

Design for Urban Open Spaces from People's Perspective: A Study on Jessore Town

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Abstract

The public open spaces in the urban areas, like parks and open breathing spaces are especially considered as the lungs of an urban area, where people can breathe, relax and feel as they are. Those open spaces are the link between man and nature, and ensure relief from the monotony of urban life. Planning and designing for urban open space is not a new concept, rather it has been practiced for decades. Public participation is another key component of modern planning, where the public opinions have a direct reflection in the planning system to achieve the satisfaction. Based on public opinion, this study has proposed plans for the selected urban spaces in Jessore town to make the city lively, while protecting the city's cultural and natural green heritage.

Introduction

The urban open spaces especially known as public open spaces, like parks and open breathing spaces are considered as the lungs of an urban centre, where people can breathe, relax and feel as they are. Lively urban areas are created by popular open spaces or civic spaces. Popular open spaces are those that cater for the needs of the communities and the urbanites. As the social, physical and psychological needs of people vary from place to place, the character of public open spaces or image of an urban area also vary from region to region. There is also a great variation of the quality of open spaces between the third world cities or towns. Consideration of such variation and an understanding of local context are, therefore, essential for designing a town or municipality. The planning and management of open spaces face a number of challenges and increasing pressures. There have been some researches about the evolution and metamorphosis of civic spaces or public open spaces in Dhaka city. But there has not yet been any work to preserve and improvement of public open spaces at the small urban center, especially for a district town, like Jessore. The future development of Jessore town will have implications for the use and preservation of open spaces. The preparation of strategies and guidelines is a response to these many challenges. This research has studied some selected public open spaces of Jessore town, such as Pauro Park Jessore and Munshi Meherulla Moidan (Town Hall Moidan). These open spaces are most important part of Jessore town. But no step has yet been taken to preserve and improve these open spaces by the authority. The municipality has submitted a paper to Khulna Development Authority in 14th march 2007 for the improvement of Pauro Park (Field survey, 2008).

This research has been sought to study the existing status of open spaces within the Jessore municipality area. It has also conducted to assess the importance of open spaces in the context of heritage and culture of Jessore town, one of the oldest cities in Bangladesh. Poor management and maintenance of open spaces has been investigated to reduce the active use of the open space and consequently reduce the attractiveness. In this research, design guidelines for maintenance, preservation and improvement of open spaces based on spatial and demographic analyses and existing land use pattern, has been explored.

Objectives and Methodology of the Study

The aim of this paper is to provide some strategies and design guidelines for preservation and improvement of public open spaces in Jessore town in order to make them more attractive and

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create livable urban breathing spaces, which consists of spaces for social interaction, recreation and rich natural environment for people to visit and enjoy and prevent these open spaces from further decline.

The study has conducted into two major phases-

- Phase one is to identify the present physical condition and associated maintenance problems of selected public open spaces in Jessore municipality from user's perspective.
- Development of planning strategies and design guidelines for preservation and improvement of those open spaces from user's perspective are the focus of second phase of the study.

This study is conducted based on both primary and secondary information. Primary data has been collected through questionnaire survey and secondary data has been collected from the municipality office, time severs standard and different online sources. The planning strategies and design guideline under this research is completely done by users' opinion survey and urban design element and criteria analysis. To have the public opinion, people from different age group have been interviewed to know their impression about the present condition of selected parks and open spaces. It investigated visitors' ideas for preservation and improvement of the sites and tried to make link with urban design element and criteria for open space design. For this particular study, proportional random sampling was adopted. For visitor survey, sample was determined according to age, sex, income and occupation etc. For this purpose, five time periods were selected for visiting the park and then information was collected about the total number of visitors coming to the park in holiday in those definite time periods (Table 3).

Table 3: Number of visitors coming on a holiday

Period	Number of visitors			Average hourly visitors	Total number of visitors in 12 hours on (9am-9pm) holiday	Number of sample in various periods
	Town hall	Pauro park	Total in two parks			
Early morning (6 am-7 am)	20	40	60	109	N = 12*109 = 1308	15 (5+10)
Morning (9am-10am)	25	65	90			22 (6+16)
Noon (12pm-1pm)	35	50	85			21 (9+11)
Early evening (4pm-5pm)	80	110	190			47 (20+27)
Late evening (6.30pm-7.30pm)	65	55	120			30 (16+14)
	Total =545			Total sample size, n		135

Source: Field survey, 2008

After collecting information from field survey and secondary sources, these data has been processed and compiled with the application of different software. Maps have been digitized with the help of Arc GIS software. After analyzing the urban design element and criteria make a remedial correction of the selected public open spaces in terms of those criteria. Then attribute data related to people's perception about preservation and improvement of public open spaces has been compiled and analyzed through statistical software like SPSS or Microsoft Excel. On the basis of the analysis and findings, some suggestions were given to formulate some guidelines for the preservation and improvement of public open spaces and to ensure a sustainable urban breathing space for the people.

Conceptual Frame Work

Understanding the Open Space Planning and Practices

Open spaces in the city are usually considered as the areas for recreation. These spaces are those to which reference is generally made in consideration of recreational facilities (Gallion, 1963). Figure 1 explains how the process of improving the planning practices for open spaces in an urban area can be ensured.

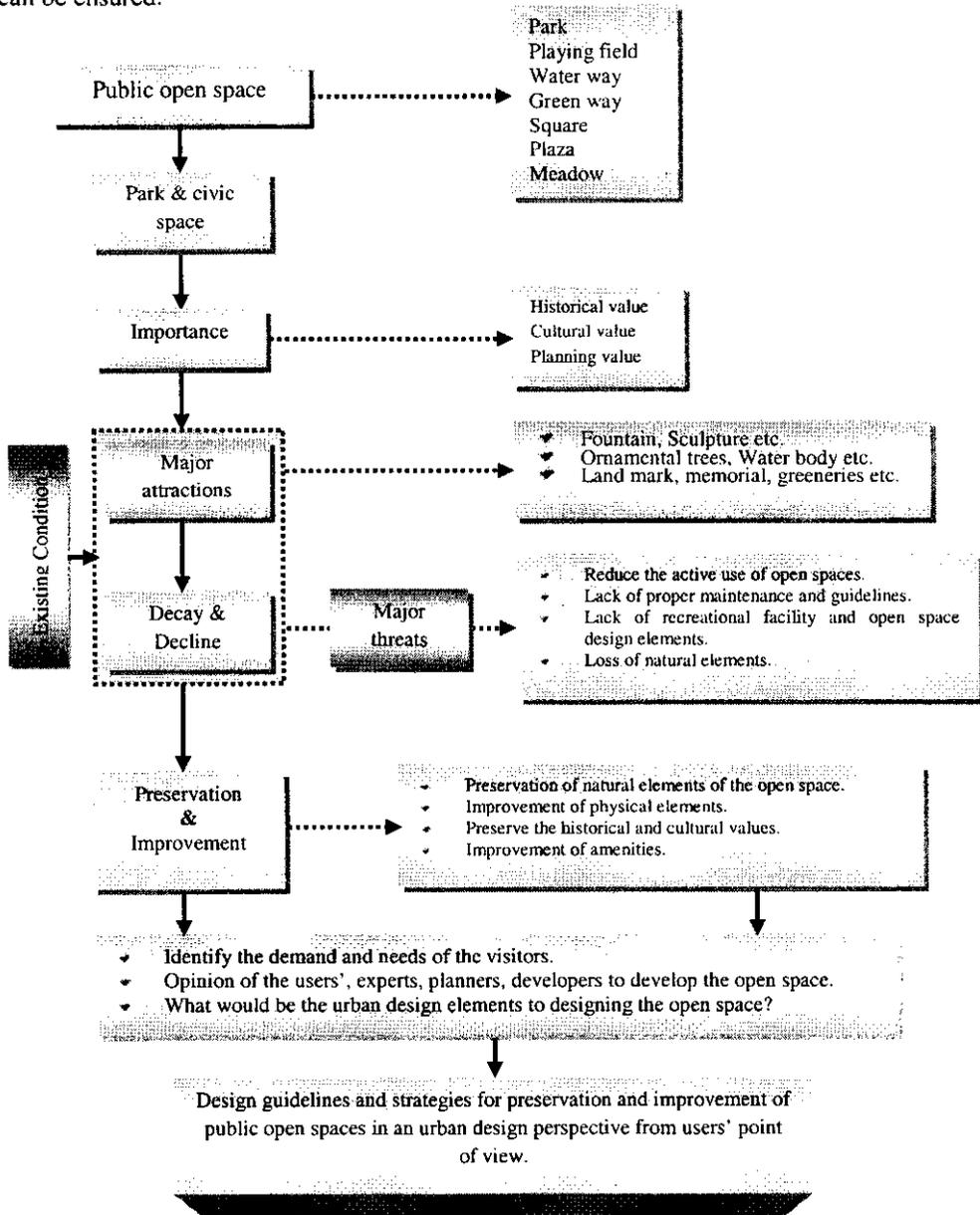


Fig. 1: Improving the practices for provisioning and preserving open spaces in an urban area.

The open spaces can generally be classified into two broad categories (Nabi, 1978). They are:

- ✦ Open space for Active Recreation such as play lot, play field, play ground, sports ground, stadium etc.
- ✦ Open space for Passive Recreation such as gardens, parks, parkways, green belts, botanical gardens, zoological gardens etc.

The standards for urban open spaces are usually designed based on population size and density (Table 1).

Table 1: Standard for open space planning at City/Town level

Open space	Area	Area/1000 population	Size (standard)	Size (max)	Size (min)
Play lot	50sq.ft/child	0.5 acres	5000sq.ft	7000sq.ft	2500sq.ft
Play ground	100sq.ft/child (6-4)	1.5 acres	3 acres	5 acres	2 acres
Play field	600sq.ft/person	1.5 acres	10 acres	20 acres	3 acres
Local park	300sq.ft/person	2 acres	10 acres	50 acres	5 acres
City park	50sq.ft/person	0.5 acres	100 acres	150 acres	30 acres

Source: Time Saver Standards

According to experts 25% area of a City or a Town should be preserved as open space or as gardens and parks to maintain healthy environment for the dwellers (Time Saver Standard). A picture of open space planning and practices in some countries can be observed in Table 2. Considering these standards, Jessore town has only 8% of land as open space that is nothing but an example of unplanned and haphazard urban development and absence of regulation for preservation of urban open space. At the end of the study, it will be ensured that the existing open spaces of Jessore town could be preserved from further decline.

Table 2: Open space planning and practices all over the world including Bangladesh

Countries	Issues	Activities
Bangladesh (Chittagong)	A study on present status and potential locations of open spaces in the Chittagong City Corporation Area.	Potential locations for open spaces had been identified and management guidelines had been recommended.
Colombia	The Public Space as a Structural Element of the Urban Space in the City, and it's influence in the Society of Colombia.	Examines the role of public space in shaping social life, mobility, security and the environment of the city.
England	Protect and improve open space provision in terms of quality, quantity, accessibility & safety.	Improved linkages within and between the open space networks.
USA (California)	Open space preservation act in the USA- helping to create a unique and pleasant atmosphere for residents and visitors.	Specific concerns of the Town in relation to effectively acquiring, utilizing, and preserving open space areas.
UK (government Code sec. 65302)	An inventory of open space resources and for policies to preserve and manage different categories of open space.	Designated open space for recreation, agriculture, visual enjoyment and natural resources.

Source: Hasan, 2007; Bonnet, 2003; Livingstone, 2004; Department C.O.D.P.A.R., 1992; Plan T.O.L.G.G., 2000.

From these review it has been found that there has not yet been made any policies or proposals for the preservation and improvement of public open space at local level especially at town level. The municipality parks and open spaces have to be improved and preserved in order to ensure livable urban breathing space. Also, urban traditional culture and heritage have to be preserved. This study has been tried to recommend some proposals for preservation and improvement of open space at town level based on people's perspectives. People's ideas for the maintenance, preservation & improvement have been considered here for making a comparative analysis based on urban design element and criteria.

Study Area: Jessore Town

Background Information

Jessore town is one of the early human settlements in Southern region of the Indian Sub-Continent. Jessore town had been developed along the riverbank. During the period of Raja Monohor, the city started to concentrate in the south-west side of Jessore in Muroli Mor, as there was a "Buddhist Moth" and development took place around it along the Bhairab River. Then during the East India Company, the development started in the centre point of Jessore in Doratana along the river. Jessore municipality was established during the British period in the year 1864 as a linking administrative region between West and East Bengal. The town is still sometimes called Kashba Jessore (Mitra, 1989). Town of Jessore is bounded on the north by the river Bhairab.

Jessore Pourashava has a Population of 2, 45,000 in 2007 in an area of 25.72 sq. km. (Field survey, 2008). The future development of Jessore town would have implications for the use and preservation of urban open spaces. Open spaces bear the Bengali cultural tradition and heritage, and also reflect the urban cultural image. The town has been considered as the 'Birthplace of Bengali culture and civilization'. The culture is rich in "Lokoshahitto and Lokoshonshkriti" such as Mrit shilpo, Pot chitro, Alpona, Nokshikatha, Jatra, Lokonatto etc. One of the famous architectural styles, "The Khan Jahan Style" was practiced earlier and is still being in practice in this part of the country. There are many historical and archaeological buildings in Jessore town (Figure 2). Preservation of those historical places may add the to positive urban image to the town.

Site and Context Analysis

Approach Roads to the Sites: One can easily access to the site of Pauro Park from the CBD (Doratana) by rickshaw, bicycle or on foot within 10-15 minutes. One approach road to the park known as stadium road and the other one is Peterson road. The Town Hall Maidan is next to CBD, less than 0.5 km from the CBD. Western side of the site is bounded by Mujib sarak, a 25-foot wide road and present entrance to the site. The road on the southern side is 20 feet wide M. M. Ali Road, mostly used by rickshaw and pedestrians. Figure 3 shows the approach roads to Pauro Park and Town Hall Maidan.

Location and Area of the Sites: The selected sites are flat and at the road level. Pauro Park area is about 10 acres and is almost rectangular in shape and situated beside the Pauroshava Office. The Town Hall Maidan is about 7.5 acres in area and irregular in form. This site is situated beside the Mujib Sarak and adjacent to Zilla Parishad Office. These two sites can be seen in Figure 4.

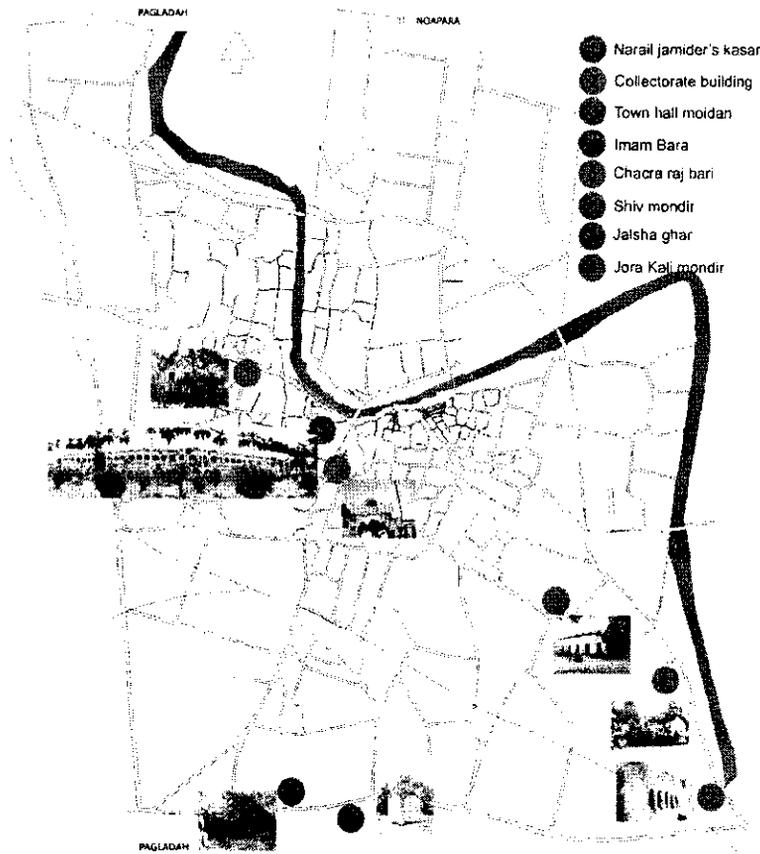


Fig. 2: Historical and archeological buildings and sites at Jessore



Fig. 3: Major approach roads to both sites

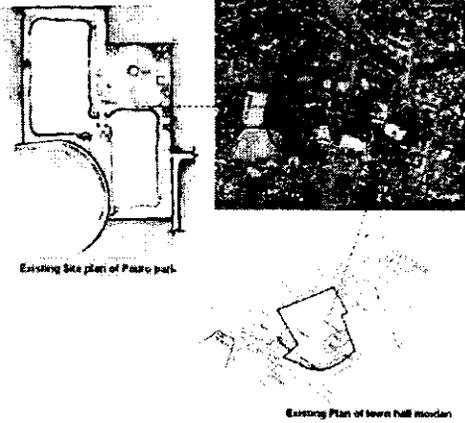


Fig. 4: Land use map showing the size and shape of Pauro Park and Town Hall maidan

Analysis of Urban Design Elements and Criteria

Analysis Based on Urban Design Elements

Land use: Land use at Jessore town is based on the traditional planning of British period and as well as in recently prepared general and community development plans. The most of the area of Jessore Municipality has been used for residential purpose. The selected sites for this study are very much nearer to central business district (Daratana) of Jessore municipality. The overall land use of this site is dominated by mixed-use (Figure 5).

Circulation and parking: The excessive traffic volume mostly the non-motorized vehicles in those selected roads around the study area results traffic congestion. The main reason of traffic congestion is higher volume of traffic in those narrow roads of British period in the town. The existing parking facility can provide parking for 15 non-motorized vehicles, but there is demand for more than 70 non-motorized vehicles at a time.

Activity support: Major activities surrounded by both the sites are administrative offices, collectorate building, market, informal on street shops, book shops, hotels, restaurants, hawkers market, Court buildings, land registration office, shopping centers, Eid-Gah Maidan, informal activities and different commercial activities (Figure 6).

Signage: There are no defined rule and law enforcement for open signage in Jessore town. Therefore, a jam-packed signage has been found in the Town Hall Maidan, a core urban open space bearing the urban heritage and culture of Jessore (Figure 7).

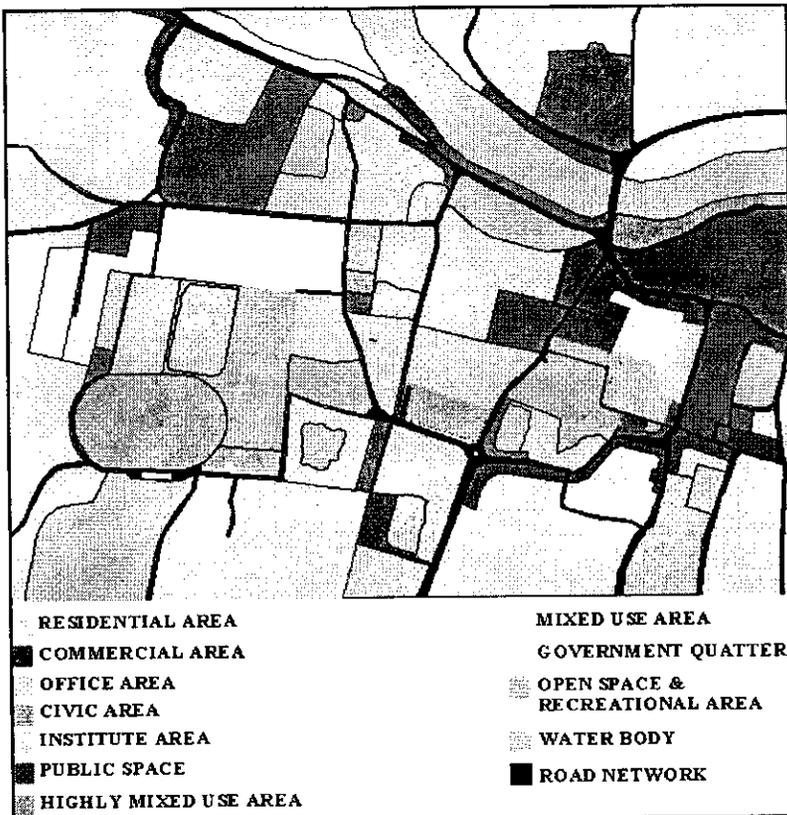


Fig. 5: Land use map of the study area

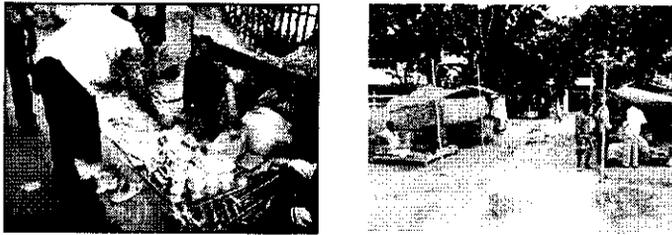


Fig. 6: Various types of activity in and around the sites

Preservation: The town still has some recognized British colonial structures, Pauro Park and Town Hall are among those British colonial heritage. The sites, Pauro Park and Town Hall Maidan are in the city heart. Some important colonial buildings around the sites include Collectorate Building, Alamgir Siddik Hall and Zilla Parishad Office that have more significant values for preservation (Figure 8).



Fig. 7: Ugly signage condition on the entrance



Fig. 8: Alamgir siddik hall, a major historical building

Analysis Based on Urban Design Criteria

Permeability analysis: It is important to assess how many alternative routes and nodes are there in the study area. The site of Town Hall Maidan is surrounded by one major road named Mujib Sarak and one secondary road named M.M.Ali Road. There are four entrance point has found here. The Pauro Park area has also some semi pucca pedestrian ways, which are in very bad condition. The surrounding road of this site is also less permeable than the other sites.

Legibility analysis: The term legibility refers to the quality of a place, which makes that place graspable. Five major features/elements of legibility are path, node, edge and landmark. There are few nodes near the study site. Among the major nodes Daratana Mor is very much significant node, which is the central point of the CBD area. Figure 8 shows these sites demanding useful application of them in city planning.



Daratana node around the study area



Path in Pauro Park



Bridge increases legibility

Fig. 9: Legibility analysis around the sites

Variety analysis: The term “Variety” refers to that quality of an environment that offers experiential choice. Various types of activities, people, structures and meaning make this spot much more dynamic.

Safety and security analysis: There is no lighting facility during the night which makes the Pauro Park area less legible to visitors and the site becomes a dead zone day by day. Town hall maidan is more or less secured than Pauro Park. There is no provision of any security guard and safe routes for walking and cycling around the site.

Visual appropriateness of the sites: A place will be visually appropriate when it is responsive to all. It can be concluded that the study site has all those qualities of making it visually appropriate and responsive.

Analysis of Users’ Opinion Survey Information

User level analysis has been conducted based on public opinion on some selected criteria like the attractiveness, frequency of visit, service area, problems, satisfaction level of existing parks and opens spaces. Their ideas for preservation and improvement of those open spaces have been analyzed Out of 1308 visitors coming on a holiday, 135 samples have been selected for the study purpose. Among them, 78 visitors used Pauro Park and other 57 visitors Town Hall maidan.

Opinions of the users’ about the present condition: People’s feeling and opinion were collected through field survey about the present condition of both study sites. Most of the respondents have a negative opinion about the management and maintenance of the sites, especially for the Pauro Park. About 83% of the visitors are not satisfied with the existing maintenance and management system of Pauro Park and 77% respondents are not satisfied about the Town Hall Moidan. The Figure 9 shows the public opinions about the existing situations of the selected urban open spaces in Jessore town.

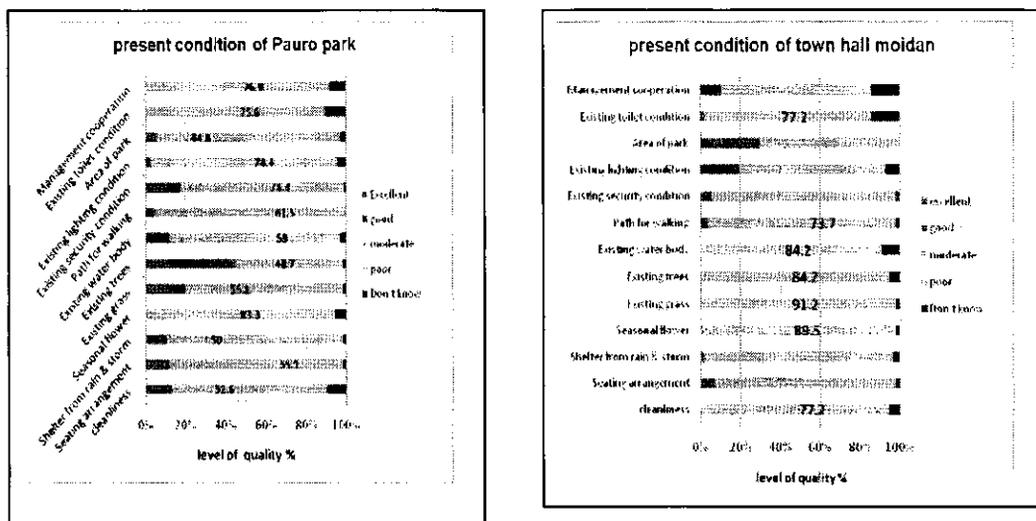


Fig. 10: Users’ impression about present physical condition of the study sites

From the filed data assessment, it could be concluded that the overall impression about the present physical environment is moderately poor and not at a satisfactory level (Figure 10).

Major maintenance problems: Figure 11 shows that the key concerns for both the open spaces are lack of safety and security (28.9%) and lack of cleanliness (17.8%). Another major problem is the absence of measures for imposing restriction on illegal activities and entrance of unwanted people (20.7%), who are generally the causes of crime in those sites.

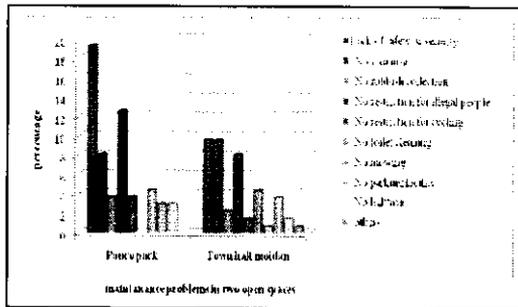


Fig. 11: Major maintenance problems

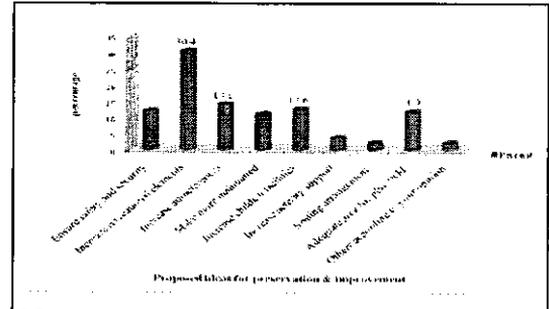


Fig. 12: Ideas for preservation and improvement of open space

Suggestions of the users: From Figure 12, it becomes clear that the most important proposal for preservation and improvement of park are to increase the recreational facilities (30.40%), increase attractiveness (14.10%), increase children's facilities (12.6%), proper maintenance of the sites and environment (11.10%) and ensure safety and security (11.90%). The respondents assured that if the security system and maintenance of the site could have been improved, they would have visited the park very frequently.

Strategies for Preservation and Improvement of Parks and Open Spaces

The following strategies should be followed for the improvement and preservation of parks and open spaces:

- Spaces that will attract activity, such as courtyard with seating, a fountain or other water feature, ornamental planting or a garden, sculpture or other outdoor art, pedestrian lighting, shade, and other features which help create outdoor rooms or gathering spaces.
- User safety should be a primary consideration in open space design. The spaces should convey a feeling of openness and security.
- Increase interdepartmental coordination among public works, planning and development, finance and business services departments etc.
- Create and adopt a Master Plan for Open Space acquisition, preservation and improvement and create a Land Trust.
- Develop a means for funding major acquisition, preservation and improvement of open spaces.
- Continue to search for creative financing solutions to develop, upgrade or refurbish park and recreational sites in older and more established neighborhoods for visitors.
- Timely development of existing Parks and recreational sites.
- Integrate all natural areas into municipality's parks, paths, and open space network.
- Create public-private partnerships and cooperate with landowners to preserve, enhance, and acquire significant natural, cultural, and agricultural areas within the municipality area.
- Promote the cultural benefits of open space as an important resource for providing a range of opportunities for people of all ages and backgrounds.
- Open Space areas, that are open to the public, particularly regional open space areas, need to be easily accessible to all visitors. All developed open spaces should have access from streets.
- Promote access to a range of play, recreational and leisure opportunities for children and young people.
- There should be appropriate rules and regulations to spell out the procedures for the closing of

designated park and open space during the night hours due not to allow illegal activities like drinking of alcoholic beverages, drug uses and loud noises at night. But it should be kept in mind that closure will not deprive the public from participating in safe, healthful and legal recreational activities; it will protect the health, safety and welfare of the public.

Design Guidelines and Criteria Analysis that Reflect the Public Opinion

Design: The layout plans for the proposed sites contain open space design standard features such as, entrance plantation, amphitheater, garden, restaurant, sitting arrangements, recreational elements for children and matured people; food court, lighting arrangements, sculpture, walkways fountain, small scale shops for commercial activity; and public utility services (such as toilet facility) as shown in Figures 13 to 19.

Increase accessibility: Proper transport plans to create safe green routes between homes and destinations.

Increase legibility: Provide better visual landmark and aesthetic quality that could help the users to understand the actual image of the site.



Fig. 13: Improved pathways

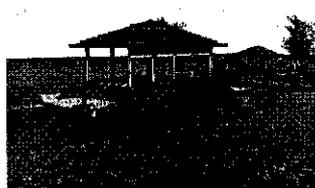


Fig. 14: Bridge boost up legibility



Fig. 15: Seating & lighting

Ensure safety and security: Guidelines to ensure safety and security are-

- Provision of adequate lighting facility.
- Security guard at the entrance of the park.
- Restriction for illegal person at nighttime.
- Watch the main entrance closely.
- Safe route for cycling and walking.

Proper signage: The height, shape and color of the signage must be attractive. Commercial notice and advertisement should not be displayed, posted or distributed within the parks.

Adequate seating arrangement & lighting facility: The shape and color of the light can be generated by three dimensional sculptures to make the sites more aesthetic.

Stimulate the senses: By providing various textured materials and planting local plants the touch and sound of the site shall be stimulated.



Fig. 16: Parking lot on Pauro Park



Fig. 17: Public utility service

Parking for the non-motorized vehicles: No vehicles shall be driven or parked on the park boundary with the exception of area specifically designated to accommodate for vehicles.

Proper management and maintenance: Regular cleaning, mowing, watering the plant, planting seasonal flowers, children play field, security guard, public toilet etc. have to be ensured. A proposed plan is provided in Figure 18, implementation of which may result in substantial improvement of the Pauro Park.

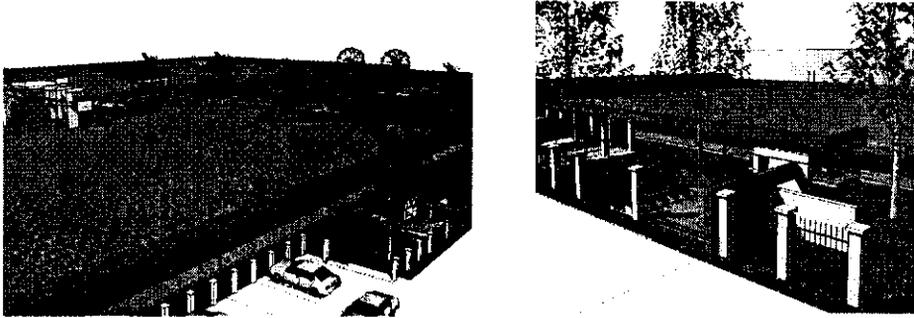


Fig. 18: Perspective view- Proposed Plan of Pauro Park

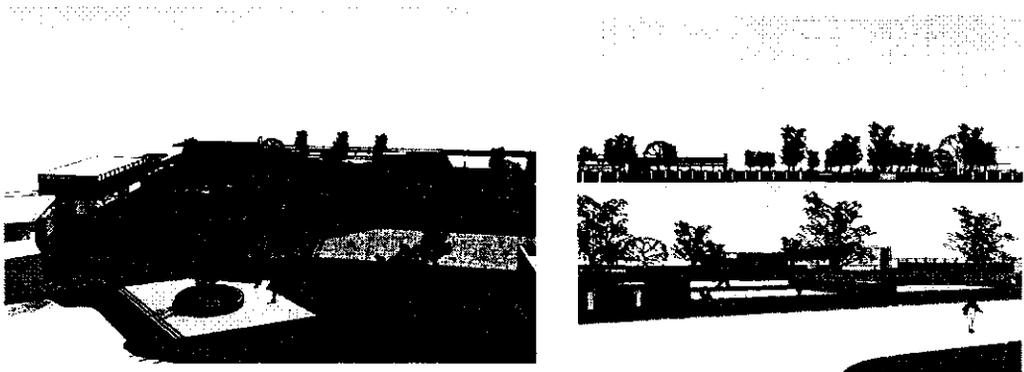


Fig. 19: Perspective view- Proposed Plan of Town Hall maidan

Development Potentials of the Proposed Plans

A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) that provides a composite of the various 'layers' of consideration by identifying existing strengths and weaknesses, opportunities for improvement and threats to the proposed plans of the sites is shown in Table 4.

From the above SWOT analysis, it has been concluded that the proposed plan has a significant strength and there are more opportunities. For the preservation and improvement of public open space in an urban area, especially at the Town level, the proposed plans could be considered as supreme model.

Table 4: Strengths, weaknesses, opportunities and threats of the proposed plans

Criteria	Functions
Strengths	<ul style="list-style-type: none"> ➤ Situated nearer from Jessore CBD (Daratana) & Pauro Park is one of the recreational spot within the Municipality. ➤ This research is completely based on people's perspectives. ➤ Making connection between man and nature by incorporating urban design elements and criteria. ➤ Support the existing land use pattern of the urban area. ➤ Approach to preserve and improve urban culture and heritage.
Weaknesses	<ul style="list-style-type: none"> ➤ No policy guidelines of the municipal authority to rearrange the plan proposal. ➤ No implementation into the long term master plan. ➤ The municipal authority has not taken any initiatives for the preservation of Town Hall maidan. ➤ The Pauro Park improvement project prepared by the municipal authority has not yet been succeeded. ➤ Lack of fund for the improvement of the sites.
Opportunities	<ul style="list-style-type: none"> ➤ Both the open spaces bear the Bengali cultural tradition and reflect the urban culture in Jessore. ➤ Were not so far from the residences within the municipal boundary, most (45.9%) of visitors come from within the distance of ½-1km. ➤ Mostly (62.2%) middle income people enjoy as an urban breathing space. ➤ The proposed informal sector activity zone and small-scale shops could facilitate low-income people. ➤ It could be facilitated by providing the proposed small scale commercial activity for the maintenance of that spots.
Threats	<ul style="list-style-type: none"> ➤ Actually there were no threats for the preparation of the plan, because it needs to be preserved and improved for providing urban breathing space and recreation place for the community.

Conclusion

Parks and open spaces are crucial elements for the environmental Condition of any town, like Jessore town. It meets positive human need both physically and psychologically. It enhances and protects the resource base of air, water, soil, plants etc. It is also needed to preserve and improve urban harmony. This paper has tried to give some design guidelines based on urban design elements and criteria analysis from peoples' perspective. It has tried to make a bridge between the perception of people and nature. Users' expectation about the sites has also been investigated. Finally, two different design layouts or plans have been proposed for both sites by considering some features of a standard park or open space based on users' priority. Relevant authority should be conscious and responsible for preserving the environment of the parks and open spaces. The may take necessary steps to improve the existing quality more effectively so that it ensures fulfillment of recreational, cultural and social demand of the general people. This paper would be an useful endeavor if it could guide to protect existing parks and open spaces of any urban area, especially urban municipality area by incorporating urban design emphasizing public opinion.

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