Open Spaces Analysis of Ekamrashketra, Bhubaneswar

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Abstract: This study has been undertaken to analyze the open spaces in old town, Bhubaneswar previously known as “Ekamrashketra”. In India, Bhubaneswar is known as “City of Temples”, in which can be explained as the vocabulary of architecture is deeply embedded in its context, region and traditions. However, the city is facing rapid urbanization, modular settlements, resulting in loss of open spaces as well as the essence of heritage it has carried for centuries.

The study mainly focuses on 3 ones in the old town which require immediate attention with a provision of possible solution for the same.

Index Terms: Ekamrashketra, open space, heritage

I. INTRODUCTION

Bhubaneswar has a characteristic of 3 cities: - “Old City” around the temple which existed before the planned city, the “Planned City” designed by Dr. Otto Königsberger in 1946 and the “Unplanned Development” due to increasing rate of population and migration.

Bhubaneswar is short term of “Tribhubaneswar” which means “God of Universe”. It was previously known as “Tosali” which changed to Tribhubaneswar after the construction of “Lingaraj Temple” (11th Century) built by King Jajati Keshari who belonged to “Soma Vansh”.

The space structure can be divided into following broad categories:
1) Incidental spaces between houses.
2) Low laying areas.
3) Large chunks of open undeveloped spaces.

Old bhubaneswar has no amenity open space but the area around Lingaraja Temple serves as focal point for the town.

The town has no landscaped large enough to be called town level park, but has several smaller spaces, mostly around protected monuments e.g., Raja Rani Temple, Kedar Gouri Complex. Many of these are very small and not properly maintained.

In contrast, New Bhubaneswar has several large parks and playground and is been given importance while planning.

II. EVOLUTION OF BHUBANESWAR

Figure 1: Dynasty Timeline
Figure 2: Open space availability
Figure 3: Pilgrim zone
III. LITERATURE STUDY

Figure 4: Evolution and urbanization of Bhubaneswar

Figure 5: Land use land cover (1999)

Figure 6: Old town, Bhubaneswar

Figure 7: Population density & open spaces

Figure 8: Parks in Bhubaneswar (2008) & open spaces
Table 1: Distribution of organized open space

<table>
<thead>
<tr>
<th>Types of green areas</th>
<th>Area in ac</th>
<th>Agency for development and maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeological landscaped gardens and open space around monuments</td>
<td>955</td>
<td>Archaeological Survey of India</td>
</tr>
<tr>
<td>Neighbourhood level Open Space within residential areas</td>
<td>432</td>
<td>BDA and BMC</td>
</tr>
<tr>
<td>City level Parks</td>
<td>687</td>
<td>BDA and Plant Research dept.</td>
</tr>
<tr>
<td>Play grounds, Exhibition grounds and stadiums</td>
<td>465</td>
<td></td>
</tr>
<tr>
<td>Woodland and forests</td>
<td>3090</td>
<td>Forest Department</td>
</tr>
<tr>
<td>Plantation along arterial roads, drainage channels and lakes</td>
<td>710</td>
<td>Forest Department</td>
</tr>
</tbody>
</table>

Source: BDA (CDF -1993), and ORSAC (2008)

Table 2: City area, residential area & open space

<table>
<thead>
<tr>
<th>City Area in km²</th>
<th>Developed Open space (Parks) area in km²</th>
<th>Residential area in km²</th>
<th>% of Developed Open space (Parks) of the City</th>
<th>Residential area</th>
<th>Open space per thousand persons in ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>124.76</td>
<td>0.73</td>
<td>19.05</td>
<td>0.5%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Existing</td>
<td>148.10</td>
<td>1.54</td>
<td>38.23</td>
<td>1%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

Source: CDP -1993, ORSAC (2008), Draft CDP for BDPA-2030

Table 3: Open space guidelines

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Population Density / ac</th>
<th>Open space as percentage of the residential area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>150</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>200</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>250 and above</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: BDA (CDF -1993)

Table 4: Available parks in the city

<table>
<thead>
<tr>
<th>Available in 1993</th>
<th>Area of City level parks (in ac)</th>
<th>Area of Neighbourhood Parks (in ac)</th>
<th>Total Area (in ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>116.3</td>
<td>44</td>
<td>180.30</td>
<td></td>
</tr>
<tr>
<td>Proposed in CDP -1993</td>
<td>556</td>
<td>337.34</td>
<td>937.34</td>
</tr>
<tr>
<td>Existing</td>
<td>352.78</td>
<td>103.76</td>
<td>356.54</td>
</tr>
</tbody>
</table>

Source: BDA (CDF -1993) and Satellite image (ORSAC 2008)
Figure 9: Built use map and surrounding

IV. ANALYSIS

Figure 10: Different Zone locations
4.1 Issues in Sites:

**Issues in zone 1:**
1. Vacant land used as parking and commercial.
2. Temporary stalls constructed in front of municipal corporation causing traffic congestion.
3. Narrow sub lane of Ganga road with almost negligible turning space.

![Figure 11: Zone 1 and surroundings](image)

**Issues in zone 2:**
1. Vacant land used as parking, which in front of Ganga Jamuna temple causing harm to the heritage.
2. Narrow lane of Ganga Jamuna road with almost negligible turning space.

![Figure 12: Zone 2 and surroundings](image)

**Issues in zone 3:**
1. Vacant land used as parking.
2. At times, it is used for consumption for smoke and alcohol.
3. Narrow sub lane of Giani zail singh road with almost negligible turning space.

![Figure 13: Zone 3 and surroundings](image)
ISSUES IN STREET NETWORK:

1) Presence of on-street parking on internal streets mostly.
2) Presence of vehicular and pedestrian conflict.
3) Irregular street pattern.
4) Presence of unpaved internal streets.
5) Inconvenient vehicular access.

OBSERVATION AND DESCRIPTION:

1) There is sparse presence of mixed use at certain intervals on periphery of the neighborhood.
2) The mixed use buildings are mostly adjacent to the main thoroughfare with shops on ground
3) floor and residential on the rest of the floors.
4) Encroachment of temporary informal stall on streets there.
5) Due to numerous temples in the vicinity, it acts as magnet and is very active.
V. PROPOSAL:

Figure 18: Design proposal for hierarchy of streets

PROPOSAL FOR STREET NETWORK

1. Regular street pattern
2. Presence of paved internal streets.
3. Absence of vehicular and pedestrian conflict because of the provision of footpath.
4. Comfortable street width to help maintain intimacy and privacy.
5. The street between the buildings could be used for children play area and also for pedestrians to walk safely and conveniently between the buildings.
6. Tapering down of main thoroughfares to further decreasing width of internal streets.
7. Creation of more side walk spaces on main roads.
8. Staggering of internal roads.

Figure 19: Design proposal for land use map

PROPOSAL FOR LAND USE

1. Corner plots of residential cluster to have mixed use
2. Mixed use buildings to have commercial on ground floor and residential on rest of the floors
3. Segregation of commercial, mixed and residential to maintain privacy
4. To develop the intersections into minor nodes with commercial.
5. Proper segregation to maintain privacy
6. Mixed use with commercial on ground floor and residential on the rest of floors to make whole street active.
7. Informal spaces should be scarcely incorporated to keep the streets safe and monitored.
8. Designated areas for parking.
9. Redvelop the temporary stall into more new shops
VI. RESULTS AND DISCUSSION
1. Regular street pattern
2. Comfortable street width to help maintain intimacy and privacy
3. Creation of more side walk spaces on main roads.
4. Segregation of commercial, mixed and residential to maintain privacy
5. Designated areas for parking.
6. Redevelop the temporary stall into more new shops
7. Public spaces for public interaction

VII. ACKNOWLEDGMENT
I would like to express my sincere gratitude for encouragement to my Parents whose support has always helped me to overcome many troubles and to whom this dissertation shall remain dedicated.

VIII. REFERENCES
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