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# Design Dichotomy: Impact of Design Intervention on the Recreational Open Spaces of Urban India—A Photo Essay

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## Abstract

*Well performing recreational open spaces (ROs) are essential amenities that improve the quality of urban life in the context of rapid urbanization prevalent in developing nations. In Indian cities, the quantity and quality of recreational amenities like parks and playgrounds do not compare well with global standards. Design interventions that are undertaken while developing ROs significantly impact their value in terms of attractiveness, accessibility, and usability. To evaluate this impact, an empirical survey of select ROs was conducted in Mumbai, Bengaluru, and Chennai. The analysis revealed the dichotomous nature of design interventions. Multiple interventions or ‘too much design’ resulted in the open space losing its ‘openness’ and allowed only an orchestrated use of space. Whereas the lack of any intentional intervention or ‘too little design’ resulted in informality, which made the open space susceptible to encroachment. Using photographic evidence, this essay illustrates the dichotomous nature of design intervention affecting the use value of ROs in urban India.*

Keywords: Recreational Open Spaces, Design Interventions, Performance Evaluation, Developing Nations

## Introduction

Rapid urbanization in developing countries has brought with it a plethora of inter-linked urban issues which ultimately affect quality of life. Recreational open spaces (ROs) are state governed open spaces devoted to parks, squares, playgrounds, recreational green areas and other open areas with recreational facilities for the public. These spaces ameliorate quality of life by providing opportunities for physical activity, recreation, and social interaction, among other benefits (Konijnendijk et al. 2013). In the Indian context, well designed and well maintained recreational amenities like parks and playgrounds (refer to fig. 1) are very limited (MMR-EIS 2012).

The World Health Organization recommends a provision of at least nine square meters of green open space per person (Kuchelmeister 1998). The existing available per capita open space in many Indian cities is far less than the minimum recommendation (Ministry of Urban Development India 2014). The situation is even bleaker in the urban fringe, where development is more haphazard and there is a lack of long-term planning. The existing, yet sparse ROs are further threatened by encroachers. This is due to poor policy implementation, lack of management and protection by the governing authorities, slum proliferation catalyzed by ever-increasing urban sprawl, lack of

affordable housing, among other factors. Undeveloped or badly-maintained ROSs also fall prey to the private construction sector, which often encroach upon the open spaces for various illegally built projects.



**Figure 1** A 'good' park, well designed and well maintained (Photo by authors)

Development of ROSs in urban India is undertaken by stakeholders that include decision makers from governmental bodies and executors such as designers, contractors and management agencies, all funded by city budgets. The development process includes various design interventions that involve aspects of amenities, landscaping, design features, material selection, management processes, etc., which are aimed at improving the existing condition of the open space. Design intervention could be described as the process of making a design-backed decision in the existing scheme of things with the intention of improving the present condition of ROSs (Herrington and Studtmann 1998).

## Method

The Sustainable Development Goals set by the United Nations aims to achieve universal access to accessible, safe, and inclusive public open spaces, with a special focus on women, children, the elderly, and people with disabilities by 2030 (UN Habitat 2015). However, there is no globally recognized methodology to assess these parameters for recreational open spaces. Many studies have investigated the impacts of design interventions using empirical observations (Mehta 2014), statistical analysis (Martinelli, Battisti, and Matzarakis 2014), landscape design assessment (Hassaan and Omar 2015), and user study methods (Sreetheran 2017). The novelty of this study lies in a city-wide cross comparison documenting the conditions of open spaces in a developing nation such as India.

To investigate if design intervention has any impact on the usability, accessibility, and inclusiveness of ROSs, an empirical study was undertaken across three Indian cities: Mumbai, Bengaluru, and Chennai. To achieve an equitable comparison of performance, only metropolitan cities with comparable population densities, budget provisions, and management structures were selected for the ROS assessment. Seventeen ROSs that included parks and playgrounds of multiple sizes were selected within each city, for a total of 51 ROSs across all cities. Some of the ROSs were in city centers; others were in suburban regions (refer to figs. 2, 3, 4). Each ROS was allotted a day of study and was studied for an hour in the morning, afternoon, and evening.

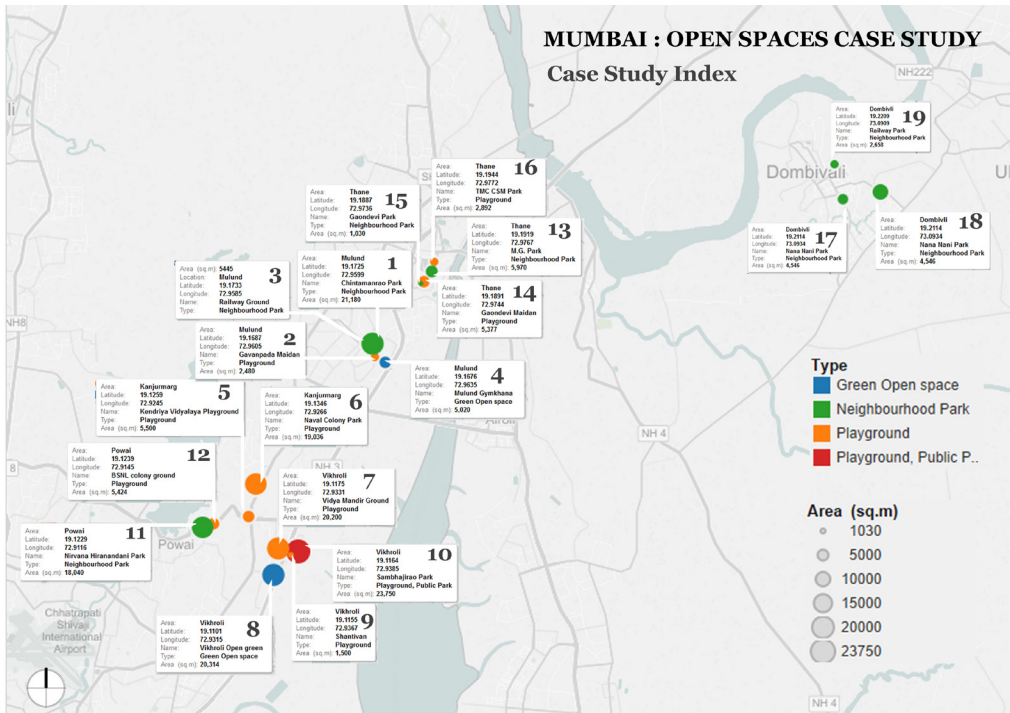


Figure 2 Mumbai ROS study indicating location, type, and size (Image by authors)

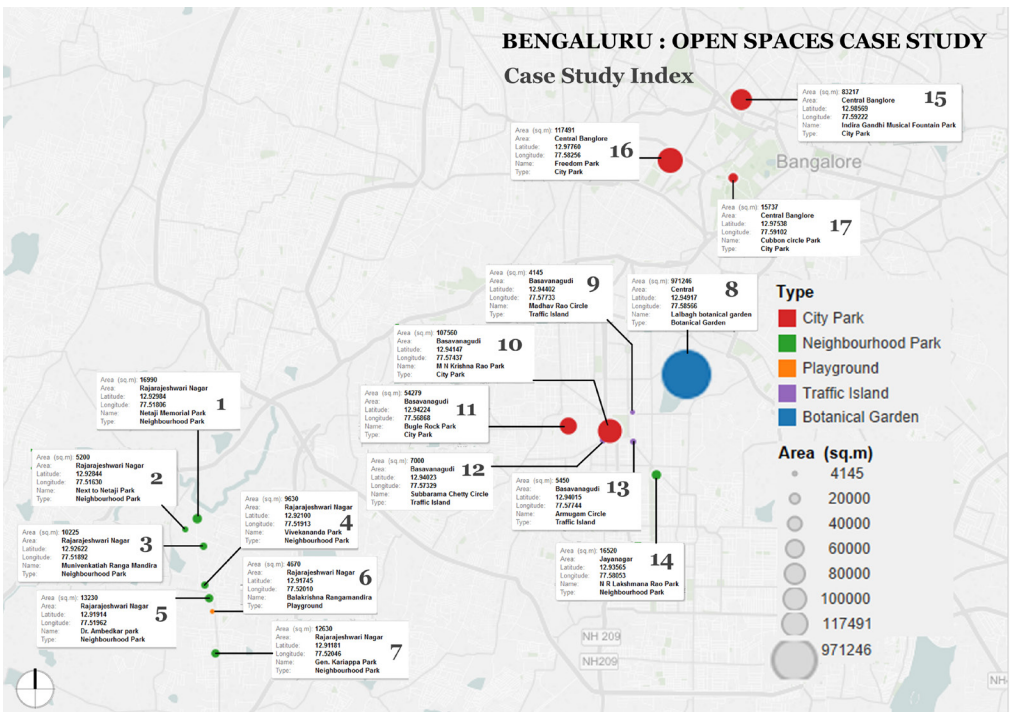


Figure 3 Bengaluru ROS study indicating location, type, and size (Image by authors)

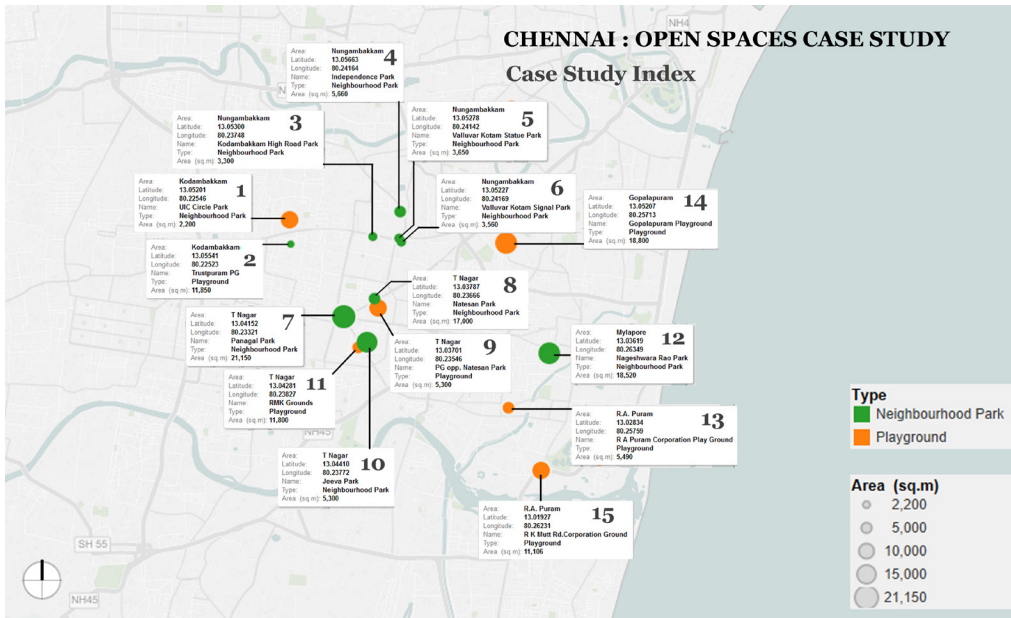


Figure 4 Chennai ROS study indicating location, type, and size (Image by authors)

Design-based interventions like boundary profiles, lighting, paved walkways, seating, active play and kids' play areas, vegetation type, vegetation quality, open-air gymnasiums, play equipment, architectural features, water features, shading devices, and so on were observed and analyzed (refer to fig. 5). To understand the impact of these design features on usability and inclusiveness, user profiles and behavioral patterns were also observed. Amenities like toilets, drinking water fountains, maps and signage, handrails and ramps, etc. were photographed to document their presence and quality. Photographs were used as tools to analyze the impact of design interventions on ROS performance and use value.

## Observation

ROs in each of the three cities were studied and compared with a special focus on design interventions. Interventions were compared on the basis of various design parameters, which are discussed in detail below.

### Boundary demarcation and signage

The emphasis on strict boundary demarcation and visual display of park details and amenities was evident in most parks and playgrounds of Chennai. This intervention ensured that the parks were protected from any encroachment. However, with a rigid demarcation between the inside and outside of open spaces, a very controlled and monitored ambience was established, which overshadowed the recreational and play aspects of the open space. In contrast, many ROs in Mumbai, especially the play-



grounds studied, showed poor boundary demarcation (refer to fig. 6). This resulted in encroachment by informal activities like hawker proliferation and illegal parking. Most of the Bengaluru ROSs showed adequate boundary demarcations that served the purpose of defining the extent of the property while still providing a visual connection from the outside to the inside of the ROS.

Furniture, play equipment and surface treatment

Design intervention entails the provision and placement of various furniture items and equipment, along with activity-specific surface treatments that are needed for recre-



**Figure 5** Open air gymnasium in a public park in Bengaluru (Photo by authors)



**Figure 6** Mumbai playground with no boundary demarcation or signage, encroached upon by parked motorbikes and hawking (Photo by authors)

ational activities like walking, playing, sitting, exercising, etc. It is essential for these interventions to be backed by detailed understandings of ergonomics, biodiversity, and universal design. Haphazard provisions of these items were observed in most of the ROSs studied, irrespective of city. The parks, especially, had many movement barriers including a lack of convenient entryways, particularly for the elderly, children, and people with disabilities (refer to fig. 8).

Over-provision was observed in Chennai ROSs that were excessively paved, leaving little earthen open space available (refer to figs. 7 and 9). Land surfaces were also concretized in many of the Chennai ROSs. The vegetation quality of Chennai ROSs



**Figure 7** Chennai park with heavy surface treatment and a cramped play area (Photo by authors)



**Figure 8** Mumbai park with defunct play area seating (Photo by authors)





Figure 9 Chennai park with demarcated boundaries and prominent signage (Photo by authors)



Figure 10 Bengaluru park integrating lawns and kids' play area (Photo by authors)

was also poor. In some of the Mumbai ROSs, furniture placement appeared to be ad hoc and little thought seemed to be given to surface treatments. These qualities lead to poorly performing parks. Also, the safety of users across multiple age groups was compromised by lack of maintenance and barriers to movement. Such poorly maintained open spaces led to gender disparities among users; females were greatly outnumbered by men. The presence of well-maintained vegetation, including trees, flowering plants, shrubs, and lawns, greatly improved the thermal comfort experienced by users (refer to fig. 10). In certain ROSs in Bengaluru, the presence of 'vague' spaces in the layout gave users the opportunity to devise play or recreational activities instead of using predetermined play furniture that catered to kids of certain age groups. More open-air gymnasiums were provided in Bengaluru parks, which facilitated greater activity among the elderly (refer to fig. 5).

Among the playgrounds studied in the three cities, Chennai playgrounds showed maximum user turnout as the size of the open space allowed for multiple activities to function simultaneously. With the several dedicated sporting facilities, the play-





**Figure 11** Playground in Bengaluru with a multipurpose stage (Photo by authors)



**Figure 12** Mumbai park with over-provision of play equipment: 'too much' example (Photo by authors)

grounds were mostly used by boys between 12-24 years old. However, fewer female users were observed at these playgrounds.

Adequate lighting fixtures also allowed the playgrounds to function both day and night. Playgrounds in the Bengaluru ROSs were also of standard sizes (refer to fig. 11). Most of the playgrounds here also had a stage, which indicated their multipurpose usage. The playground surface treatment with red soil was well maintained.

The Mumbai playgrounds performed more poorly than those in the other cities. Some had ill-kept amenities and many were encroached upon by parking, which lead to proliferation of hawkers and squatters. Also, the sizes of Mumbai playgrounds were not standard and hence were unusable for many sporting activities.

#### ROS user and usage

Design interventions have a significant impact on user visitation and activities performed. ROSs with an over-provision of amenities like play equipment and seating were more highly used by certain age groups, namely children and the elderly. ROSs

with security guards, lights, female toilets, and boundary walls had more female visitors. Playgrounds with no place-making interventions had fewer female users, especially in the age group of 12–24 years old. Male users belonging to the same age group were most active in playgrounds. Female users aged 25–59, elderly female users, and female toddlers were most active in neighborhood parks. In parks, walking was the most prevalent activity observed, followed by sitting and socializing.

## Discussion

For ROSs in urban India, holistic design and development are of utmost importance. As illustrated in this study, a well-performing open space is achieved when the provision of materials, furniture, and amenities, along with the landscape design, are well balanced. When this balance is disturbed by over-provisioning of these features, the open space loses its recreational quality and openness (refer to fig. 12). Heavy usage of man-made materials also detracts from open spaces. ROSs aid in recharging the water table, ameliorating urban air quality, sustaining a balanced microclimate, and providing contact with nature in a dense urban context. When an ROS ceases to be ‘open’ due to over-modification and exploitation, it may become just another built-up space that is formalized to the extent of being defunct. On the other hand, when no design interventions are undertaken, the ROS may be susceptible to urban threats of encroachment and informality (refer to fig. 12). ‘Too much design,’ or overdoing the intervention, and ‘too little design,’ where there is a dearth of any intentional intervention, are both counterproductive to the performance of ROSs in urban India. An understanding of this dichotomy of design intervention in these ROSs is, thus, a precursor to envisioning a framework specific to the Indian context that is designed to achieve the 2030 Sustainable Development Goal of providing universal, accessible, and safe public open spaces for all.



**Figure 13** Mumbai playground with untreated surface, encroached upon by parking: ‘too little’ example (Photo by authors)

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