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Addressing the importance of 'Mental health & Well-being' in contemporary Urban Development.

(Case Study of Bandra as a neighbourhood in Mumbai)

Sub theme: Goal 03- Good Health & Well being

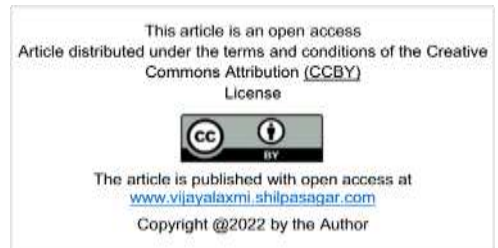
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Abstract

According to WHO, due to the spread of Covid-19, currently the world is facing grave danger of a Health Crisis. Due to this, there is a rise in human suffering, destabilizing the global economy and upending the lives of billions of people around the globe. SDG goal 03 talks about 'Good health & Well-being' and targets various issues like child health, maternal health and the reflection of various diseases like COVID-19, HIV, Malaria etc.

In scientific terms, well-being is defined as a person's psychological condition & mental well-being. There is a need to fill the gap and understand the issues related to mental health in the urban environment. With the colossal growth in population, land has become an exhaustive and expensive resource, due to which the public space in the urban city has become inefficient, insufficient and inadequate in terms of design.

Public space (Organically developed or planned) is a key factor for well-being & health. Public space contributes to children's development and community life, reduces stress levels and improves mental health & well-being. With changes in time, development bodies and their rules & regulations, it's important to understand the issues related to organically or planned developed public spaces in cities like Mumbai. It's also very important to examine how various development regulations are linked with the mental well-being of the citizens. Currently, there is no data generated by BMC regarding the steps taken to understand the development & mental being of the citizen or the public realm.

Keywords

Mental Well-being; Stress levels; Land; Public Space; Social Space; Urban bodies; Mumbai; DCR; BMC; Residential; Commercial; Public; Open Space; Policy; Architectural framework.

1. Introduction

Urban Areas are associated with higher rates of most mental health problems compared to rural areas. As per reports, City habitants have a 40% higher risk of depression, 20% more anxiety & the risk of schizophrenia, in addition to loneliness, isolation & stress. Globally 1 in 4 people will experience mental problems. There can be no health without mental health, so given the influx of the population into urban settings, sustainable city design is needed to promote and support good mental health & well-being.ⁱ

In scientific terms, well-being is defined as a person's psychological condition & mental well-being. The basic definition of well being in social space is the place of 'meaningful interaction' that happens between individuals or groups of individuals, as defined by numerous dictionaries. As Aristotle states 'Man is by nature a social animal', our surroundings & built environment set a stage for this social interaction and is an interactive play with a positive outlook within these spaces.

Green Spaces can refer broadly to controlled or uncontrolled natural areas like Parks, Recreational grounds, Wilderness areas etc. In cities, it is created for recreational or aesthetic purposes. Over the decades, access & participation in green spaces has reduced considerably due to globalization and the advent of technology. There is strong evidence that neighbourhood green levels are associated with mental health and well-being & urban areas with more green space experience less mental discomfort, anxiety & depression & have a healthier cortisol profile.ⁱⁱ

Green Space as therapy: Vulnerable groups such as at-risk youth, people with dementia or mental illness & stressed employees are provided with structured therapeutic interventions in green spaces to improve social contact & social belonging.ⁱⁱⁱ Researchers have demonstrated that Scenes of nature have a restorative effect unlike Urban scenes or images of buildings. And studies suggest that nature scenes are more likely to activate our parasympathetic nervous system, the system that helps us calm down and recover from stressful events (Park et al 2010; Berto 2014; van den Berg et al 2015; Hunter et al 2019)^{iv}

1.1 Background of Mumbai & Social Spaces

Our lives are influenced and shaped by the places we have lived & the people we have met along the way. There are places that tug at our hearts, places we dream about, and those we long to revisit. In 'Lure of the Local', Lippard reflects on the human need for a place to stand and for something to hang on it. Places ground us to the earth, to the communities in which we live, and to each other. Places provide a starting point, the opportunity to belong somewhere, and a place to return to. The value of 'place' in our lives cannot be underestimated. There are people who are fortunate to have places that provide comfort, roots and stability that grounds them.

Initially during the industrial development, with the mass population migrating towards Bombay, it allowed dense development like Chawls and Wadis which made a strong bond among the residents, increasing the social environment of the city. Their open design of buildings allowed a person standing in the common passage-cum-balcony to interact with the person who is walking on the street. These common spaces was also a place where kids play box cricket, women cut vegetables together or dry clothes and safe places for elderlies to enjoy their newspaper & a cup of tea. Even the streets of elites & higher class like Gamdevi & Dadar gives out transparency & porosity which helps people to connect with the building & its surrounding.

These interactions made people more sensitive towards each other and evict the expression of fear. The most comprehensive theory 'Eyes on the Street' by Janes Jacob to reduce criminal activity within the city can be seen successfully within Chawls or Wadis. These small interactions by vision or any sort of threshold ensure safety and maintain that hospitable feeling in the city. These interactions within the social spaces also increase the exchange of ideas & goods, hence enhancing the economic conditions of the city the public street market spaces are more successful than any other High-end malls.

Figure 1: Social Spaces act as a buffer for people to interact



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These spatial factors help as an outlet for individuals to improve on their day-to-day social interaction with an opportunity to talk with their peers. In commercial workspaces, a tea/coffee break area, studies have found that it helps people to take a mental break & involve in community participation encouraging their mental & physical well being. Using atonement & reciprocity, with our voices and facial expressions, we can achieve feelings of safety which leads to resilience & regulation of our nervous systems.

Figure 2: Public spaces as a common area for children to play, interact and a key element in their social development



Source: Created by Author using AI

Many research studies indicate multiple people can experience the 'same' trauma, which some stay traumatized, others rebound easily & quickly. Social Cohesion or Connection has much to do with resilience, as well as the 'meaning-making process' that precedes & follows a stressful or traumatic experience. Positive social support & healthy attachments create a buffer effect for human stress & well being. For instance, neighbourhoods with attributes that promote social cohesion & a sense of safety show a significantly higher likelihood of reporting less perceived stress.

1.2 Mumbai DCPR- Bilateral Understanding

Open Spaces are defined as areas that are green, accessible and open to the sky. Since the 1980s, the city has lost 43% of its green cover and currently has a per capita accessible open space of 1.08 sqm per person much lower than the Urban & Regional Development Plans Formulation & Implementation (URDPFI) guideline of 10-12 sqm per person for Indian cities.^v According to the 'Harita: The Green Footprint' fellowship, the study stated that apart from the visual and

recreational pleasures parks provide, they also combat the effects of climate change by cooling neighbourhoods, reducing flooding, improving air quality and filtering pollutants from water.^{vi}

The present Development Plan & Development Control Regulations of Mumbai city came into force in March 1993. DP & DCR tried to solve many issues & regularized the current pattern of the city's development and tried to establish the missing link of the Development Plan by making controlled regulations. It focuses on the current use of space, future utilization of spaces & growth pattern of the city. Altogether it has 121 sections with various amendments done to it with the passage of time. For the first time, DCR introduces terms like TDR and blanket FSI. It also looked into the development problem raised by the overall developing population. It tried to cater for the ever-increasing housing problems by making section of 33 (1-64).

Figure 4: Women's Perspective of Public Spaces at night



With the purview of development & land crunches of Mumbai, Mumbai DP & DCR ignores to cater the physical & mental health of citizens. Unknowingly, DP & DCR has cut the link in open spaces. It has become smaller and houses are disconnected from the street, making the street more prone to criminal activity. This has led to the disconnection of people from experiencing public spaces & increased stress levels among citizens.

BMC's proposal of the Mumbai Climate Action Plan (MCAP), focuses on six key action areas for developing climate-resilient mitigation & adaptation strategies. One of the key action areas is Urban Green & Biodiversity which focuses on the scientific approach to increasing the city's green cover & ensuring inclusive access to green open spaces.

Source: Created by Author using AI

1.3 Understanding COVID-19 Pandemic and its effects in Mumbai City

Mumbai is one of the most densely populated cities in the world (22,000 people per sq. km.). With the lockdown prevalent for two years and with its changing rules & regulations, restricting access to outdoor public spaces confined people, where public spaces like parks, beaches & promenades were spaces of solace for many, especially children who were away from school & exposure to adequate sunlight.^{vii} The city is scarced in open spaces and green spaces are necessary for optimal development in children according to the document published by UNICEF.^{viii}

Learning from the past: In 1898, the Bombay City Improvement Trust was established two years after the bubonic plague ravaged. The improvement trust worked to decongest the overcrowded old town through clearance drives and improve ventilation & sanitation. In the past, cities have thrived after epidemics by adapting resilient infrastructure. For example, London's pioneer sewer system was built to stop the spread of cholera by understanding better sanitation. New York understood the importance of decongesting residential areas & creating green spaces by developing Central Park to breathe clean air. Le Corbusier's Chandigarh Planning has a strong emphasis on parks, landscaping & views of greenery.^{ix}

Figure 4: Increase in Stress factors due to Urban Environment



Source: Created by Author using AI

With Physical & Mental Health as a primary focus post COVID-19 pandemic, it is essential that our urban infrastructure focuses on re-enhancing the Public Green spaces to develop as Social Cohesive unit for all and aims to achieve a sustainable movement for climate change.

2. Research Question

- To validate the query to understand the diverse and various mental well-being parallels derived from Urban Intervention in various neighbourhoods.
- To examine the relation with Development Control regulations on the mental well-being of the citizen.
- To raise the relevancy of 'Mental health & well-being' in contemporary Urban development with the background of SDG Goal 03- Good Health & Well-being.

3. Research Objectives

- To select a suburban neighbourhood in Mumbai as a sampling module to understand, observe and study, how public spaces are developed in the neighbourhood.
- To identify the parameters that impact the social spaces and their spatial effects on mental health.
- To understand the impact of DCR on public spaces and its effect on social conditions
- To understand the role of Urban design to help reduce Urban Stress levels.

4. Research Methodology

The methodology explores the various degrees of de-stress, mental tensivity or mental comfort that happens in a neighbourhood by selecting 3 different typologies of case studies. Each parameter to understand the different typologies is derived from the last 5 years of research or books done on similar topics. The conclusion of the case study is compared and reasoned with the current DCR policy by Mumbai on various Urban & architectural scales. The study would be supported by inductive reasoning to arrive at an action research plan.

To define the parameters, a derivative from the MIND THE GAPS framework is established. ^x It focuses on 4 key aspects i.e., Green Places, Active Places, Pro-Social Places & Safe Places and the following is the conception of 'GAPS'

- Green Places: Accessibility to natural green spaces in neighbourhoods & in course of people's daily routines likely improves their mental health & wellbeing.
- Active Places: Regular Activity by planning active transport to outdoor gyms will help integrate exercise, social interactions, and a sense of agency for daily routines and help to improve mood, wellbeing and many mental health outcomes.
- Pro-Social Places: Urban Design should facilitate positive, safe & natural interactions among people and promote a sense of community, integration & belonging.
- Safe Places: A sense of safety and security is integral to people's mental health and wellbeing. A balanced approach is necessary: a safe environment improves accessibility.

Table 1: Parameters derivate from 'MIND THE GAPS' framework

GREEN PLACES	ACTIVE PLACES	PRO-SOCIAL PLACES	SAFE PLACES
Comfort			
Safety			
Visual Connection			
Social Inclusion			
Emotional Nourishment			
Resilience			
Community Involvement			
Design Aesthetic			
Maintenance			

Source: Created by Author

4.1 SCOPE

The Project will be limited only to neighbourhoods which are Residential, Commercial and Public open spaces only, which cater to the large sector of citizens in Mumbai City. The Conclusion will be derived by sampling methods of User interviews and documenting User mental experiences impacted due to architectural interventions.

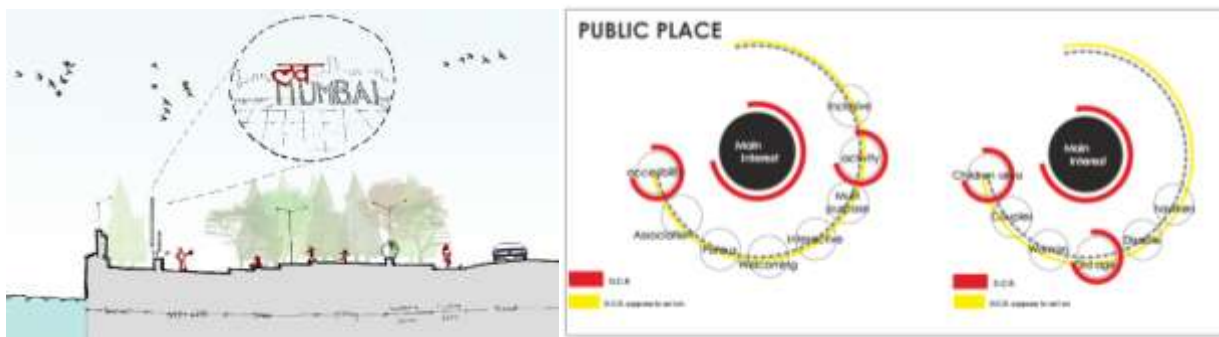
Bandra as a Suburban module for the case study is chosen. It's a coastal suburb in Mumbai. It is one of the central areas for commercial & government institutions in Mumbai due to Bandra Kurla Complex (BKC). It was a small fishing village & the inhabitants were fishermen and farmers under Portuguese rule who built Bandra fort and various other churches in Bandra. It was acquired by the British up to 14th August 1947. The western suburb was developed around 20th Century and it is well known for its residential neighbourhoods, churches, beach promenades, restaurants, and street shopping & acts as a tourist attraction as well.

5. Data Collection, Findings & Analysis

5.1 PUBLIC SPACES: Bandra Reclamation

One of the most famous and favourite urban public spaces that have been developed in the recent past for the people. This space is well-connected and located at the prime junction of Bandra. The open space is in the neighbourhood of Bandra and along the water's edge. It has been considered a spot with architectural elements such as transparency, and comfort level. While observing the space during different times of the day, it was noted that the most footfall is experienced in the evening, after the school students and office goers are dispersed. Within 3 hours of observation, the space witnessed around 60-80 footfall, consisting of a variety of age groups, out of which, the majority public consisted of kids, their guardians overlooking them, and office workers getting to take a break from their monotonous work-life routine. The public prefers to visit the space as it provides them with a moment of peace and allows them to take a deep breath after a long day.

Figure 5: Section of Bandra Reclamation as a Public space & Understanding how DCR affects Public Spaces.



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5.2 RESIDENTIAL SPACES

By analyzing the newer development and DCR with all setbacks and regulations, the issue of social integrity was neglected. DCR allowed the spaces to be developed in total isolation, without considering the adjacent surrounding or ambience of the place that it exhibits. With all Firefighting and Podium parking norms, residents' connection to the street was cut loose. The social boundaries overlapped by the communal, mutual, and individual space are overtaken by the Class of different income groups. The residents then just stay up to their podium level and try to find their little breaks among themselves, which sometimes limit their social interaction with the surrounding neighbourhoods. The collective aspiration of the city is broken down into Individual exclusive dreams by the formation of these Gated neighbourhoods. The social fabric affecting individual mental health is considerably negotiated with urban bye-laws. This affects the mental health and well-being of residents as it restricts their interaction outside of their defined gated community, and at the same time, also affects the pedestrians passing through the area, as the concept of 'eyes on the street' is no longer relevant with the existence of podiums and taller compound walls.

Figure 6: Section of Residential space with old & new neighbourhoods & Understanding how DCR affects Residential Spaces.



Source: Created by Author

5.3 COMMERCIAL SPACES: BKC

Bandra Kurla Complex is the commercial hub of the city located after reclaiming the Water basin of the Mithi River. It's successful as it's located in an area within reachable distance from Airport. The Development control regulations for BKC unintentionally create exclusive and unsocial spaces. It becomes deserted in the late evening and on holidays, resulting in an increase of insecurity and anxiousness among the individuals who have to trail through the region, making it feel unsafe, especially for the female population.

Figure 7: Section of BKC as a commercial space & Understanding how DCR affects Commercial Spaces.



Source: Created by Author

Table 2: Rating & Comparative Analysis of Stress Relief factors as observed in the different typologies of selected case studies in Bandra by interview & observation method

PARAMETERS	CASE STUDY 01 (Public Space)	CASE STUDY 02 (Residential)	CASE STUDY 03 (Commercial)
Comfort	5	8	6
Safety	3	7	8
Visual Connection	6	5	7
Social Inclusion	8	5	2
Emotional Nourishment	6	7	5
Resilience	8	5	2
Community Involvement	5	6	2
Design Aesthetic	8	5	5
Maintenance	5	7	6

Source: Created by Author

5. CONCLUSION

Even though we see DCR as a book of development regulations, it has been consistently found that DCR has been successfully used as a tool to divide and segregate society. Conditions arise in which an individual's transparency or comfort level is given less importance. Many spaces were deprived of Social Inclusiveness as Security and Inclusivity were negotiated. Further with seldom open spaces and scarcity of green spaces, mental health has been affected unknowingly.

This study will develop a framework for BMC and other Urban think tanks to understand parallels of mental well-being in different neighbourhoods. The conclusion will propose various interventions that can enhance mental well-being in real-time and Pragmatic scenarios. The Study will be beneficial for the Future Urban think tanks to take decisions regarding any development, with regard to the Mental well-being of the citizens.

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