with Disabilities Act (2016) aims to ensure equal opportunities, safeguard rights, and facilitate the full participation of people with disabilities in all aspects of life. **Section 29 and 30** underlines the need to remove barriers that prevent people with disabilities from participating in sports and recreational activities. **Section 40** promotes diversity and accessibility in public spaces. It requires that all public areas be accessible to people with disabilities. **Section 2** furthers the concept of universal design, which entails creating locations, products, and services that are accessible, understandable, and used by individuals of all abilities.
Accessible India Campaign and Smart Cities Mission (2015)	The Accessible India Campaign includes efforts towards increasing accessibility under three verticals namely, Built Environment, Transportation Sector, and ICT ecosystem. There is, however, no special set of guidelines and space standards for universal accessibility of parks. The Smart Cities Mission is a comprehensive project aimed at promoting a decent life for all by providing core infrastructure that is sustainable, inclusive, and technologically advanced. Though there are no mandates on universal design of parks under the Mission, several cities including Chennai[29] and Bhubaneswar[30] have taken initiatives to develop parks that cater to people with disabilities.

[29] Zvongo, J. (2019, January 16). Chennai's inclusive park for children with disabilities. Child In the City. https://www.childinthecity.org/2019/01/16/an-inclusive-park-for-kids-with-disabilities-in-chennai/?gdpr=deny

[30] Ramanath, R.V. (2013, April 14). Disabled-friendly park design ready. Times of India. http://timesofindia.indiatimes.com/articleshow/19535449.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Guiding Principles for Accessibility and Inclusivity of Parks

Inclusive parks by definition must accommodate everyone equally.[31] For example, the National Recreation and Park Association (NRPA) lists seven principles that are important in designing an inclusive playground/play area as depicted in **Box 4**.

Box 4: Guiding Principles for Inclusion in Play Areas

The seven principles are:

- Principle 1 - Equitable Use
- Principle 2 - Flexibility in Use
- Principle 3 - Simple and Intuitive Use
- Principle 4 - Perceptible Information
- Principle 5 - Tolerance for Error
- Principle 6 - Low Physical Effort
- Principle 7 - Size and Space for Approach and Use.

Similarly, other guidelines published include:

- UNICEF (2021)[32] and Ross et al. (2022)[33] published good practice guides on creating inclusive play areas.
- The National Institute of Urban Affairs (2019), Vinita et al. (2016), and the Delhi Urban Arts Community (1973)[34] issued guidelines and reports on the need for and creation of inclusive parks in India.

Therefore, with greater push from international, national, and local bodies, the need for creating more inclusive spaces for children with disabilities becomes an imperative.

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[31] Ruane, C. (2022, August 18). Principles of inclusive playground design. National Recreation and Park Association. https://www.nrpa.org/parks-recreation-magazine/2022/september/principles-of-inclusiveplayground-design/#:~:text=Inclusive%20design%20allows%20for%20the,go%2C%20which%20can%20cause%20frustration

[32] United Nations International Children's Emergency Fund. (2021). Good practice guide on building an inclusive playground. https://www.unicef.org/serbia/media/18911/file/Gude%20for%20the%20Construction%20of%20Inclusive%20Children%27s%20Playgrounds.pdf

[33] Ross, T. (2022). Creating inclusive playgrounds: A playbook of considerations and strategies. Holland Bloorview. https://hollandbloorview.ca/sites/default/files/2022-07/Creating%20Inclusive%20Playgrounds%20Playbook%20%28July%202022%29.pdf

[34] The Delhi Urban Art Commission Act of 1973. https://mohua.gov.in/upload/uploadfiles/files/duaca_act(1).pdf

Parks in our Sample have more Features for Inclusion than for Access

Overall, we found that on average

	▪ Parks had neighborhood road/small road entrance with a gate large enough to accommodate a wheelchair
	▪ Parks had high fences around the perimeter of the park.
	▪ Parks had paved pathways present outside and within the park.
	▪ Parks had demarcated segments, which were divided by bushes or shrubs.
	▪ Parks on average were clean and green.
	▪ 29/32 parks had play areas that were demarcated and had play equipment that catered to ages 4-12 years enabling social and physical play.
	▪ Play area and play equipment had stimulating and engaging colors. There were enough buffer zones between play equipment for safety.
	▪ Parents were found to accompany the children - accounting for a safety feature
	▪ There were on average 22 stone benches per park with some placed near the play area.
	▪ Parks also had gazebos that had a step or stairs at the entrance. Gazebos had smooth flooring with sitting areas.
	▪ Parks had open gyms.
	▪ Parks had an adequate number of pole lights.
	▪ Bins were present around the park in different locations.
	▪ 25 parks did not have toilets
	▪ 31 parks did not have maps.
	▪ 16 parks had signages that had large and legible fonts

Figure 8. *Features of an Average Park in the Selected Areas of Bengaluru based on our Data*

Figure 8 depicts an average park developed based on our data. The average park includes features that were present in at least 50% of the parks across the seven categories. The park was created based on the features that are highlighted in yellow in **Annexure 1**. Certain features that are non-physical were not taken for depiction purposes and left in the table for an understanding.

Further Analysis....

Park Features: Types, Size and Location

Most parks within the sample were defined as Housing Area Parks or Neighborhood Parks based on the area covered. The categorization is based on NIUA's guide on designing accessible parks, which classifies parks based on the area covered (NIUA, 2019). Distribution of the parks on our sample are in **Table 3**.

Table 3. *Distribution of Type of Parks within Sample*

Type of parks	Size of Park	Number of Parks
Tot Lot Park	125 Sqm	3
Housing Area Park	5000 sqm	10
Neighbourhood	10000 sqm	11
Community Park	50000 sqm	7
City Park	10,00,000 sqm	1
Total		**32**

Performance of Parks on Access

The survey took into account a total of 49 such features (as per Table 2) that are crucial to enable better access. Scores of individual parks on access are provided in **Table 4**.

Table 4. *Scores on Accessibility of Individual Parks*

Name of Parks	Access		
	Available Score	Actual Score	Score (Out of 100)
Udayashankar Children's Park	49	19	38.78
3rd Cross Rd Park	49	20	40.82
Kumara Park West Park	49	24	48.98
Tamarind Tree Children's Park	49	25	51.02
Children's Park Sadashiv Nagar	49	25	32.65
Triangle Park	49	16	44.90
Cole's Park	49	22	51.02
Richard's Park	49	25	67.35
Cubbon Park	49	33	14.29
Garuda Park	49	7	40.82
R. Kalyanamma Children's Playground	49	20	4.08
Jogupalya Park	49	2	38.78
Domlur SAARC Park	49	19	38.78
Kanakadasa Park	49	19	26.53
Venkataswamy Naidu Park	49	13	36.73
Defence Colony Children's Park	49	18	34.69
Sri Jagathjyothi Basaveshwara Park	49	17	2.04
Murphy Town Children's Park	49	1	46.94
Wipro Park	49	23	44.94
S. T. Bed Park	49	22	24.49
Rectangular RWA Park	49	12	38.78
Amruth Park	49	19	18.37
Amaranaatha Park	49	9	32.65
CMH Park	49	16	34.69
B M Kaval Park Park	49	17	30.61

Name of Parks	Access		
	Available Score	Actual Score	Score (Out of 100)
Wood Park	49	15	30.61
Double Road	49	8	16.33
Visvesaraya Park	49	24	48.98
IndiraNagar park	49	21	42.86
Kuvempu Park	49	26	53.06
Dr. Ambedkar Udyanavana	49	15	30.61
Gundappa Park	49	20	40.82
Overall	**1568**	**572**	**36.47**

The cumulative points for access that all 32 parks could score together was **1568**. Put together, the parks scored a total of only 572. This translates to an average score of **36.47** out of 100 per park (572/1568*100).

The low cumulative score could also be attributed to a few parks (i.e., 3 Tot Lot parks scoring below 15 on a scale of 100) that scored extremely low on access features.

Further, cumulative scores by category are provided in **Table 5** for a granular understanding on where parks fall behind in accessibility features.

Table 5. *Categories and the Number of Features under Each Category*

Park Components	Access Scores	Access Scores (out of 100)
Physical Accessibility	160/256	62.50
Envionment	166/352	47.16
Play area	17/64	26.56
Play Equipment	NA	NA
Facilities	51/192	26.56
Maps and Signages	48/384	12.50
Maintenance of Parks	130/230	40.63

Our results show that the scores for access are much better for features listed under physical access and environment. However, the scores are low under the segment of maps and signages. Even in the case of play areas several access features are absent in the parks, resulting in low scores.

When we divide features as internal to the park and external to the park....

The access features, when classified into features that are internal to the park, and features that are external to the park, provide deeper insights on the physical accessibility of parks. Box 5 describes the various internal and external features based on our survey instrument.

Box 5: Internal and External Features

Examples of internal and external features of access are listed below:

- **Internal features of access:** Paved walkway within the parks, smooth merging of pathways in the park, ramps leading to play area, buffer zone between play equipment and so on
- **External features of access:** Paved footpath around the park, gate large enough to accommodate wheel-chairs, high fences around the park and so on.

The study took into account a total of 49 features of access, out of which 7 were external and 42 were internal features. We found that, on average, approximately 55% (or 3.8 out of 7) of the external features of access and around 38% (or 16 out of 42) of internal features of access were present in the sample parks **(Table 6)**.

Table 6. *Parks Scores on External and Internal Access*

	Total Score Available	Total Score Actual	Percentage Score
External	224	124	55.36
Internal	1302	490	37.63

External features are more prevalent than the internal features of access indicating that the outside of the park may be easier to access compared to the inside.

For children with disabilities this would mean that the play areas in the parks are not accessible. Hence, the access needs to improve for children with all abilities to utilise the park.

When park timings are a measure of access....

Park entry timings, when restricted to certain hours during the day, can result in unequal access. The opening and closing times for parks in Bengaluru are exclusionary for several groups.[35] Thus, in studying access to parks, we also recorded park timings, as presented in **Table 7**.

Table 7. *Park Timings*

Name of Parks	Duration in morning (4 am-12 pm) (Hours)	Duration in morning (4 am-12 pm) (Hours)	Duration in evening (6 pm-9 pm) (Hours)	Total
Udayashankar Children's Park	5.5	2.25	2.5	10.25
3rd Cross Rd Park	2	1	1	4
Kumara Park West Park	5	2	2	9
Tamarind Tree Children's Park	0	2	1	3
Children's Park Sadashiv Nagar	5.5	2	2	9.5
Triangle Park	5	2	4	11
Cole's Park	6	2	2.5	10.5
Richard's Park	4.5	1.5	1	7
Cubbon Park	2	6	0	8
Garuda Park	8	8	8	24
R. Kalyanamma Children's Playground	2	5.5	0.5	8
Jogupalya Park	12		12	24
Domlur SAARC Park	2	6	0	8
Kanakadasa Park	3	0	6	9
Venkataswamy Naidu Park	NA	NA	NA	NA
Defence Colony Children's Park	4	2.5	1	7.5
Sri Jagathjyothi Basaveshwara Park	6	6	2	14
Murphy Town Children's Park	NA	NA	NA	NA
Wipro Park	5.5	2	4	11.5
S. T. Bed Park	4	2	3	9
Rectangular RWA Park	4	2	2	8

[35] Thomas, M. (2018, September 18). In Bengaluru, once India's 'garden city', parks are now restricted areas that keep the poor out. Scroll. https://scroll.in/article/894582/in-bengaluru-once-indias-garden-city-parks-are-now-restricted-areas-that-keep-the-poor-out

Name of Parks	Duration in morning (4 am-12 pm) (Hours)	Duration in morning (4 am-12 pm) (Hours)	Duration in evening (6 pm-9 pm) (Hours)	Total
Amruth Park	5	2	2	9
Amaranaatha Park	2	6	1	9
CMH Park	7	2.5	2	11.5
B M Kaval Park Park	4.5	2	1	7.5
Wood Park	4.5	2	2	8.5
Double Road	NA	NA	NA	NA
Visvesaraya Park	5	1.5	3	9.5
IndiraNagar park	6.5	2	2	10.5
Kuvempu Park	5	2	2	9
Dr. Ambedkar Udyanavana	4	2	2	8
Gundappa Park	5.5	2	2.5	10
Overall	**4.66**	**2.81**	**2.55**	**9.92**

Only **three** of the 32 parks from the sample reported being open throughout the day. 10 parks of the 32 parks were open between 8-10 hours. Only **two** parks were open for less than 6 hours (details can be found in **Table 8**).

Table 8. *Frequency distribution of parks based on the duration of opening*

Park Durations (in Hours)	Number of Parks
<6	2
6-8	8
8-10	10
10-12	6
>12	3

Table 9.a. and 9.b. shows the frequency distribution of Parks based on the opening and closing times in the morning and evening hours. The tables show that most parks in the sample opened at 5 AM and closed around 10 AM, whereas reopened at 4 PM and closed by 8 PM. Further research needs to be carried out to understand the accessibility of parks based on these times for children with disabilities as they depend on parents and caretakers who may or may not be available during the specific park hours.

Table 9a. *Frequency Distribution of Opening and Closing Hours of Parks - Morning*

Morning Openings		Morning Closing	
Time	Number of Parks	Time	Number of Parks
Before 5:00 AM	2	at 9:00 AM	3
at 5:00 AM	10	at 9:30 AM	1
at 5:30 AM	2	at 10:00 AM	9
at 6:00 AM	5	at 10:30 AM	2
at 6:30 AM	0	at 11:00 AM	3
at 7:00 AM	2	at 11:30 AM	1
at 7:30 AM	0	at 12:00 PM	2
at 8:00 AM	1		
at 8:30 AM	0		
at 9:00 AM	0		
at 9:30 AM	0		
at 10:00 AM	4		

Table 9b. *Frequency Distribution of Opening and Closing Hours of Parks - Evening*

Evening Openings		Evening Closing	
Time	Number of Parks	Time	Number of Parks
at 3:00 PM	0	at 5:00 PM	0
at 3:30 PM	2	at 5:30 PM	1
at 3:45 PM	1	at 6:00 PM	2
at 4:00 PM	16	at 6:30 PM	0
at 4:30 PM	2	at 7:00 PM	6
at 5:00 PM	1	at 7:30 PM	0
		at 8:00 PM	9

Evening Openings		Evening Closing	
Time	Number of Parks	Time	Number of Parks
		at 8:30 PM	3
		at 9:00 PM	3
		at 10:00 PM	3

The results reveal that there is substantial scope to improve the accessibility of parks and make parks easier to enter and use.

Performance of Parks on Inclusion

In the current survey, features score of 38 were considered to determine inclusion (as describe in Table 2). Scores of individual parks on access are provided in **Table 10**.

Together, all the parks could score a total of **1216** points on features that promote inclusion. The total that the parks actually managed to score was **687** points. Thus, on an average, a park in the sample scores 56.50 on inclusion features **((687/1216)*100**).

A closer look at the survey results showed that three specific parks had lower scores than the rest of the parks. The performance of these parks with respect to inclusion is low on the account of a lack of children's play area. Despite these parks featuring in the BBMP list of children's parks, we found that these parks lacked dedicated playing areas and playing equipment for children.

Table 10. *Scores on Inclusivity of Individual Parks*

Name of Parks	Inclusion		
	Available Score	Actual Score	Score (Out of 100)
Udayashankar Children's Park	38	27	71.05
3rd Cross Rd Park	38	25	65.79
Kumara Park West Park	38	23	60.53
Tamarind Tree Children's Park	38	26	68.42
Children's Park Sadashiv Nagar	38	18	47.37
Triangle Park	38	18	47.37
Cole's Park	38	20	52.63
Richard's Park	38	20	52.63
Cubbon Park	38	19	50.00
Garuda Park	38	15	39.47

Name of Parks	Inclusion		
	Available Score	Actual Score	Score (Out of 100)
R. Kalyanamma Children's Playground	38	19	50.00
Jogupalya Park	38	38	42.11
Domlur SAARC Park	38	25	65.79
Kanakadasa Park	38	22	57.89
Venkataswamy Naidu Park	38	17	44.74
Defence Colony Children's Park	38	25	65.79
Sri Jagathjyothi Basaveshwara Park	38	20	52.63
Murphy Town Children's Park	38	21	55.26
Wipro Park	38	29	76.32
S. T. Bed Park	38	16	42.11
Rectangular RWA Park	38	11	28.95
Amruth Park	38	26	68.42
Amaranaatha Park	38	14	36.84
CMH Park	38	26	68.42
B M Kaval Park Park	38	26	68.42
Wood Park	38	27	71.05
Double Road	38	23	60.53
Visvesaraya Park	38	22	57.89
IndiraNagar park	38	20	52.63
Kuvempu Park	38	22	57.89
Dr. Ambedkar Udyanavana	38	25	65.79
Gundappa Park	38	24	63.16
Overall	**1216**	**687**	**56.49**

Further, cumulative scores by category are provided in **Table 11** for a granular understanding on where parks fall behind in inclusivity features.

Table 11. *Cumulative Inclusive Scores by Category (For All Parks)*

Park Components	Inclusion Scores	Inclusion Scores (out of 100)
Physical Accessibility	230/320	71.88
Environment	42/64	65.63
Play area	235/416	56.49
Play Equipment	56/160	35.00
Facilities	89/192	46.35
Maps and Signages	14/32	43.75
Maintenance of Parks	21/32	65.63

Among the different categories, the inclusion score is highest in physical access, maintenance, and environment. On the other hand, features of inclusion included under play equipment, maps and signage, and facilities are generally absent, resulting in low scores. Thus, the play equipment and facilities in the parks are not designed to cater to children with all abilities. Universal design is not yet adopted into the designing of these children's parks.

Compared to the scores for access, the scores for inclusion were found to be better. However, even in this case, there is potential for improvement.

What do our Results Mean?

Parks score better when it comes to inclusion than access.

Our results show that parks have features that enable participation and engagement for people with different abilities, but does not provide the opportunity for mobility and usage particularly for children with disabilities.

Breaking it down numerically.....
On an average, any park in the sample would have an inclusion score of approximately **57 out of 100**, which translates to having around **22 of the 38** features that facilitate inclusion. On the other hand, accessible features are less prevalent. An average park scores approximately **37 out of 100** on features of access, which translates to each park having approximately **18 of the 49** features for access.

The difference between the average scores (out of 100), for access and inclusion are summarized in **Table 12**. The higher the magnitude of this difference, the more the gap between access and inclusion. Parks did poorly on access to play areas, having maps and signages, and maintenance but well on physical accessibility features.

Table 12. *Comparative between Overall Access Scores and Inclusive Scores based on Categories*

Park Components	Access Scores	Access Scores (out of 100)	Inclusion Scores	Inclusion Scores (out of 100)	Difference
Physical Accessibility	160/256	62.50	230/320	71.88	9.38
Envionment	166/352	47.16	42/64	65.63	18.47
Play area	17/64	26.56	235/416	56.49	29.93
Play Equipment	NA	NA	56/160	35.00	NA
Facilities	51/192	26.56	89/192	46.35	19.79
Maps and Signages	48/384	12.50	14/32	43.75	31.25
Maintenance of Parks	130/320	40.63	21/32	65.63	25.00

For a broader understanding on how parks performed overall on inclusion and access, we present the frequency distribution of all the parks in our sample in **Table 13.**

Table 13. *Distribution of Number of Parks based on Access and Inclusive Features*

Scores	Access	Inclusion
	Number of Parks	Number of Parks
0-25	6	0
25-50	21	10
50-75	5	21
75-100	0	1

These observations are in line with the earlier findings that **more parks do better on inclusive features.** The picture becomes especially stark if one compares the number of parks scoring between 50-75 in case of access and inclusion features. While 21 parks score between 50-75 for inclusion, only 5 parks do so for access, indicating parks are performing better on inclusive features rather than on access features.

What do the numbers mean for a child with disability?

These scores highlight that the parks are better placed to enable participation and engagement among different age groups. The parks have structural features in the play areas that are designed to allow for non-segregated play and participation of children with different abilities. However, access related structural/physical features of parks such as ramps and railings, from a mobility and usability perspective, were less frequently found in these parks. The lack of these features renders the parks inaccessible to several children with disabilities, particularly those with mobility limitations or visual impairments.

Therefore, accessibility must be considered as a **non-negotiable pathway** to inclusion and must always accompany city-planning or infrastructure development efforts. For Bengaluru's parks to become truly inclusive for children with disabilities, it is imperative that accessibility be prioritized.

A Way Forward

Takeaways

Inequality

The survey of parks shows that **not every citizen can equally enjoy these facilities**, more so, if one has limitations or disabilities.

Access and Inclusion

Sample parks are **fundamentally not accessible** (i.e., the parks do not have features that could allow for **all types of visitors to enter or move around**). On the other hand, the parks did have certain **features that facilitated inclusion**, by allowing for **universal participation and non-segregation**. These inclusion-aiding features, however, do not translate to make the parks fully inclusive owing to the lack of accessible features. **Thus, even though many parks in Bengaluru have non-segregation and support play and interaction among all children to various extents, they still do not qualify as inclusive spaces because not everyone particularly children with disabilities can safely enter or navigate them.**

Access - A Necessity

While the usual narrative places access as one component of inclusion (Moore et al., 2022; Playworld, 2023), the current study depicts how **access becomes a necessary condition to achieve the larger goal of inclusion**. The insights are significant not only in the context of Bengaluru's parks, but also apply to the idea of access and inclusion in any public space.

Way forward

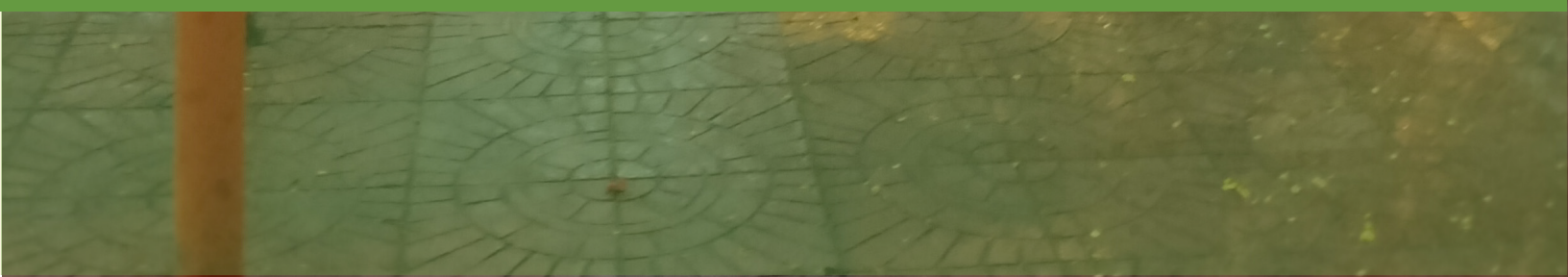
- Understanding the Feasibility of Redesigning Parks in Bengaluru: To ensure that all children are able to exercise their right to play and recreation (CRC, 1989; UNCRPD, 2007), it is important to **reimagine parks as accessible as well as inclusive spaces**. However, the feasibility of redesigning parks in Bengaluru to incorporate all features of access and inclusion remains to be explored.

- Developing Actionable Strategies for Accessible and Inclusive Parks: Going forward, studying the **implications of resource availability, capacity, stakeholder involvement** including children with disabilities and their parents/caregivers, community engagement and willingness to transform the parks can inform actionable strategies for making the parks structurally inclusive.

Limitations of the Study

- The parks for the survey were selected through convenience sampling, and thus, the results cannot be generalized to other BBMP parks in Bengaluru.
- The socio-economic characteristics of the neighborhoods in which the parks were located, was not accounted for in selecting the parks. Hence, there is a chance that the results might have some bias.
- The size of the sample was restricted to 32 owing to limitations in time and resources available.
- In the framework adopted for evaluation, “Access” and “Inclusion” were considered exclusive categories with one relating to features that facilitate mobility and usability and the other to participation and engagement. However, based on our framework, any feature considered to be inclusive was by default accessible. We did not take into account the access feature of inclusion for calculating overall “Access” scores. Thus, if the access component of inclusion were taken into account, parks would have scored slightly higher on “Access.”

Annexure 1



Annexure 1

Average Park Features[36]

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Road leading to park	Trees and Bushes	Play Area	Types	Benches	Maps	Play Equipment
Main Road (lots of traffic)	Trees in the park	Secluded	Multi-play equipment	Number of benches in the park*	Yes	Clean
Small Road (neighbourhood roads)	Flowering trees/plants	Demarcated	Slides	Wooden benches	No	Preserved
Footpath	Bushes and shrubs	**Type of surface**	Swings	Stone benches	**Level of maps**	Broken/ rusted
Paved footpath around the park	Adequate shade	Soft flooring	Merry-go-rounds	Arranged to enable social interaction	At a lower level	**Environment**
Entrance	**Air**	Sand pits	Ropes and nets	Placed near play area	**At a height**	Clean
Gate large enough to accommodate wheelchairs	Clean and fresh	Pebble pits	Trampolines	**Decks and Gazebos**	Maps	Regular sweeping
Ramps	Pollution free	Ramps leading into play area	Jungle gym	Decks	Color	Plants watered
Railings	Smells of sewers	Buffer zones between equipment	See-saws	Gazebos	Braille	Water in pond clean
Revolving gates	**Water bodies**	**Ages**	Interactive equipment	Stairs/step to enter	Font legible	Functional lighting (was given an N/A because of the time
Stairs	Ponds	0-2	Other	Ramps	**Signage**	**Facilities**
Walkway Inside	Fountains	2-4	**Material**	Place for wheelchairs	Yes	Clean and functional toilets

[36] The average park depicted in Figure 8 was created based on the features highlighted in yellow. These features occurred at least in 50% of the parks across the seven categories

Physical Accessibility	Enviornment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Stone or gravel walkway throughout the park	Fish in the ponds	4-12	Plastic	Floor smooth	No	Clean and functional wash basin
Stairs at the end of walkway	Recreation in water allowed	12-18	Iron	Sitting area	**Signage**	Clean and functional drinking water facilities
Stairs at the end of walkway	Birds around the water bodies	18+	Other	Toilet	Braille	Clean and functional benches and decks
Smooth merging of pathway and sections	Lighting	Different types of play to engage in	Accessibility of equipmet	Indian style	Picture	Bins cleaned out daily
Paved walkway connecting different sections of the park	Lamps at the entrance	Cognitive	Monotones	Western style	Legible font	
Demarcations	Floor lamps illuminating the walkway	Physical (motor planning)	Colorful	Gender neutral toilets	Larger size	
Sections divided by shrubs or bushes	Lights in the play area	Social	**Accessibility of equipment**	Accessible toilets e.g., handrails, large washrooms	Entry and Exit	
Section divided by fences	Lights around the park benches (bollard lighting)	Solitude	Wheelchair accessible merry-go-rounds	Wash basin	Toilets	
Fences	Pole lights	Imaginative	Climbing ladders for slides	**Drinking water**	Other	
High fences around the park	**Safety**	Sensory (tactile, proprioceptive, visual, auditory, vestibular)	Flat seating in swings	Fountains	Preventing entry of wheelchairs/ denying access to people with disabilities	

Physical Accessibility	Environment	Play Area	Play Equipment	Facilities	Maps and Signages	Maintenance
Features						
Walled Park	Guard at gate	**Colors**	Bucket type seating	Water dispensing filters		
Fences or walls in parts	Volunteers or support groups	Monotones	Ropes for climbing slides	Accessible height and placement		
Park timings	Adults accompanying children	Stimulating and engaging	Other	Trash cans/bins		
Allocated time for children	Stray dogs or other animals	Excessive		Present in different locations		
				Few bins at entry/exit		
				Segregation of waste		