

Lake As A Public Place: A Case Of Vivekananda Sarovar, Raipur

Ar. Amrita Shukla^{1*}, Dr. Pankaj Chhabra²

¹Department of Architecture, LSAD, Lovely Professional University, Phagwara, Punjab, 144001, India & Ph.D. Research Scholar, Department of Architecture, Guru Nanak Dev University, Amritsar, Punjab, 143005, India

²Department of Architecture, Guru Nanak Dev University, Amritsar, Punjab, 143005, India

*¹amrita.shukla@lpu.co.in, ²pankaj.arch@gndu.ac.in

Abstract

Proliferation in the Urban population due to migration from the village for a better lifestyle or job opportunity may result in the problem of space and Land scarcity. Thereby quantity and quality for public open space remain far from satisfactory, and share-of open-space in the Indian cities has reduced to an alarming rate [1]. According to the World Health Organization, at-least-15% of a city's- total area-should-be open space and most of the Indian cities fall-below-the-mark. The scarcity of Public Open Space has a drastic adverse effect on the health of all age groups of society. On the other side, the contamination and depletion of water bodies had risen to an alarming rate[2]. From ancient times, water bodies constructed to ensure steady water supply throughout the year and ignored in the contemporary context. Urban waterfronts are in deteriorating conditions, round around the globe due to various environmental, social, and economic factors[3]. In this respect, the research intends to showcase the potential of the waterfront as a public open space in a dense urban district of Raipur city, concerning socio, climatic, and cultural aspects[4].

Keywords: Public open space, waterfront, water bodies

1. INTRODUCTION

“The measure of any great civilization is its cities, and a measure of a city’s greatness is to be found in the quality of its public spaces, its parks, and squares.” -John Ruskin

“Open space can be defined as land and water open to the sky in the urban area, not covered by cars or buildings that can be fluid to the extent to allow various types of activities encompassing necessary, optional and social activities” [5]. In simple words, an area that is open and accessible to the public. These can also be defined as place for public gathering such as plazas, squares, and parks, or any linking areas, such as sidewalks and streets. Open space serves as recreational areas for residents and helps to improve aesthetics as well as the environmental quality of neighborhoods. Open space is also one of the major factors influencing the quality of life by direct contribution in the form of environmental benefit, social benefit, cultural benefit, and economic benefit.

After the Industrial Revolution, there was a large shift of population from a rural area to a city/urban area. This immigration of population impacted as an increase in density and compromise of basic human needs such as recreational area or public open space.

It is predicted that the urban population will be raised to two-third of world population by the year 2050 [6]. As a result, congestion in cities, degradation in air quality, scarcity of water, land, and socio-cultural interaction. Public open space is a complete solution for the listed issues.

The land is a fixed resource, and with urbanization demand for land in an urban area is increased. It is tough to find the land parcel for POS. Thus the need of the hour is to search for an alternative POS. From the ancient period, waterfront/ water bodies used as public space, for example- Sarovar, kund, bawadi, or stepped well, ponds, etc.

2. Characteristic of Public open spaces

The following are important characteristics for Public open space given by Jan Gehl[7] and can categorize under three broad areas [8].

I. Protection:			
II.	a- Safety from traffic and accident. Safety from all types of traffic.	b- Protection from crime and violence. Active public space. All-day round activity. Proper illumination in dark.	c- Protection from unpleasant sensory experience. It includes Noise, Glare, Crowd, Dust, Wind, and Heat.
III.	a- Amenities for pedestrians. <ul style="list-style-type: none"> • Accessible by all age groups and by all means of local transport. • Barrier-free • Cycle track 	b- Opportunity to enable longer stay <ul style="list-style-type: none"> • Access to a sanitary facility, drinking water. • Good speech intelligibility. 	c- Possibility of a stand, sit and lie down <ul style="list-style-type: none"> • Defined seating area. • Primary and secondary seating options. • Proper seating facility like benches.
	d- Possibility of undisturbed sightseeing <ul style="list-style-type: none"> • Interesting views (Vistas and views) • Sightseeing without the feeling of being watched. 	e- Possibility to communicate <ul style="list-style-type: none"> • Variable seating arrangement. • Gathering area for small groups. 	f- Possibility to play, relax, and exercise. <ul style="list-style-type: none"> • Sufficient area to move. • Structural elements to enhance activity. • Round the close, all the year availability.
	a- Scale <ul style="list-style-type: none"> • Secures feeling due to the proportion of surrounding buildings 	c- Possibility of enjoying the climate <ul style="list-style-type: none"> • Shading device to control harsh heat. • Wind protection in case of the cold season. 	b- Aesthetic qualities <ul style="list-style-type: none"> • Attractive vista and views. • Trees, plants, water element. • Haptic ally and visually pleasant materials.

Thus, in brief, we can say, public open space should be welcoming, safe, well maintained, and climatically comfortable, along with the opportunity for human interaction and social activities.

3. Classification of POS

There are many attempts made to classify public space depending upon their characteristic. Classification of open spaces ranges for wide variety, from ownership, i.e., public and private, functionality i-e active and passive use, catchment hierarchy, i.e., local, neighborhood, district, and regional, and also classified as natural, cultural and civic open space[9]. Thus from the design perspective, Public open space can be classified as:

- Public parks
- Square and plaza
- Memorial
- Market
- Street
- Playground
- Community open space
- Found spaces/everyday space
- Waterfront/ water body

From the above list of various types of open, the paper intends to focus on the study of the water body as open spaces.

4. Impact of POS

The impact of POS is classified under the following four categories.

Social benefit:

Social benefit is the most obvious benefit associated with public open space. The time spent by people in outdoor open space is directly related to the frequency of meeting and developing a social network. The nature of social activity depends upon the context of surrounding and the number of people participating [7]. It allows interaction between man and nature, enjoyment, recreation, and many others.

Environmental benefit:

There are many environmental benefits associated with open spaces such as Nature conservation, biodiversity, urban climate- cooling, air quality – reduction in air pollution, and noise pollution[10]. Due to rapid urbanization, the heat island impact created can be mitigated by urban green open spaces. It also helps to regulate microclimate temperature, filters are and helps in reducing noise created by automobiles[11].

Health benefit:

“Health is not the mere absence of illness, but means physical, social, and mental wellbeing.” Both physical and mental health benefits are associated with open space. It also helps to reduce obesity by providing several chances to indulge in physical activity. Stressful urban life is a significant mental health problem that could be reduced by the restorative effect of nature[11].

Economic benefit :

Open spaces like parks, playgrounds have a positive impact on the surrounding area by providing social, environmental, and health benefits to users. Thereby resulting in a hike in property price and property tax[12].

5. Waterfront as Public Place

“What defines the character of a city is its public space, not its private space.” Dr. Joan Clos, Executive Director, UN-Habitat

“Waterfront means the urban area in direct contact with water. Yasin et al. (2010) indicated that waterfront is defined generally as the area of interaction between urban development and the water. Hou (2009), described the waterfront area as the conflux area of water and land[13].”

The redevelopment of waterfronts started from North America in the year around 1960 in Baltimore and Boston, and San Francisco. The iconic examples, recognized worldwide for waterfront development, are Sydney and Bilbao. In the long run, urban designers and planners took waterfront development as a prospect to upgrade the communal and economic conditions of city[14].

Waterfront is considered as a place for public enjoyment. A pleasant waterfront comprises plenty of public access in the form of visual and physical. Cities magnificent waterfront provides enough opportunity to serves more than one purpose, i.e., a place to live, work, and enjoy. Specifically, waterfront directly contributes to the quality of life in all aspects - economic, social, and cultural[15].

6. Raipur city and lakes

Raipur City:

The Raipur city is one of the largest urban settlement of Chhattisgarh State. The city is also known as the Rice bowl of the region. As per Census 2011, the city has a population of 11.5 lakh. The natives believe that the King Ramachandra of Kalachuri dynasty established the city of Raipur and made Raipur city as the capital. The population of Chhattisgarh state is 255.4 lakhs, as per the census of 2011. The decadal population growth rate in the state during the 2001-11 period was 22.6%, which is higher than the national average of 17.6%. Around 59.36 lakh persons are living in urban areas in 2011 while it was 41.85 lakhs in 2001. Only around 3% of the total area of the city is under the open space and water bodies, which is far less when compared with the norms of WHO (World Health Organisation). There is a need to improve the maintenance of existing water bodies and parks in the city[4].

Lakes:

Earlier, Raipur city supposed to have 154 water bodies of varying sizes, both natural and manmade. These water bodies are locally known as Talabs, primarily served as recharging pit and also protected the city from waterlogging and flood during monsoon season/ heavy rain. They served as Rainwater harvesting structures. Presently only 70 talabs are surviving i-e only 45% of water bodies are existing. The history of Raipur city is strongly associated with these water bodies. All the water bodies are constructed in a step-like pattern and are intern connected via tunnels. This ensured that when one water body reaches its maximum capacity, water will overflow to a successive water body.

The current situation of water bodies is alarming. The quality of water is degraded due to the dumping of municipal solid waste and the mixing of sewer water resulting in mosquito breeding. The water bodies which were constructed with such intelligent thought have become a place of contamination. Thus the urgent need is to take a step towards this.

7. Vivekananda Sarovar

As said by John Ruskin, “The measure of any great civilization is its cities and a measure of a city’s greatness is to be found in the quality of its public spaces, its parks, and squares.” The Sarovar was built by Raja Bhrum Dev in the 10th century for the rainwater harvesting and recreational purpose. The water spread area of Sarovar is around 30 hectares, with a water holding capacity of 8.9 lakh m³. The Sarovar is also known as Burha Talab and named as Vivekananda Sarovar after Indian philosopher Shri Swami Vivekananda Ji, who lived close by and often visited the lake during his stay at Raipur. In the dense urban fabric of old Raipur city where buildings have extended their height and streets are narrowed down, Vivekananda Sarovar/ Budha Talab breaks the monotony and provide a huge breathing space for the nearby

community. Vivekananda Sarovar is one of the oldest Talab in Raipur city. It is surrounded by prime building types such as schools, colleges, stadiums, temples, etc. and invites user groups from adjoining residential and other mixed-use buildings. Complete surroundings have dyeing need of public open space to work as an interface for a social meeting, recreational, and to relax. Due to almost 99 percent hard surface in the vicinity, the complete area suffers a heat island effect, which can be mitigated by Vivekananda Sarovar. In rapid urbanization age where no land is vacant to meet our public need, this type of waterfront provides an opportunity to work as a public open space.

It is one of the few bulk open land available around the old Raipur city to serve for the recreational need of local people. It acts as a breathing space as well as a climate moderator for the surrounding area. The tangible and intangible facts associated with Sarovar are its importance as rainwater harvesting structure in ancient times as well as life association and motivational factor of Swami Vivekananda Ji to reorient his life for society.

The prime location of Vivekananda Sarovar makes it easily approachable from the nearby residential and religious area, which makes it a social and culturally significant place. The development of parks, jogger track, informal markets, and water sports activity can directly contribute to make it a significant public open space and satisfy the need for public open space in the nearby vicinity.

The following are the key attributes that contribute to successful public place making[16].

Location and Accessibility:

The Vivekananda Sarovar is situated in a prime location that could be easily accessed by either walking, bicycling, or by public transport. It is surrounded by residential and religious precincts, institutional buildings such as schools and colleges, sports complex, Chhattisgarh Khadi and Village industry, multiplex, etc. Due to the presence of such prominent precincts in the surrounding area and its strong historical background provides sufficient opportunity of linking Sarovar to its adjacent area and various part of the city.

As discussed above, the presence of a wide variety of building such as schools, colleges, religious campuses, multiplex, and residential buildings invite users from all age groups. The place provides a platform for school going kids to an older person of society. Due to the presence of different age groups, their choice of activity and association with waterfront makes it an active place throughout the day. The place provides an opportunity to interact with different users of similar or diverse age groups catering to their choice of place.

Use and activity:

The place provides a wide variety of activities from sitting alone and enjoy nature to having a chit chat at Chaupati place. The Vivekananda Sarovar precinct comprises diverse activities such as walking, jogging, exercise, water sports activity, Chaupati, vegetable market, etc. The activity listed starts right from early morning to late evening, providing different opportunities to different users to associate themselves with the water body. These tangible and intangible activities help in creating a mental image of the place. Due to the absence of public space in the adjacent area, it serves as a recreational place to celebrate spots for various political and social events.

Comfort and safety:

The place serves as a soft zone in between the concrete jungle of the city, regulates the microclimate of surrounding by evaporation. The periphery of the water body is surrounded by railings and well defined paved areas for the users and their safety. Benches are provided at regular intervals so that one can sit and relax comfortably. For religious purposes, Ghats are provided so that users can conveniently perform religious activity. Swimmers are assigned to sports activity areas so that accidents can be avoided. Although viewing deck/ spot facility is missing, which act as a hindrance and creates cutoff from the waterbody.

Amenities: The periphery of the water body is having a basic facility of public toilet and street lighting. Food and water are available with local vendors on a payment basis.

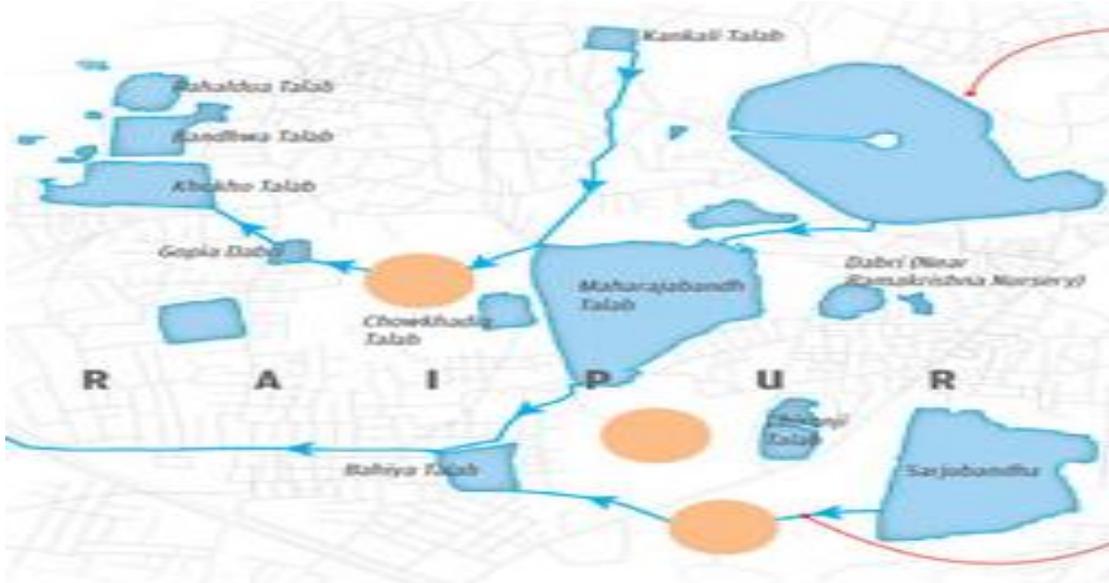


Figure 1: Waterbody connectivity planned in Raipur city



Figure 2: Building use detail of the surrounding area around Vivekananda Sarovar

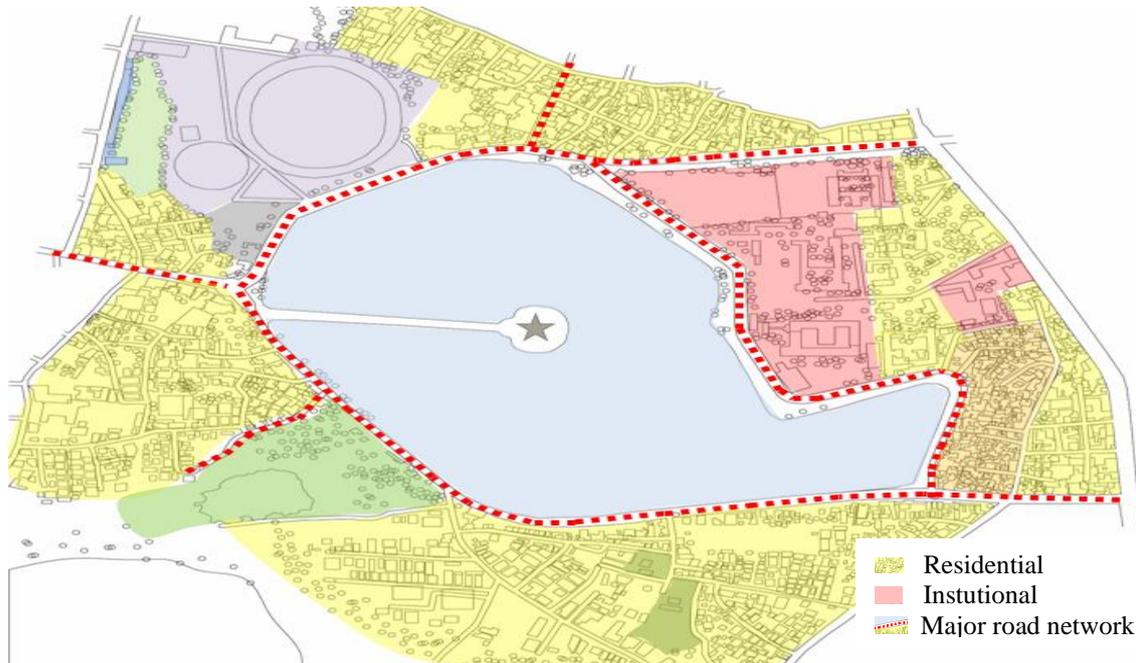


Figure 3: Prominent land use and the road connecting around Vivekananda Sarovar

8. CONCLUSION

Vivekananda Sarovar serves as a public open space for the surrounding vicinity as well as for the city, owing to the strong historical background. Location, accessibility, connectivity, comfort, safety, and divers activity are governing parameters for successful public placemaking. To increase footfall and invite more user's pedestrian pathway and bicycle track need to improve along with zebra crossing and traffic lights to facilitate the residents to approach the Sarovar. Play areas for toddlers and landscaping can act as a governing factor of attraction. The potential of tourist attraction spots can be enhanced by introducing water sports activity, musical fountains, etc. Along with serving as a public place, there are environmental and economic benefits also associated with Vivekananda Sarovar. De silting of Sarovar can help in serving as a rainwater harvesting structure by recharging the water table. The interaction between the water body and human need to be increased to blend the Sarovar with the urban fabric. Women safety is a key parameter that needs to be included in the toolkit of public open spaces for Indian cities.

REFERENCES

- [1] A. U. K. Imam and U. K. Banerjee, "Urbanisation and greening of Indian cities: Problems, practices, and policies," *Ambio*, vol. 45, no. 4, pp. 442–457, 2016, doi: 10.1007/s13280-015-0763-4.
- [2] Ministry of Urban Development, "Advisory on Conservation and Restoration of Water Bodies in Urban Areas," no. August, 2013.
- [3] S. Shah and A. K. Roy, "Social Sustainability of Urban Waterfront- The Case of Carter Road Waterfront in Mumbai, India," *Procedia Environ. Sci.*, vol. 37, pp. 195–204, 2017, doi: 10.1016/j.proenv.2017.03.034.
- [4] Ministry of Urban Development, "Revised City Development Plan for Raipur," no. March, pp. 1–151, 2014.
- [5] R. Mehdi, M. M. Johari, and S. Afshin, "Terminology of Urban Open Space and Green Spaces," *Res. Publ.*, no. November, 2017.
- [6] S. Uttara, N. Bhuvandas, and V. Aggarwal, "IJREAS Volume 2 , Issue 2 (February 2012) ISSN : 2249-3905 IMPACTS OF URBANIZATION ON ENVIRONMENT," *Ijreas*, vol. 2, no. 2, pp. 1637–1645, 2012.
- [7] K. R. Olwig, *Life Between Buildings: Using Public Space*, vol. 8, no. 1. 1989.

- [8] U. Dietrich and N. Kengyel, "What makes a public open space liveable?," *Sustain. City XI*, vol. 1, no. Sc, pp. 685–696, 2016, doi: 10.2495/sc160571.
- [9] M. Carmona, "Contemporary public space, part two: Classification," *J. Urban Des.*, vol. 15, no. 2, pp. 157–173, 2010, doi: 10.1080/13574801003638111.
- [10] M. Rakhshandehroo, M. Johari, and M. Yusof, "THE ENVIRONMENTAL BENEFITS * Corresponding author :," no. June 2017, 2018.
- [11] C. C. Konijnendijk, M. Annerstedt, A. B. Nielsen, and S. Maruthaveeran, "Benefits of Urban Parks - A systematic review," *Int. Fed. Park. Recreat. Adm.*, no. January, pp. 1–68, 2013.
- [12] L. Shoup and R. Ewing, "The Economic Benefits of Open Space, Recreation Facilities and Walkable Community Design," *Act. Living Res.*, pp. 1–9, 2010.
- [13] I et al., "We are IntechOpen , the world ' s leading publisher of Open Access books Built by scientists , for scientists TOP 1 %," *Intech*, vol. i, no. tourism, p. 13, 2012, doi: 10.1016/j.colsurfa.2011.12.014.
- [14] A. R. Al-Shams, K. Ngah, Z. Zakaria, N. Noordin, and M. Z. H. M. Sawal, "Waterfront development within the urban design and public space framework in Malaysia," *Asian Soc. Sci.*, vol. 9, no. 10, pp. 77–87, 2013, doi: 10.5539/ass.v9n10p77.
- [15] J. Delafons, "Waterfronts," *Cities*, vol. 12, no. 2, p. 127, 1995, doi: 10.1016/0264-2751(95)90080-2.
- [16] D. O. F. Philosophy, "STRATEGIES FOR WATERFRONT DEVELOPMENT PLANNING IN THIRUVANANTHAPURAM , KERALA Thesis submitted to the University of Mysore for the award of," no. June, p. 2014, 2014.