

Incorporating Young Children and Caregiver-Friendly Planning and Design Elements in Open Spaces Around Water Bodies

POLICY ADVISORY



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Key Words

Area-Based Development, Inclusive development, ITCN, Public Spaces, Smart Cities Mission, Urban Planning, Waterfront Development

Abstract

In developing inclusive cities, India needs to integrate young child and caregiver-friendly planning principles into all its current projects and plans. The advisory aims to bring in the aspect of Infant, Toddler and Caregiver-friendly Neighbourhoods (ITCN) and city development in open spaces around water bodies under the Area-Based Developments (ABDs), Smart Cities Mission (SCM) of India. This would help to make the approach to ABDs more inclusive and at the same time help develop conducive urban environments for young children and their caregivers. The advisory highlights how ITC lens can be incorporated in open spaces around water bodies considering the example of Redevelopment of Tolankere Lake in Hubballi-Dharwad Smart City.

Background

Inclusion' is a major theme that has emerged from NIUA's work in the past decade. Policy advocacy for integrating the needs of all citizens, irrespective of age, gender, background and ability, in the urban development agenda has been a cross-cutting intervention. Children are an important stakeholder in a city but their concerns are not adequately addressed in urban planning and development. In developing inclusive cities, India needs to integrate young child and family-friendly planning principles into all its current projects and plans since they are the most vulnerable groups and have unique needs that are frequently not addressed by the city's current urban planning and design frameworks. The advisory aims to bring in the aspect of ITC-friendly neighbourhoods and city development into an emerging approach of waterfront development.

Cities are crucial for economic growth in all nations, including India. By 2030, urban areas in India are expected to house 40% of the country's population and contribute 75% of the Gross Domestic Product (GDP)¹. This necessitates the comprehensive development of physical, institutional, social and economic infrastructure in cities. India is home to approximately 18% of the world's population and 9.7% of the national population is in the age group of 0 - 4 years.² Over 43% of children under 5 years of age are at risk of not reaching their full developmental potential.³ In the early years of life, exposure to a positive external urban environment influences the child's development drastically. For young children, everything is an opportunity to play, learn, and experience primarily through using their bodies to walk, balance, run, jump, climb, roll or fall. It helps infants and toddlers to learn the strength and limits of their capacities and the risk they would need to take.

Rapid Urbanisation has led to unplanned growth of cities and deterioration of open spaces and community spaces within urban areas. Open and community spaces have significant importance in the life of the settlements. Waterfront developments in urban settings are eco-sensitive breathing zones for the city and are gaining popularity in terms of recreational spaces in the city. Moreover, in the Indian context, waterbodies have been a pious and religious entity and hence, are associated with the cultural identity of the people. These places are frequently visited by young children and their caregivers. Hence, these areas should include elements from the view of young children and their caregivers to promote early childhood development.

The advisory highlights insights on the intersection of the ITCN framework and waterfront development under Area Based Development (ABD) plan and shares how the ITC lens can be incorporated in waterfront development in cities. A case example of Redevelopment of Tolankere Lake in Hubballi-Dharwad Smart City, was considered for developing the programme advisory.⁴

¹Source: SmartCityGuidelines.pdf (smartcities.gov.in)

²Source: ITCN Policy Framework, Smart Cities Mission

³Source: Early Childhood Development (ECD) | UNICEF India

⁴The detailed project report, Hubballi-Dharwad Smart City-Rehabilitation of Tolankere Lake, 16 March 2018, Volume 1, PwC

Inclusive Urban Planning

Children are an integral part of society in the urban context and it is essential to consider their development needs while planning and designing urban spaces. In recent times, there has been an increasing acknowledgement of the importance of providing urban spaces for young children to interact with their surroundings. However, simply installing swings and play facilities in neighbourhood level projects is not sufficient to cater to the developmental needs of children.

Urban planning processes need to go beyond the conventional approach of providing play equipment and incorporate elements which are based on a more nuanced understanding of children's developmental needs. This includes creating spaces that allow for imaginative play, social interaction, and exploration of their surroundings. There is the need to introduce programming in such external open spaces to scale and sustain the spaces in the long run. These spaces should be safe, accessible and designed with the specific needs of different age groups in mind. In summary, creating urban spaces for young children requires a deeper understanding of their developmental needs.

Adoption of Area-Based Development Plans in Indian Cities

Area-Based Development⁵ (ABD) is a comprehensive approach to urban planning which intends to improve specific geographical areas within a city by addressing physical, economic, social, cultural and environmental conditions. Its key components include holistic development, quality of life enhancements, creation of walkable localities, accessible parks and open spaces, last mile connectivity, and citizen-friendly governance. These contribute to the creation of liveable and sustainable neighbourhoods. ITC lens in ABD area can be integrated by identifying the right area, reviewing the challenges of community, culture context, review of ITC elements that can be suggested, modification in implementation plans, if needed.⁶

The Smart City Mission's ABD approach provides tremendous opportunity for locally applying the Infant, Toddler and Caregivers-friendly Neighbourhoods (ITCN) objectives. The areas can be developed as per the ITCN objectives which include Safe, Green, Accessible, Playful and Inclusive. By putting an emphasis on place-making, new and exciting theme-based facilities can be built to replace outdated ones. Place-making initiatives allow for planning with appropriate furnishings, spaces and design elements which support the ITC theme and encourage public involvement with more participation from the caregivers of young children. These initiatives in and around Early Childhood (ECD) facilities are key to inclusive neighbourhoods which in turn leads to an inclusive ABD. These initiatives can then be replicated in other cities and neighbourhoods, benefiting a larger population.

Intersection of ABDs under the Smart Cities Mission with the ITCN Framework⁷

The Infant, Toddler and Caregivers-friendly Neighbourhoods (ITCN) Framework was developed under the leadership of the Ministry of Housing and Urban Affairs' India Smart Cities Mission. Teams of experts from the Bernard van Leer Foundation, BDP and National Institute of Urban Affairs (NIUA), as well as other institutions and affiliations contributed in developing the documents. The Smart Cities Mission Capacity Building Framework includes knowledge products which capture various aspects influencing the quality of life of families with young children. In addition, the ITCN-focussed knowledge products provide an in-depth explanation of the factors critical for young children's healthy development. The ITCN Policy Framework, ITCN Policy Workbook, ITCN Design Guidelines, ITCN Evaluation and Monitoring Metrics and ITCN Best Practices Compendium offer strategies, guidance, benchmarks and successful project examples. These resources collectively contribute knowledge to help in creating and nurturing healthier neighbourhoods for young children and their families in smart cities, providing valuable insights and guidance for implementing ITC projects and principles.

⁵Source: *SmartCityGuidelines.pdf* (smartcities.gov.in)

⁶Please refer *ITCN Planning and Implementation Toolkit* developed by NIUA under the ITCN Capacity Building Programme. The toolkit guides cities on different stages of project implementation for creating ITC-friendly neighbourhoods.

⁷Source: *ITCN Policy Framework, Smart Cities Mission*

The Smart City Mission's primary objective is to enhance the quality of life, with particular emphasis on the local level which is similar to the focus of ITCN framework which emphasizes on neighbourhood level planning. ITCN becomes an integral link to the smart cities mission as ITC considerations serve as a unifying lens for sustainable, healthy, safe and inclusive infrastructure improvements, anchoring a network of city enhancements and giving greater meaning to the Smart Cities Mission's milestones from the perspective of families. ITC collaborates with smart cities through data-driven decision making to ensure fair distribution of infrastructure spending, inclusive actions and benefits for all families.

Public spaces used by ITC on a regular basis should be prioritized for intervention to support comprehensive early childhood development. ITC interventions have a ripple effect on neighbourhoods, strengthening the impact of lighthouse projects. Prioritising the needs of ITCs in smart city planning fulfils sustainability, inclusion, health and safety goals. The modular nature of ITCN under area-based development effectively multiplies its impact across the entire city. Its relevance in a specific city depends on factors like population density, open space availability and urban development goals. For example, rehabilitation of a lake area for recreational facilities in Indian cities can create a valuable public space for infants, toddlers and their caregivers. It offers a natural environment, promotes physical and cognitive development, encourages social interaction, and provides bonding opportunities. It also emphasises accessibility, inclusivity and environmental education. These areas should be prioritize for interventions to support early childhood development.

Development of Open Spaces Around Water Bodies

Waterfronts in Indian Cities are cultural and religious entities. These are eco sensitive zones around an ecologically significant site like a river or a lake. In general, waterfronts have a wide typology such as riverfronts, lakefront, recreational developments along canals, docks, marinas, etc. and seafronts. Particularly in the Indian context, waterfronts are limited to only certain typologies such as riverfronts, lakefronts and seafronts. Currently, there has been a transition of these spaces from culturally oriented to a recreational oriented space. They offer a wide variety of activities for people. Lakefronts have a similar perspective of development but are built around a lake or a smaller waterbody. These are also associated with culture and day to day lifestyle and daily activities of local communities. Seafronts are recreational development on the seashores. Since ages, waterfronts have been associated with the cultural identity of the Indian cities and are often visited by people. In India, such sites are planned and designed in a generic manner without considering the needs of different age groups of people particular young children and their caregivers.

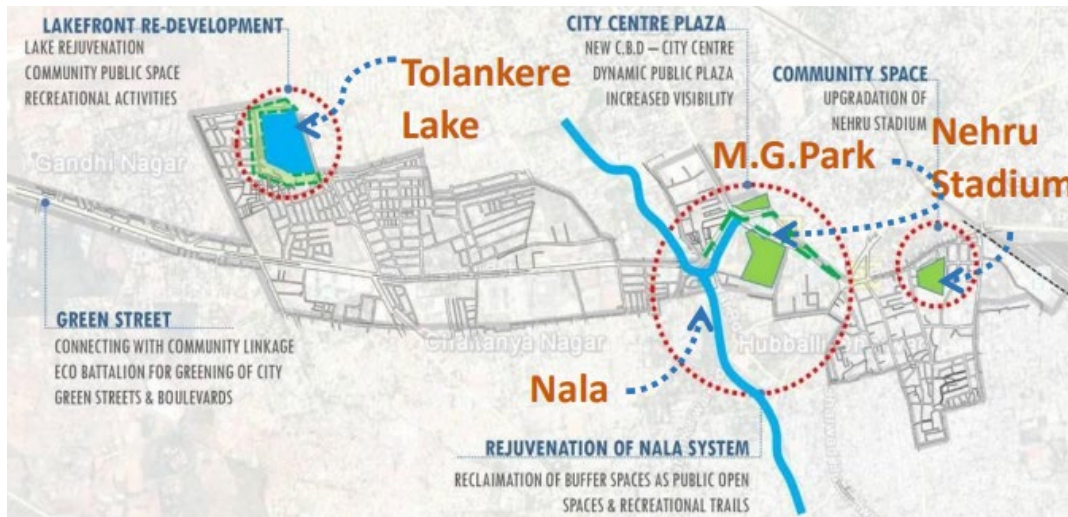
Waterfront development and open spaces provide breathing zones for the tightly packed cities but they are often neglected in city planning and are also under-utilized. Urban settings are devoid of ITC spaces and there is the need to utilize spaces such as waterfront to address the development needs of the youngest citizen of our country. In this context, creation of safe, walkable, playful and accessible spaces around water bodies needs to be promoted.

A Case Example from Hubballi-Dharwad Smart City

Background

The projects in Hubballi-Dharwad, Karnataka⁸ prioritise inclusivity, liveability, sustainability and cultural heritage revitalisation. Unplanned urbanisation in the city has caused deterioration of open and community spaces. Such spaces are vital for social, psychological and environmental well-being, and can help mitigate urban heat island effects and reduce environmental damage. There are few open spaces or green areas like lakes, gardens and playgrounds in Hubballi-Dharwad. The ABD initiatives in the city include four open space projects: rehabilitation of Tolankere lake area for recreational facilities, rehabilitation of Nehru stadium with improvements in indoor and outdoor sport facilities, rehabilitation of MG park area for recreational facilities, and Nala redevelopment.

⁸Source: Hubballi Dharwad Smart City



Images of four open spaces within the ABD Area: Tolankere lake , M.G Park, Nehru Stadium and A public open spaces and recreational trails near Nala⁹

Tolankere Lake area is 133427sqm i.e. 32.9 acres as per Detailed Project Report (DPR). The perimeter of the Lake bound Area is 1264 meter. Zone wise area split include water bound area, lake park, area to be developed/open space, and walkway/cycle track. This project is taken up as a case example as it serves a valuable opportunity to explore and provide guidance on the creation of young child-friendly open spaces. While MG Park and Nehru Stadium are in need of maintenance, Tolankere Lake represents a unique challenge requiring comprehensive revitalisation. This case example is used to examine the essential steps and considerations for transforming underutilised areas into safe, engaging and inclusive environments which cater to the development needs of young children and also the well-beings of their caregivers.

Redevelopment of Tolankere Lake

Tolankere Lake¹⁰, also known as Topalgatti Lake, is one of the important open spaces within the ABD area and is surrounded by residential neighbourhoods. In 2018, Tolankere Lake was proposed to be rehabilitated, as part of a lake rejuvenation project, so as to transform it into an active communal public space with recreational facilities and was inaugurated in December 2020.¹¹

Scope of the Proposed Project Plan Relevant to ITCs

The project components include levelling of inactive areas, maintaining and repairing existing structures, redesigning the area for efficient utilisation, and promoting public health and social interaction through activities like child-friendly play areas. The plan also aims to protect the lake, guarantee safety and security, and create a barrier-free environment.

Observations in the Tolankere Lake Area

The Tolankere Lake master plan aims to preserve the existing features and structures, to the extent possible, since these have been constructed or developed recently. Some of these features and structures, however, are in need of repair or replacement. The proposal includes features which are planned according to the site observation and land suitability, and are as follows:

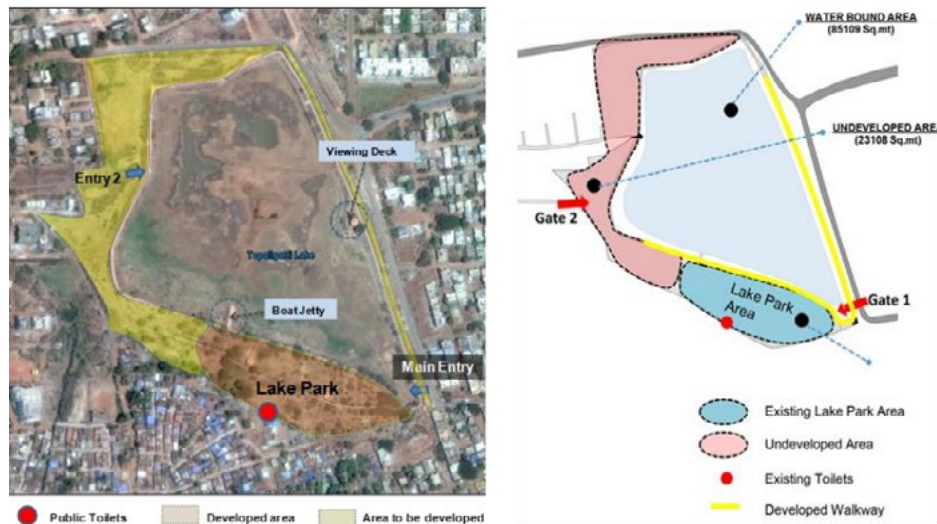
1. Planting of native tree species
2. Low maintenance shrubs
3. Fruit plants which attract birds

⁹The detailed project report, Hubballi-Dharwad Smart City-Rehabilitation of Tolankere Lake, 16 March 2018, Volume 1, PwC

¹⁰Source: Detailed Project Report, Hubballi-Dharwad Smart City-Rehabilitation of Tolankere Lake Volume 1

¹¹Source: Hubballi Dharwad Smart City

4. Less Lawn areas
5. Green pavers for parking areas
6. New pathways to have gravel joints which promotes percolation of water to the ground
7. Lake edges with plants which suit various levels of water in the lake
8. Activities for promoting social gatherings in the park
9. Park to help develop the lake ecosystem
10. Jetty and other activities to create a complete day out for the visitors
11. Retain existing paths and elements
12. Retain existing trees
13. Amenities including a reflexology path, Zen Garden, skating rink, open gym, yoga space, aromatherapy garden, artificial islands, amphitheatre, promenade, herbal garden, play area, and food kiosk.



The Tolankere Lake Area has 3 zones: Lake park area, Water bound area and Undeveloped area, according to the Tolankere Lake Detail Project Report, 2018

Incorporation of ITC lens in Open and Public Space Design and Planning

Projects can be developed from the lens of ITC to make spaces more inclusive for all. A focus on improving designs of public spaces makes them more suitable to the specific needs of infants, toddlers and their caregivers and helps in early childhood development. Many additional considerations are required to make the project inclusive of the ITC needs. Inclusion is important criteria for city planning and management as it accommodates design for everyone, and designing for young children in particular would, in effect, provide safe and comfortable spaces for everyone in the city including elderly and persons with disabilities.

Recommended ITC Considerations

Creating open spaces that are welcoming, safe, and inclusive for young children and their caregivers is a multi-faceted task that requires attention to several key elements. To achieve the goal of ITC-friendly spaces, these elements can be categorised according to the five objectives of promoting an ITC-friendly healthy space. The recommendations are based on the ITCN objectives, ITCN Framework and Design Guidelines, along with several other resources available in the knowledge repository on ITCN. These recommendations have also considered the several aspects of DPR and accordingly specific recommendations are given but not exhaustive in nature.

Safe Open Space

1. Zoning of the play areas is crucial, it can be done based on age groups or activities in the play space. Zoning involves the division of the entire space into simpler portions to make the best and most efficient use of a given area. Clear indication should be made of age-appropriate play equipment with signs or labels, with specification of different areas for different age groups (aged 0-1, 1-3 and 3-6 years).
2. Rounded edges and soft surfaces are provided at the interface with all built environment to avoid abrasion especially in the play areas for age groups 0-1 and 1-3 years.

3. The children's play area of the lake should be placed with a buffer from the lake boundary which may be a hazard for young children.
4. Offer shaded clustered seating areas with good visibility for caregivers waiting in the children's play area.
5. Cluster night time activities in parks such that they are connected by well illuminated routes as per the site requirements. For example, allow visual connection throughout the play area, utility areas and around the lake boundary for safety purposes.

Green Open Space

1. Provide shaded pathways near the park area and around the walkway adjacent to the lake boundary to combat heat and rains.

Accessible Play and Open Space

1. Provide colourful pavements and walls to engage children in a few sections of the walkways, and for stimulation of young children at their eye level (95 cm) with engaging themes that interest them, like animals or everyday activities and educational elements like shapes and numbers. Please also Involve caregivers of the young children in the design process.
2. The walkway/jogging track running around the lake must look at the mobility requirements for young children and should enable easy stroller movement.



Proposed Walkway / Jogging Path, (Source: DPR, Rehabilitation of Tolankere Lake)

3. There is a proposed children's sand pit area in the children's play area as per DPR. Provision of some other natural play elements such as water should also be considered. Natural play elements provide stimulation which is important for the brain development of young children in the early years.



Proposed Children's Sand Pit Area, (Source: DPR, Rehabilitation of Tolankere Lake)

4. There is a dedicated children's play area and some play equipment are also proposed in the DPR such as kids swing, standard wing, Merry go Round, See Saw, Slide and Joy ride. There are specific requirements for children in different age groups which can be considered as listed below:
- ♦ For age 0-1: Use of black, white, red and orange colours for play equipments, design spaces wherever caregiver can play, talk or sing with the infants. The space should also allow activities such as crawling, walking on knees, rolling and balancing.
 - ♦ For age 1-3: Mix of softscape (green lawns) and hardscape in walking trails for exploring different textures. Young children in this age group mostly play with a mix of static toys than dynamic ones. They run and jump around very small obstacles, so plant ornamental trees to generate curiosity.
 - ♦ For age 3-5: Some adventure-based activities like balance beam play, mound tunnel play, provisions for free art on walls for children and few nature-based adventure play.



Behaviour characteristics based on age group (Source: Urban95 programmes outcomes in India)

Inclusive Open Space

1. Include nursing booths that offer privacy for feeding the young children.
2. Inclusive play spaces should provide features that cater to the needs of children with disabilities, including wheelchair accessibility, sensory play activities and specialized areas for children with Autism.

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