



Utilities of Urban Ecological Units - a comparative study of Rabindra Sarobar and Subhas Sarobar, Kolkata

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Abstract

Urban ecological units comprise those distinctive urban spaces in a city environment which are closely related to environmental management. From the perspective of social ecology, each and every city has an ecological significance in society. The current study considers the natural ecological sites within an urban space, i.e., open space, greenery and wetlands and primarily concerns the role of such ecological sites in urban amusement and recreation, and also investigates people's concern about their utilization, management and conservation. A comparative study of two sites - Rabindra Sarobar and Subhas Sarobar, both located within Kolkata, has been done keeping in mind the above outline.

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Introduction

An urban ecological unit is a site having natural or man-made water bodies, open space, greenery and fresh air which provides the breathing place in an over-congested urban environment for its inhabitants. These are the places where people congregate for physical exercise, mental calmness and to avail of various recreational facilities or leisure activities. The pull of the urban units for better occupational opportunities and a higher standard of living, causes a large population from rural areas migrate continuously towards them. The increasing population has given rise to congestion, pollution and shortage of open spaces. Therefore, the ecological sites are scarce in urban areas and Kolkata is no exception. The conditions of city living are often prime for causing ecological degradation. Hence, proper care and management of these units

within an urban sprawl is necessary for maintenance of city environment and city life. In this regard,

Objectives

As discussed above, the two selected ecological units have a significant role in urban environmental management, the major objectives being -

1. To examine the role of these particular units in urban amusement
2. To make a comparative analysis of these units on the above perspective
3. To generate public awareness about the open spaces, water bodies and greeneries for the improvement of the quality of environment and people's amusement in Kolkata, which are gradually degrading due to population explosion and over-

urbanization

4. To identify the problems and then recommend suitable measures for their mitigation

Methodology

The study has been done by using both descriptive and analytical methods. Secondary data has been collected from the Kolkata Municipal Corporation, Department of Forest, Govt. Of West Bengal and the Kolkata Improvement Trust. Primary data has been collected from the respondents through a structured questionnaire. Samples have been randomly collected from each unit across people of varying social status and economic profile. Finally, summary tables have been prepared and represented with conventional cartographic techniques and methods.

Visitors and Respondents

The visitors can be broadly classified into three categories (1) *health-aware* people, comprising mostly middle-aged people and senior citizens who walk and jog in the park during two different time periods: 5 a.m. - 8 a.m. and 4 p.m. - 7 p.m., (2) *sports and recreational* people, comprising those who play outdoor games in the stadium and exercise in the gym clubs and young people who want to meet in privacy, and (3) *daily ablution*, comprising the local people who come here for bathing, washing and to fulfill other domestic purposes.

The result of the primary survey reveals that 30% of the respondents were under the age group of 30 years, 20% were from the age group 30 - 50, and the remaining 50% were from the age group of 50+ years. Thus, people of all age groups prefer this place as a better recreational site. Among the respondents, proportion of male and female were kept almost identical to avoid gender bias. Young males more frequently avail of the various facilities for games and sports. All the respondents were found to be literate with the levels of their educational qualifications being summarised as follows: 5% (Primary education only), 20% (up to Madhyamik or equivalent level only); 5% (up to Higher Secondary or equivalent level only); 50% (Graduates only) and (20% Post-graduates or equivalent degree). The occupational pattern of the respondents shows that most of them are students

(40%), 30% are engaged in service and the remaining 30% are employed in a variety of occupation. The income group of < Rs.5000 has the highest frequency (35%), followed by the groups Rs. 5,000 - Rs. 10,000 (30%); Rs. 10,000 - Rs. 20,000 (20%) and 15% had a monthly income of above Rs. 20,000.

Rabindra Sarobar

Rabindra Sarobar, previously known as Dhakuria Lake, is an artificial lake in South Kolkata located at Ballygunge or Southern Avenue. The name also refers to the area surrounding the lake. It is flanked by Southern Avenue to the north, Russa Road to the west, Dhakuria to the east and the Kolkata Suburban Railway tracks to the south (Fig. 1).

Origin and History

In the early 1920s, the Calcutta Improvement Trust (CIT), a body (CIT), a body responsible for development work in the Kolkata Metropolitan Area (KMA), acquired about 192 acres (0.78 km²) of marshy land. The intention was to develop the area for residential purpose by improving the roads, raising and levelling some of the adjacent land and building, lakes and parks. Excavation work was undertaken with the plan of creating a huge lake. Originally known as Dhakuria Lake in May (1958), CIT renamed the lake as Rabindra Sarobar, a tribute to the great Bengali poet, Rabindranath Tagore. The area around this excavated lake was later developed to build recreational complexes that include children's park, gardens and auditorium. Today, the lake and its surrounding areas are one of the most popular recreational areas in Kolkata. It is within walking distance from the Ramakrishna Mission at Golpark. About 73 acres are currently covered by the water body, while shrubs and trees occupy the remaining part of the area. The major landmarks of Rabindra Sarobar are —

- 1) a football stadium on the northern side, known as the Rabindra Sarobar Stadium
- 2) an open air theatre on the northern side, known as Mukta Mancha
- 3) the only Japanese Buddhist temple of Kolkata on the southern fringe
- 4) a mosque on one of the lake's islands, connected to the southern shore by a cable

- strayed wooden suspension bridge
- 5) some historic cannons (unearthed during excavation) lying on the lake's west bank
- 6) a safari garden with toy train and children's play centre with a lily pool and a swimming pool
- 7) a number of rowing and swimming clubs based on its shore, viz., Calcutta Rowing Club, Bengal Rowing Club, Lake Club, and Calcutta University Rowing club
- 8) the most prestigious and oldest swimming clubs in Kolkata, the Indian Life Saving Society

Recreational Role

With parks, gardens and walking alleys, it offers pleasant walks, visual delights and a place for relaxation. The lake is a sanctuary of migratory birds and hence a bird watcher's delight. It is itself the home of a variety of fish and other aquatic life. Fishing is strictly prohibited in the lake. People come here for a walk and enjoy fresh air both in the morning and afternoon. Many visit the sunrise point to offer their prayers. During the day it is often visited by families, tourists, young lovers and joggers. Lately, it has been acknowledged as an important water body by the Ministry of Environment and Forest, Government of India that has sanctioned an amount of Rs. 4 crores in the first phase for general improvement and beautification of this lake. More funds are expected in the second phase.

People's Perception on Recreation

As an ecological site, Rabindra Sarobar plays a great role in urban amusement. Among the total visitors, 10% are attracted by its scenic beauty, 20% come here for open space, 15% for its calm and tranquility, quiet and fresh environment, 40% visit this site as it is nearer to their home and rest of them for their livelihood. A large number of respondents (35%) visit Rabindra Sarobar occasionally, they are mainly the students and only 5% visit this site once in a week. The remaining 60% visit the site every day. About 90% of the people agree with the fact that the vast green stretch of field has a great economic and ecological value.

People's Perception on Pollution

Majority of the respondents (90%) agree with the fact that the site has a very important role in

protecting the urban environmental quality. Its greenery and open spaces create a positive effect on the environment by air purification. About 60% of the total respondents believe that this site also has a role in controlling the environmental pollutions. For noise pollution it acts as a buffer zone. About 32% of the respondents think that it plays a vital role in controlling air pollution, 57% sound pollution, 6% water pollution and the remaining other kinds of pollution.

Management

All the respondents agree that the Rabindra Sarobar needs proper management, because it plays a vital role in urban recreation and environmental management. According to 30% of the respondents, State Govt. should take up the responsibility, 20% went with the Central Govt. as it belongs to the Indian army, 20% of them referred to the NGOs, 10% opined that management responsibility should be taken by the Kolkata Municipal Corporation and remaining think that other organizations and local people should take up the responsibility. About 70% of the respondents believe that the present generation is very much aware of the importance of and requirement for proper management of this site.

People of the adjoining areas said that the Lake has become a den of criminals. The pathways are full of potholes and the wrought iron benches are gone. Colony dwellers from Gobindapur and Lake Gardens and squatters from the rail bridge area bathe and wash clothes all over. Water hyacinths are not regularly cleared; even the lily pool and hanging bridge, which are the main tourist attractions have been left abandoned. The respondents also gave their valuable suggestions to make this site better and more attractive to the visitors. About 35% think that cleanliness is necessary, 20% said that more plantation is needed, 25% were of the opinion that security must be enhanced and the remaining 20% mentioned a variety of other options. About 60% of the respondents gave 5 - 8 marks out of 10 to the site because it is very attractive to them, 25% gave more than 8 marks and only 15% gave below 5.

Govt. Initiatives

The State Govt. has been urging the Centre for many years to bring the Lake under the National Scheme

and accordingly, a feasibility report prepared by the CMDA was sent to the Ministry of Environment and Forests, Govt. of India in 2001, detailing the measures necessary for improving its condition. Based on the Report, a Central team visited the Rabindra Sarobar early in September, 2001. Subsequently, on 30 December, 2002 Rabindra sarobar was declared as a National Lake by the Union Environment Minister Mr. T. R. Baalu under the National Lake Conservation Plan NLCP). In October, 2002, the Union Govt. has sanctioned a sum of Rs. 6.96 crore in the first phase. However, restoring the Lake to its former glory is not an an easy task.

The WBPCB Initiatives

The West Bengal Pollution Control Board (WBPCB) inspected the Sarobar on 6 February, 2012 and reported that huge debris of waste had been piled up at the bottom of the lake. Since the, the State Environment Department had been planning to develop and clean up the Sarobar water for quite some time now by using advanced technology. The Sarobar got a new lease of life after the WBPCB started cleaning up the lake water which had been dumped with filth over the years. A large amount of plastic and waste that had accumulated at the bottom of the Sarobar was pulled out.

KMDA and KIT Initiatives

The Kolkata Metropolitan Development Authority (KMDA) and Kolkata Improvement Trust (KIT) have also jointly started an overall upgradation and beautification project of this Sarobar, cleaning its water being the first priority. Though awareness campaigns were conducted to ban the use and disposal of plastic within the Sarobar premises, people still throw waste into the water. In order to protect the water, the WBPCB has asked the Public Works Department, Govt. of West Bengal (PWD) to set up fences around the Lake. Recently, the KMDA and the KIT had organized a Marathon, called the Great Sarobar Run or the Run for Change (29 January 2012) to generate awareness on saving and protecting the Rabindra Sarobar.

Subhas Sarobar

Subhas Sarobar is one of the most important recreational sites of East Calcutta where actual

construction of Internal Road network was started during the period of 1946 - 1950, For East Calcutta, this lake having a total area of about 98 acres including the water bodies was planned by the C.I.T to provide filling materials for the construction of this road networks. About 40 acres out of 100 acres of land was excavated to form the water body i.e. the lake, named today after the great Son of the Soil, Netaji Subhash Chandra Bose as "Subhas Sarobar Lake".

Origin

Subhas Sarobar is an artificial Lake, the first of its kind in the city and was dug out as a recreational space during the 2nd Five Year Plan. The then Chief Minister Dr. Bidhan Chandra Roy took initiative for the construction of the project. As the lake was dug out, it generated huge debris which were later utilized to create the most fashionable shopping mall and cultural centre at the northern corner of the Lake.

Recreational Role

Subhas Sarobar is a beautiful lake which occupies almost 90% of the Eco Park. It is surrounded by beautiful gardens on all sides. There is a swimming pool, a ladies club, a football ground and a cricket training centre within the Park. At the centre of the Lake, there is an artificial island where a number of deer dwell. Few official workers look after them, visiting the island frequently by boat.

Respondent's Profile

This ecological unit had 50% visitors from an age group of 50+ years, about 40% from the age group of 30 - 50 years, while only 10% were below 30 years. About 65% of the visitors were male. At least 30% of the visitors were students, 15% were of business class, 14% service holders, whereas 40% had other types of occupation. About 75% of the visitors were graduate, 10% below primary level, 5% had passed the Higher Secondary level and rest were Postgraduates. The income group of Rs. 5000 - Rs. 10000 recorded the highest frequency among the visitors (45%). This was followed by the income group of (< Rs. 5000 per month) at 30% and the (> Rs. 20,000 a month) group housing 10% of the respondents.

People's Perception

About 30% of the visitors thought that this site had economic significance. Most of the visitors agreed that this site played a significant role in urban recreation. In Subhas Sarobar, the visitor's main attraction is the lake (41%), followed by its open spaces (20%), greenery (8%) and thers (29%). About 60% of the respondents come everyday, whereas 5% once a month, 20% once a week and 15% only occasionally.

Management

Most of the respondents (80%) opined that this is an unmanaged site and needs proper management (95%) to play a greater role enhancing the quality of life for those dependent on it for recreational purposes. About 63% of the visitors said that the State Govt. should take over the management of this site, while 13.5% think that the onus should be on the local people, while 9% each wanted the Municipal Corporation to step in or an NGO to take over and only 4.5% were in favour of local self-governance. Cleaning up the site was one of the major issues suggested by 34% of the respondents, followed by need for security (8%), proper boundary (10%), greenery (24%) and other amenities, the remaining proportion.

While judging its role in amusement, about 50% of the visitors have awarded the Lake area a score of 5 - 8 out of 10, 15% gave it a score of above 8 while the majority of 35% gave it a score of less than 5. For the same with management, about 50% of the visitors have awarded less than 5 out of 10, 45% 5 - 8, and only 5% 8+.

Initiatives by Kolkata Nagarik Sammelan

The Kolkata Nagarik Sammelan of the 33 Ward Committee held on August, 2005 had made the following suggestions –

1. The Sarobar be declared a "National Park" like the Rabindra Sarobar in the South Kolkata, West Bengal.
2. The damaged and broken roads inside and around the Sarobar be developed with modern techniques and methods.
3. The Sarobar be provided with a modern sewerage system to avoid waterlogging inside the Sarobar during the rainy season.

4. The Sarobar be provided with sufficient illuminations befitting the environment.
5. Rain water accumulated inside the Lake be periodically treated to mitigate pollution.
6. The Sarobar be provided with luxurious plantations every year following the norms of Pollution Control Board.
7. Provisions for toilets (both for Gents and Ladies) be constructed inside the Sarobar area.
8. Sufficient shelters be constructed inside the Sarobar for morning and evening walkers to shelter them from rain or scorching heat.
9. The existing children's park should be improved with modern facilities and proper beautification.
10. The existing swimming pool should be modernized for conducting swimming competitions.

K.I.T. Planning Strategies

- 1) Making a Recreational Zone where the centre of attraction will be the lake with facilities like, fishing, boating, water sports and children's swimming pool.
- 2) Building a floating museum to display the articles used by Netaji Subhas Chandra Bose.
- 3) Converting the Islands into Hangout Zones.
- 4) Creating separate jogging and cycling tracks around the Sarobar.
- 5) Building a boundary wall for security.
- 6) Executing the project on a public-private partnership model (PPP) with no entry fee.
- 7) Improving the quality of water by banning bathing and washing.
- 8) Improving the drainage and sewerage.

However, there will be a fee on water-based recreations. Plantation will come under the rejuvenation plan.

Major Findings

Recreation: Although both the ecological units play an important role for recreational purposes of the citizens, Rabindra Sarobar is more important in terms of economic significance.

Management: Most of the respondents said that Rabindra Sarobar appears to be more effectively managed than Subhas Sarobar. They also suggested that the State Govt. should immediately take the responsibility of management. However, many opined that it must be in the hands of the Kolkata Municipal Corporation (KC) and some NGOs. The management must address the issues of cleanliness and security in Subhas Sarobar and that of plantation and implementation of rules and regulations in Rabindra Sarobar.

Performance

From the perspective of recreation, the respondents awarded comparatively lower marks to Subhas Sarobar while giving higher scores to Rabindra Sarobar.

Recommendations

Afforestation programmes should be undertaken in both the locations. Implementation of proper city zoning policy can be a successful measure for the sustainability of these urban ecological units. For these, the major recommendations are –

- 1) Undertaking 'afforestation' programmes
- 2) Setting up 'effluent treatment plants'
- 3) Beautification by landscape gardening
- 4) Using solar power for electrification
- 5) Making a greenbelt around the water bodies
- 6) Building facilities and campaigning for public awareness
- 7) Preparing action plans for improving its immediate physical environment

According to an estimate by the UNDESA (2005), the population of Kolkata will be about 16.96 million in 2015. So if the city-dwellers are to survive in the coming years, they have to fight pollution by restoring the ecological balance through an appropriate urban-environmental management for a sustainable city life.

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Fig. 1. Location of Rabindra Sarovar



Fig. 2. Location of Subhash Sarovar



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