

Revisiting Park Facility Provisions and Standards for Urban Areas in Bangladesh

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Abstract

Park facilities are one of the basic urban amenities for any livable and sustainable city. Therefore planning standards for park facilities should be formulated for sustainable planning for cities in Bangladesh. Park facilities are varied types name metropolitan park, district park, local park or neighborhood park. However, appropriate knowledge of planning standards for park facilities followed in different cities and countries in the world is greatly important for developing planning standards for park facilities to make cities and communities livable and sustainable. In addition, this paper focuses on park facility provisions followed in various plans and projects for different types of urban areas in Bangladesh. This paper finds that park facilities are inadequate in both types of urban areas – City Corporations and Paurashavas in Bangladesh. For metro cities in Bangladesh, generally park facility is available for every 2 lakh population. Some park facilities are available in A Category Paurashavas however park facilities are generally very minimum or absent in B and C category Paurashavas in Bangladesh. Our cities does not appropriately consider categorization of parks in city planning practices to evenly distribute neighborhood park, community park and city park in the urban fabrics. In the city planning practices in different sustainable cities across the world, park facilities are available within walking distances or 400 m to 500 m radius; whereas urban people in Bangladesh – both for City Corporation and Paurashava – rarely can avail park facility within their walking distance. This paper is based on secondary sources and desk research on the planning standards for park facilities. Based on the findings of this study, this paper suggests planning standards for various types of park facilities for urban areas in Bangladesh. This paper asserts that park facilities should be created at city and neighborhood levels according to the planning standards through proper physical planning.

Keywords: Planning Standard, Metropolitan Park, District Park, Local Park, Neighborhood Park

1. Background of the Study

Park facility is an important community facility in an urban fabric which meets the recreational demand of urban people as well as it maintains environmental and ecological balance of urban area. Park facility of varying categories – likewise mini, neighborhood, community, district, metropolitan, regional parks – are found in urban planning at various countries in the world. Four categories of parks namely mini, neighborhood, community and major park have been categorized by National Recreation and Park Association's (NRPA) guidelines for urban areas (Lancaster, 1983). NRPA proposed for an area of more than 15 acres for Neighborhood Park for a population of 4000–6000 persons and more than 25 acres for community parks for 25,000–40,000

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persons while it suggested a major park comprising of more than 100 acres for a population of 50 thousand.

According to Collins Dictionary, a park is a public area of land with grass and trees, usually in an urban area, where people go in order to relax and enjoy¹. India recommends for four types of parks, e.g. local, community, district, and city park with an standard of 10–12 sq.m. of open space per person (Rao, 2001) for an urban area. South Africa also proposes for four categories of park – a ‘Pocket Park’ of 400–1000 sq-m for 800 persons within a catchment of 500 m, while it proposes a local or neighborhood park of 2–5 acres within a radius of 750 m for a population of 6,000. South Africa recommends a community park of minimum 4 acres (optimum size 20–50 acres) for a population of 20 thousand within a radius of 1.5–3 km and a district or regional park for fifty thousand population with coverage radius of 10 km area.

London City of England recommends for different categories of park namely pocket park, local park, district park, metropolitan park and regional park. ‘Pocket Park’ is suggested having an area under 1 acre within less than 400 meter distance and ‘Small Open Space’ of area under 5 acres within less than 400 meter from residence as well. Moreover, England proposes for a ‘Regional Park’ of 1000 acres within 3.2 – 8 km and a ‘Metropolitan Park’ of 150 acres within 3.2 km. In addition, District Park is proposed with 50 acres area within 1.2 km whereas Local Park is suggested for an area of 2 acres within 400 m. It is worth-noting that London city proposes for ‘Linear Open Space’ wherever feasible to provide.

Kuala Lumpur city of Malaysia proposes three categories of parks – Local, Neighborhood and District Park – whilst Local Park covers 20 thousand population with an area of 5 acre, Neighborhood Park of 25 acres provides service to 50 thousand people and District Park of 100 acres covers 2 lakh population of urban areas.

Different standards for parks and open spaces have been recommended in various Master Plans for different cities in Bangladesh. For 25,000 population, Dhaka Metropolitan Development Plan (DMDP’ 1995-2015) has suggested 4 acres of land whereas different standards for various levels of park – such as Neighborhood, Community, City and Regional Park have been recommended in Chittagong Development Plan. ‘Neighborhood Park’ having 2 acre area for 10,000 population has been proposed in ‘District Town Infrastructure Development Plan (DTIDP) Preparation and 1 acre of space for every thousand population for ‘Community Park’ and ‘Neighborhood Park has been recommended in ‘Upazila Town Infrastructure Development Plan (UTIDP) Preparation Project’ by LGED.

In this backdrop, developing planning standards for park facilities is important for providing adequate recreational facilities across the urban areas. Moreover, as a developing country, delivering recreational facilities in a proper way is quite challenging at urban areas in Bangladesh. However, in order to formulate planning standards for park facilities at urban areas in Bangladesh, it is quite important to evaluate planning standards of different types of park facilities across various cities and countries around the world. Hence this paper analyzes park facility standards in various cities and

¹ <https://www.collinsdictionary.com/dictionary/english/park-facilities>

countries as well as park standards adopted in different plans and projects in Bangladesh. Considering the planning contexts of Bangladesh, this paper also recommends planning standards for different types of park facilities for urban areas in Bangladesh.

2. Methodology of the Study

In order to understand planning standards for park facilities in different cities and countries in the world, this paper is primarily constructed on secondary sources and desk research. In-depth analyses of park facility planning in physical planning for various cities in Bangladesh in different master plans, structure plans or any other relevant plans have also been done.

This study considered park facility planning and provisions as practiced in various physical plans formulated up to 2016 for relevant urban areas in Bangladesh. In order to ensure appropriate representation of different types of urban areas in Bangladesh, study areas has been selected across different regions of Bangladesh.

Six major Metropolitan Cities of Bangladesh as well as four 'A' Category, Three 'B' Category and Three 'C' Category Paurashavas have been selected for the analysis of park facility planning at various levels of urban areas in Bangladesh.

Table 1. Selected Urban Areas for the Study

Metropolitan City	Paurashava / Municipality		
	A Category	B Category	C Category
Dhaka, Chittagong	Savar (Dhaka)	Daudkandi (Comilla)	Nageswari(Kurigram)
Rajshahi, Khulna	Jhenaidah, Gopalganj	Bajitpur (Kishoreganj)	Kasba (Brahmanbaria)
Barishal, Sylhet	Bhairab (Kishoreganj)	Pirganj (Thakurgaon)	Melandaha (Jamalpur)

Planning standards for different categories of park facilities have been recommended for different types of urban areas, based on the major outcomes deriving from the study of park facility standards and provisions from international and national practices.

3.0 Important Considerations in Park Facility Planning

Park or recreation standards caters the needs of a community if they are designed and planned properly. Kevin Ashner, a planner from the greater Miami park system, correctly argues that "the level of customer satisfaction" should be the true measure of a good standard (Krohe, 1990). Gold (1980), suggests five criteria – namely relevance, people's orientation, performance standards, feasibility and practicality – as good standards for park facility planning. Planning standards for recreational facilities help to evaluate the demand provide a basis for taking decision depending on the prevailing local contexts (LGED, 2010 and Rao, 2001).

Local Plan Manual (2002) for Putrajaya City of Malaysia provides a detail standards for different types of community facilities which includes public amenities like education, health, religious and community services; open space like metropolitan, district/urban, local, neighborhood park, playground and green connectors; local and neighborhood commercial centre etc (Putrajaya Local Plan, 2002).

Metropolitan Park

Metropolitan Park is the premier level of open space for the Local Plan Area of different zones and districts. Different varieties of landscape elements are observed in this type of park. This type of park can be connected to other adjacent open spaces by green networks.

District Park (Urban Park)

This type of park is designed for core parts of urban area. It generally serves for major commercial part of the Local Plan area.

Local Park

Local Park serves for short distance recreational facilities for local people residing at various neighborhood blocks within the Local Plan Area. Recreational facilities provided in this park are of a lower order than Metropolitan Park and Urban Park.

Neighborhood Park

Neighbourhood Park is designed for recreational facilities at neighborhood level having an area from 0.24 hectares to 1 hectare and population coverage of 3000 persons. It functions as an active outdoor recreational open space for different age groups in the neighborhoods. Children's play area and lower level active recreation facilities are generally designed in neighborhood park.

According to 'The City of Welland Municipal Standards design criteria', parks are an basic component of the city area. They provide opportunities for inhabitants and guests to investigate other perspectives of daily life and to have social, educational, and recreational experiences in a chosen external setting (Corporation of Welland, 2013). Parks are an important component of a well-planned community. Parkland that provides highest benefit to the public, integrates existing natural elements and cultural resources in a planned way. The ideal park will have a wide range of features and facilities that will accommodate various demands and requirements from a variety of people across the community.

From different literature, it is established that the measure of the contribution of recreational facilities and open space as a physical element focuses on three criteria: quantity, quality and accessibility (RAJUK, 2014). Therefore, quantity or size of the park facility is not the only indicator for recreational facility standards in urban areas, which is also influenced by quality of the space and its accessibility to people. However, this research investigates the quantity or size of the park facilities as planning standard. Therefore this research only focuses on planning standards for different types of park facilities in terms of the size of the facility, population coverage and service area of the facility.

Carrying capacity of a park should be considered while setting standards for parks or playgrounds in urban areas. Not many literatures are available regarding the carrying capacity of parks. District of Columbia averagely suggests 22 m² space for a user on average for a Mini-Park of 0.60 acre, 45 m² space per user for a Neighborhood Park/Playground, 95 – 73m² space per user for a community Park, 115 m² space per user for a District Recreation Park and standard of 8 persons per acre (i.e. 500 m² per user) for 'Large Urban Park or Regional Park'.

According to Mokhtari and Hosseinifar (2013), physical carrying capacity of an Urban Park per acre per day is 6,000 visitors and Physical Carrying Capacity of an Urban Park per acre per hour per day is 1000 visitors (assuming that the park is accessible for 6 Hours per day). On the other hand, it has been revealed that 'Real Carrying Capacity' of an Urban Park 'per acre per day' is 4,000 visitors whereas Real Carrying Capacity of an Urban Park per acre per hour per day is 6,67 visitors (assuming that the park is accessible for 6 Hours per day). Mokhtari and Hosseinifar assumed that fifty percent (50) of the park are usable by the visitors, two square meters are necessary for a park visitor or 0.5 person is the number of visitors in each one square meter area and total visiting hours on the average visiting time in the park is six (06) hours. Moreover, on average 4 to 6 square meter space is required per user while planning for park or open space in urban areas. These standards are maximum allowable standards for urban parks which might be a guideline for densely populated urban areas in Bangladesh (Khan,2016).

Demand and requirement for park facilities usually varies across different areas and different cross-section of population. Khan and Kalam (2015) finds that about 55 percent urban dwellers want to have park within one kilometer of their residences, among those people 35 percent wishes to have the facility within half kilometer whereas other 26 percent desires to have a park within one kilometer of their home. Nonetheless 13 percent people in urban area are willing to travel 1 – 2 km for a park while 9 percent are prepared to travel 2 – 5 km for a park.

4.0 Park Facility Standard in Foreign Countries

Time Saver Standard proposes Park facility standard of 3.5 acre for one or two family development and 6 acre for multi-family development for 5000 people at Neighborhood Level (Mcgraw-Hill, 1999). National Recreation and Park Association's (NRPA) guidelines of 1983 recommends four types of park namely – Mini, Neighborhood, Community and Major Park for an urban area. Neighborhood Park is recommended for 4 – 6 thousand population having 15 acre or more for a service radius of ¼ to ½ mile and 'Community Park' is suggested for 20 – 40 thousand people with an area of 25 acre or more for a service radius of 1 to 2 mile, as shown in Table 2.

Table 2. Park Facility Standard in Foreign Countries

Country/City/ Category/Type/Source (as appropriate)	Population Coverage	Area in Acres	Other Standards
USA			
<i>Time Saver Standard</i>	3.5 acre for 5000 people for one or two family development at Neighborhood Level. (1.5 acre for 1000 people/275 families)		
	6 acre for 5000 people for Multi-family development.		
<i>National Recreation Association Standard, 1954 (for Passive Recreation)</i>			
Minor Park	2.50 acres per 1000 population		
Major Park	5 acres per 1000 population		
Total passive rec	7.5 acres per 1000 population		
Neighborhood Park			
<i>Time saver standard for site planning (Mcgraw-Hill. 1999)</i>			
Park	1.25 acre/1000	Size – 20 acre	Radius 1 mile
Country /City/ Type	Population Coverage	Area in Acres	Other Standards
<i>National Recreation and Park Association's (NRPA) guidelines, 1983</i>			
	<i>Acres/1000 population</i>	<i>Desirable Size</i>	<i>Service Area</i>
Mini Park	0.25—0.50	1 acre or less	Less than ¼ mile
Neighborhood Park	1—2 (4,000—6,000 population)	15+ acres	¼ to ½ mile radius to serve a population of 5,000 (a neighborhood)
Community Park	3.0—8.0 (20,000—40,000 population)	25+ acres	1 to 2 mile radius (several neighborhoods)
Major Park	2.5 (50,000 population)	100 acres	Radius: 30 minute maximum
	Readily accessible to the whole city		
District of Columbia	Population Coverage	Area in Acres	Other Standards
1. Mini Park	Capacity 110 persons	0.60	Radius – 3/8 mile
2. Neighborhood playgrounds	Capacity 264 persons	3-5	Radius – 3/8 mile
3. Community recreation centers	Capacity 420-820 persons	10-15	A number of neighborhoods
4. District recreation centers	Capacity 867 persons	≥ 25	All or parts of a service area
5. Large urban parks	8 persons/acre	≥ 400	All or major sections of the city
City of Waukesha	Standard	Type	Standard
Neighborhood Park	3.3 acre/1000	Community Park	3.1 acre/1000
Mini Park	No per Capita Standard is given, but they are recognized as filling an important niche in the park system where needed.		

Source: Compiled by Author (Data Source: APA, 1965; Lancaster, 1990; Planning Department of Hong Kong, n. d.; Putrajaya Local Plan, 2002; Damphu Structure Plan, 2006; PPDC, 2008; Green, 2012)

Hong Kong city suggest three types of open space (Regional, District and Local) for urban areas with a standard of 50 acre of open space per one lakh population or 2 m² per person. Rao (2001) recommends 3 – 3.5 acre of open space per thousand population or 10 percent of developed area as open space.

South Africa also proposes four different types of park facility—‘Pocket Park’ of 0.04—0.1 ha for 800 people; Local/Neighborhood Park of 0.8 – 2 ha for 6 thousand population; Community Park of 1.5 – 20 ha for 20 thousand people and District Park of 2 – 40 ha for a population of 50 thousand (Table 3).

Table 3. Park Facility Standard in Foreign Countries

City/ Country	Category/Type/Source (as appropriate)	Population Coverage	Area in Acres	Other Standards
Hong Kong	Regional Open Space	No set standard	5 ha	maximum building coverage 20%
	District Open Space	10 ha per 100 000 (1m ² per person)	1 ha	maximum building coverage 10%
	Local Open Space	10 ha per 100 000 persons (i.e. 1m ² per person)	500m ²	maximum building coverage 5%
	Total – City Open Space	20 ha per 100 000 persons (i.e. 2m ² per person)		
India				
		<i>10 sq.m. – 12 sq.m. of open space per person (Rao, 2001)</i>		
		1.2 – 1.4 ha/1000 persons or 10% of a developed area		
Bhutan	Central Plaza	1 per 25,000	2,000-5,000 sq-m	
South Africa	Pocket Park / Play at Neighborhood	800	0.04—0.1 ha	Radius 0.5 km
	Local/Neighborhood	6000	0.8—2 ha	Radius 0.75 km
	Community	20,000	1.5—20 ha	Radius 1.5—3 km
	District / Regional	50,000	2—40 ha	Radius >10 km
Australia	Local Park	1000		

Source: Compiled by Author (Data Source: APA, 1965; Lancaster, 1990; Planning Department of Hong Kong, n. d.; Putrajaya Local Plan, 2002; Kuala Lumpur Structure Plan-2020; Damphu Structure Plan, 2006; PPDC, 2008; Green, 2012, CSIR, 2011. ADUPC, n. d; Dudes, 2003; DCLG, 2002; Veal, 2008)

London Plan of England proposes seven categories of park and open spaces that includes ‘Local Park and Open Space’ of 2 ha with access distance of 400 m and ‘Metropolitan Park’ of 60 ha for access distance of 3.2 km. As shown in Table 4, Kuala Lumpur Plan of Malaysia recommended three categories of park facility including 100 acre of ‘District Park’ for 2 lakh population and 25 acre of Neighborhood Park for 50 thousand people as well as 5 acre of ‘Local Park’ for 20 thousand people in an urban area.

Table 4. Park Facility Standard in Different Cities

City/Country	Category/Type/Source (as appropriate)	Population Coverage	Area in Acres	Other Standards
England (London)	Types		Size (ha)	Access Distance
	Regional Park		400	3.2—8 km
	Metropolitan Park		60	3.2 km
	District		20	1.2 km
	Local Park and Open Space		2	400 m
	Small Open Space		Under 2 ha	Less than 400 meter
	Pocket Park		Under 0.4 ha	Less than 400 meter
	Linear Open Space		Wherever feasible	
		Acres/1000	Size (Acres)	
Oxford (UK)	Mini Park	0.25—0.50	0.375	
	Neighborhood Park or Playground	1.0—2.0	1.5	
	Community Park	5.0—8.0	6.5	
		Population Coverage	Area in Acres	Other Standards
Malaysia (Kuala Lumpur)	District Park	200000	100 acre	0.5 acre/100
	Neighborhood Park	50000	25 acre	0.5 acre/1000
	Local Park	20000	5 acre	0.25 acre/1000
Putrajaya	Metropolitan Park	50,000 or more	22 ha	
	District Park (Urban Park)	50,000	3.5 ha	
Malaysia (Shah Alam City)	Open Space	4.2 acre/1000		
	Neighbourhood Park	2500	3 acre	1.2 acre/1000
Sweden and Nordic Countries			Min Size	Max Distance
	Pocket Park			<50 m
	Local Park		>0.3—0.6 ha	<200 m
	District Park		>10—20 ha	<500—800 m
	Nature Park		>1000 ha	<1000 m

Source: Compiled by Author (Data Source: APA, 1965; Lancaster, 1990; Planning Department of Hong Kong, n. d.; Putrajaya Local Plan, 2002; Kuala Lumpur Structure Plan-2020; Damphu Structure Plan, 2006; PPDC, 2008; Green, 2012, CSIR, 2011. ADUPC, n. d; Dudes, 2003; DCLG, 2002; City of Oxford, 2008)

5.0 Park and Open Space Standards for Urban Areas in Bangladesh

Different standards for park and open spaces have been recommended in various master Plans for different cities in Bangladesh. A park facility for 25,000 people have been suggested in DMDP for Dhaka city having an area of 4 acre. Chittagong Metropolitan Master Plan (CMMP) proposed different standards for various levels of park – namely Neighborhood, Community, City and Regional Park. CMMP recommended a Neighborhood Park of size between 1 – 3 acre for a population of 5 thousand and 10 – 15 acres for a community park. RMDP recommends for 2.5 acre and KMDP set out a standard of 2 acre per thousand population, as presented in Table 5.

Sylhet Master Plan suggests for 3 acre of open space for 25 thousand population and Rangpur Master Plan (RMP) proposes for a ‘Community Park’ of 2 – 10 acre for a community block having 4 neighborhood with a population of 50 thousand. Moreover RMP set forth a standard for ‘Children’s Park’ of 0.5 – 1.5 acre of 1500 – 5000 population having home to Facility Distance of 0.25 -0.5 km.

Table 5. Park and Open Space Standard for Urban Areas in Bangladesh

City	Plan/Project	Population Coverage	Area in Acres
Dhaka	DMDP (1995-2015)	25,000	4 (0.16 acre per 1000)
		Larger park may serve larger no of inhabitants	
	DMDP	1,000	0.16
	DAP-Neighborhood Level (2010)	12,500	Min 0.3 acre in size (1-2 nos); Total-1 acre
	DAP (2022)	12,500	1 Acre
City	Plan/Project	Population Coverage	Area in Acres
Chittagong	Neighborhood	1 Acre/5000 (Size: 1 to 3 acres)	
	Community	10 – 15 acres	
	City	10,000	5
	Regional	20,000	5
Rajshahi	RMDP-2004	2.5 acre/1,000	
Khulna	KMDP-2001	2 acre/1,000	
	Khulna City Master Plan,1961	4 acre/1,000	
Sylhet	Sylhet Master Plan	25,000	3
		0.12 acre/1,000	
Barisal	Barishal Master Plan	1 acre/1,000	
Rangpur	Children’s Park	1500-5,000 (must be within community)	0.5-1.5
		Home to Facility Distance (0.25 -0.5 km)	
	Community Park	1 per block (4 Neighborhood;popn-	2-10

City	Plan/Project	Population Coverage	Area in Acres
		50,000)	
		Home to Facility Distance (0.5-1.0 km)	
Dhaka	PRLDR-2004	1,000	0.12
	Zila / Upazila Master Plan Project, 1985	1,000	1

Source: Compiled by Author (Data Source: District Statistics of BBS, 2011; Latest Development Plan, Structure Plan, Master Plan and Detail Area Plans of the relevant Cities; RAJUK, 1995; RAJUK, 2014; RDP, 2015; RMDP, 2004; RMP (Draft), 2014; DAP, 2010; DAP 2022)

PRLDR (2004) proposes a standard of 0.12 acre open space per thousand population for private residential land development projects which is significantly lower than the other standards followed in Bangladesh. Zila and Upazila Master Plan Project of 1985 proposed a standard of 1 acre of open space per thousand population for district and Upazila level Master Plans and physical plans.

Detail Area Plan (2010) for Dhaka city set out a standard of 12 acre in aggregate for open space and recreation facilities at neighborhood level for a population of 12,500 people that set out a standard of 1 acre per thousand population. DAP suggests 1 to 2 no of Park/Children Park with minimum area of 0.3 acre and 2 to 3 no of playfield having minimum size of 1 acre for a neighborhood (Table 6). In addition, DAP (2010) recommends for 8 acre of open space in aggregate in the form of waterbody, canal, green space, vegetation etc. However DAP (2022) for Dhaka city recommends for 1 acre park space for 12,500 persons in Dhaka city.

Table 6. DAP Standard for Open Space at Neighborhood Level or for 12500 People for Dhaka City

Name of the Facility	Quantity		Area		
	Min.	Max.	Minimum for Unit Facility	Sub Class Total	Class Total
	(No.)	(No.)			(Acre)
Open space					12
Park/children's park	1	2	0.3 Acre	1 Acre	
Water body/Canal/Pond	As per Planner		1.5 Acre	6 Acre	
Play field	2	3	1 Acre	3 Acre	
Green/Vegetation/Water Front	As per Planner		0.5 Acre	2 Acre	

Source: DAP (2010) for Dhaka City

6.0 Park Facility Provisions according to the Master Plans for Urban Areas in Bangladesh

Planning for park facilities generally varies across various cities in Bangladesh in absence of any national planning standard or guideline. This research finds that average size of 'Community Park' proposed in Khulna Master Plan is 7 acres while average size of two 'Metropolitan Park' proposed in that plan is about 21 acres. On the other hand, mean size of community parks proposed in 'A Category Paurashava' is 2.55 whereas median size of

‘Central Park’ is 16 acre. If Master Plans are duly implemented in ‘A Category’ Paurashavas, 0.26 acre of parkland per thousand population will be available in future. Average size of ‘Community Park’ in B and C category municipalities has been found 3 acre while mean size of ‘Central Park’ is about 10 acre. On the whole, average area of proposed ‘Community Park’ is 2.71 acres whereas area of proposed ‘Central Park’ is 10.47 acre according to the proposed Master Plans for municipalities in Bangladesh.

Park Facilities at Metro Cities in Bangladesh

This paper finds that a park facility is available for every 2.1 lakh population in metro cities in Bangladesh. Maximum number of parks are available in Dhaka city– 29 parks are in Dhaka North city and 27 parks are in Dhaka South City – hence on an average, one park is available for every 1.25 lakh people in Dhaka city, however there are disparities regarding the distribution of park facility within different parts of Dhaka city (Ahmed, 2010).

11 Parks are available in Chittagong city and one park is available for every 2.36 lakh which is not inadequate according to planning standard. Coverage for park facility varies in the range from 1 to 1.6 lakh for Rajshahi, Khulna, Sylhet and Barishal cities (Table 7). Hence it has been revealed that park facilities are not adequate in metro cities in Bangladesh.

Table 7. Provision of Park Facilities at Metro Cities in Bangladesh

Name City	Park	
	No	Thou/Fac
Dhaka	56	125
Dhaka South	27	118
Dhaka North	29	131
Chittagong	11	236
Rajshahi	3	150
Khulna	6	125
Sylhet	3	162
Barisal	3	109
Total	53	210

Source: Analyzed by Author; (Data Source: District Statistics of BBS, 2011; Latest Development Plan, Structure Plan, Master Plan and Detail Area Plans of the relevant Cities; RAJUK, 1995; RAJUK, 2014; RDP, 2015; RMDP, 2004; RMP (Draft), 2014; DAP, 2010.)

Khulna Master Plan of 2001 proposed 8 Community Park with average size of 7 acre per park facility and 2 Metropolitan park with mean size of 21 acre. Therefore gross area of 96 acres have been proposed for 10 parks in proposed Khulna Master Plan of 2001, as presented in Table 8.

Table 8. Proposed Standard of Park and Playground in Khulna Master Plan of 2001.

Type of Park	Proposed No	Proposed Area	Acre/ Park
Community Park	8	54	7
Metropolitan Park	2	42	21
Total	10	96	

Source: Khulna Master Plan, 2001

Park Facilities at Municipalities in Bangladesh

Park facilities are inadequate for city dwellers in Paurashavas in Bangladesh, however A Category Paurashavas have some park facilities but B category and C category Paurashavas usually lacks Park facility² for their city people, as revealed in Table 9. However, B and C Category Paurashavas have some green spaces in the municipality areas which meet the necessities of park. Hence 'Community Park' and 'Central Park' for various Paurashavas have been proposed in various Master Plans for Paurashavas under UTIDP and DTIDP projects.

Table 9. Provision of Park Facilities at Municipalities in Bangladesh

Paurashava	Park
Gopalganj	1
Savar	2
Bhairab	1
Jhenaidah	1
Daudkandi	0
Bajitpur	0
Pirganj	1
Kasba	0
Melandaha	0
Nageswari	1

Source: District Statistics and Master Plan of Respective Urban Areas

Park Facility in 'A' Category Paurashava

Master Plans from DTIDP for selected A Category Paurashavas propose 2.55 acres for a 'Community Park' on an average and 12.67 acres for a 'Central Park' (Table 10). Among the 'A' Category municipalities, Bhairab Master Plan has proposed one central park, thirteen community park, eleven neighborhood parks – totaling 24 parks for its urban area, whereas Jhenaidah and Gopalganj Master Plans have proposed 4 and 5 community parks in addition to the one central park.

Table 10: Proposed Community Park and Central Park in 'A Category Paurashava'

² Only Pirganj and Nageswari Paurashava have a Park facility for its urban dwellers.

Name of Municipality	Population		Proposed Community Park			Proposed Central Park		Future Standard	
	Current	Future	Number	Area	Acre/Fac	Number	Area	Area	Acre/Thou
Jhenaidah	108	162	4	5.45	1.36	1	19.18	25	0.15
Gopalganj	76	134	5	12.83	2.57	1	16	32.5	0.24
Bhairab	119	194	24	66	2.75	1	2.5	68.5	0.35
Total	303	490	33	84.28	2.55	(12.67 acre per Park)		126	0.26

Source: Analyzed by Author (Data from Master Plans of Respective Municipalities)

Park Facility in 'B' Category Paurashava

No park is available in Daudkandi and Bajitpur Paurashavas. A quantity of 1.33 acre land is now available for park facility at Pirganj leaving per thousand parkland of 0.04 acre only. According to the Master Plans of these municipalities, land area per 'Proposed Community Park' is 3 acres and 9.84 acres for 'Proposed Central Park', as shown in Table 11.

Table 11. Proposed Community Park and Central Park in 'B Category Paurashava'

Name	Present		Community Park-Proposed			Central Park-Proposed		
	Acre	Acre/Thou	No	Acre	Acre/Fac	No	Acre	Acre/Fac
Paurashava								
Daudkandi	0	0.00	4	8.30	2.08	3.00	25.26	8.42
Bajitpur	0	0.00	4	7.17	1.79	1.00	9.26	9.26
Pirganj	1.33	0.04	8	32.65	4.08	1.00	14.70	14.70
Total	1.33	0.01	16	48.12	3.01	5.00	49.22	9.84

Source: Analyzed by Author (Data from Master Plans of Respective Municipalities)

Park Facility in 'C' Category Paurashava

Generally, park facilities are unavailable in 'C Category Paurashavas' in Bangladesh. Nageswari Paurashava has a park facility at present with 2.34 acres of land. According to Master Plans under UTIDP, land area proposed for 'Community Park' is 2.73 acres and 10.12 acres for 'Central Park' (Table 12).

Table 12. Proposed Community Park and Central Park in 'C Category Paurashava'

Name	Community Park-Proposed			Central Park-Proposed		
	No	Acre	Acre/Fac	No	Acre	Acre/Fac
Paurashava						
Kasba	5	10.12	2.02	6	20.6	3.43
Melandaha	3	9	3.00	1	10	10.00
Nageswari	8	25	3.06	2	61	30.25
Total	16	43.62	2.73	9.00	91.10	10.12

Source: Analyzed by Author (Data from Master Plans of Respective Municipalities)

Park Standard in Proposed Master Plan under DTIDP and UTIDP

Analysis of proposed Master Plans of studied Paurashavas of A, B and C Categories reveals that, average area of proposed 'Community Park' is 2.71 acres whereas 10.47 acre land is preserved for 'Central Park' in the municipality area (Table 13). Implementations of these proposals are quite necessary to ensure recreational facilities and provide open spaces for people of these municipalities.

Table 13. Park Standard in Proposed Master Plan under DTIDP and UTIDP

Name	Community Park-Proposed			Central Park-Proposed		
	No	Acre	Acre/Fac	No	Acre	Acre/Fac
A Category	33	84.28	2.55	3	37.68	12.56
B Category	16	48.12	3.01	5	49.22	9.84
C Category	16	43.62	2.73	9	91.1	10.12
Total	65	176.02	2.71	17	178	10.47

Source: Analyzed by Author (Data from Master Plans of Respective Municipalities)

7.0 Recommended Standard for Various Types of Park at Urban Areas in Bangladesh

This paper reveals that, city planning practices in Bangladesh lacks in proper planning standards as well as in park facility provisions in comparison to the other countries. Our cities does not appropriately consider categorization of parks in city planning practices to evenly distribute neighborhood park, community park and city park in the urban fabrics. In the city planning practices in different sustainable cities across the world, park facilities are available within walking distances or 400 m to 500 m radius; whereas urban people in Bangladesh – both for City Corporation and Paurashava – rarely can avail park facility within their walking distance.

Based on the findings of this study, three types of park facilities have been recommended for urban areas in Bangladesh, namely – 'Local / Neighborhood Park', 'Community Park' and 'City / Metropolitan Park'. Standard for 'Regional Park' is also given here for large cities with high level of population, which will also serve people living outside the city area but within the sphere of influence of big city.

Local / Neighborhood Park

Service population of 5 to 10 thousand is recommended for local or neighborhood park in urban areas with an area of 1 – 3 acres. Service radius of this type of park should be 0.5 – 1 km however it is preferable to limit it within 800 meter. One portion of this park might be reserved as children's playlot or park, where it is difficult to make provision for separate playlot for children. For denser parts of urban area, Neighborhood Park can serve a population of 20 thousand, if designed as well as maintained properly. Moreover where density is quite low, threshold population of Local Park might be 1500 – 5000. Nonetheless, Local or Neighborhood Park should be accessed within one km from residence (15 min walking) and city development authorities should provide one local park in every 3 sq-km area (i.e. one km service radius area) in urban areas of Bangladesh.

Community Park

Community Park is recommended for several neighborhoods or for service population of 30 to 50 thousand comprising an area of 5 – 10 acres. Size of community park might be reduced to 3 – 5 acres for less densely populated area (e.g., B or C category municipalities) whereas threshold population for this type of park can be increased from 50 thousand to 1 lakh for densely populated areas like metro cities where vacant land are not quite available. 'Home to Community Park Distance' should be 1.5 – 3 km in urban areas in Bangladesh.

City / Metropolitan Park

City or Metropolitan Park should be provided for every 3 to 5 lakh population in urban areas comprising an area of 15 – 30 acres with service radius of 5 – 7 km. For metro cities in the country, threshold population for Metropolitan Park might ranges between 5 – 10 lakh whereas size of City Park for a municipality might be reduced within 10 – 15 acres.

Regional Park

For a threshold population of 30 – 50 lakh, a regional park should be provided with an area of 200 – 400 acres (Table 14), which should be located more than 10 km away from the city and generally sited in the outskirts or periphery of the city area where large tracts of land are available and relatively easier to acquire by the government or development authority. This type of Regional Park will serve the metro people as well as the outer people who reside within the sphere of influence of metro city.

Table 14. Recommended Standard for Park Facilities for Urban Areas in Bangladesh

Types	Type of Urban Area	Population Threshold	Area	Service Radius
<i>Local / Neighborhood</i>	Low Density	1,500 – 5,000	1 – 3	0.5 – 1 km
	High Density	5,000 – 10,000 (in dense area, it can serve even 20,000)	1 – 3	0.6 – 1 km
	<ul style="list-style-type: none"> - Children's Park/Playlot of 0.5 – 1 acre might be included in Local/Neighborhood Park. - Within one km from residence (15 min walking) - One local park in every 3 sq-km area. 			
<i>Community</i>	Low Density	30,000 – 50,000	5 – 10	Several Neighborhoods
	High Density	50,000 – 1,00,000	5 – 10	1.5 – 3 km
	(might be 3 – 5 acre in size for municipal areas)			
<i>City / Metropolitan</i>	Low Density	3 – 5 lakh	15 – 30	5 – 10 km
	High Density	5 - 10 lakh	15 – 30	5 – 10 km
	(might be 10 – 15 acre for municipal areas)			
<i>Regional</i>		30 – 50 lakh	200 – 400	More than 10 km

Source: Developed by Author

In addition to the planning standards for different types of park facilities for urban areas, number of facilities required per recreational acre should be increased for dense urban areas (Listokin and Walker, 1990). Good design can intensify the functional capacity of park area. Paul Freidberg has analyzed different park designs and revealed that his experimental playgrounds can serve three to ten times the number of children than a conventionally planned park of the same size. Furthermore, this types of recreational facilities provide better opportunities for social play than the conventional grounds.

Freidberg's designs reveals that quality design can be substitute for quantity in compact urban areas (Krohe, 1990; Freidberg, 1979). The strategy in such urban areas should be to provide recreational facilities for all parts of the urban areas and design appropriately to increase functional capacity. A greater number of parks may be required, even if lesser sizes, in compact urban areas. Therefore, for densely populated urban areas in Bangladesh, especially for metro cities like Dhaka and Chittagong, more recreational facilities like park and playgrounds should be designed properly even in smaller sizes but should be planned for every parts of the city. Hence one community park, if designed and maintained properly, may serve even one lakh population (average ward population of Dhaka city) in densely populated parts of the cities in Bangladesh.

For densely built up areas where neighborhood parks at adequate numbers according to the standard are not realistic to provide, municipality or development authority should plan to design a local park for citizens within one kilometer of home to facility distance – i.e., one park for every 3 sq-km area in metro areas. Hence it is worth mentioning that World Health Organization proposes a standard of a park or open space within 15 minute walking distance (maximum distance that a person is willing to travel without much discomfort), whereas UN-Habitat suggest for access to open space for a person within 800 meter from residence.

8.0 Important Considerations for Planning of Park Facility in Urban Areas of Bangladesh

- Local / Neighborhood / Children's park may have space for children's playlot and should be designed and planned accordingly. (Example of Uttara sector 4 parks and playlot may be considered here, where total area of the recreation complex is 3 acre with 1 acre playlot area).
- Community park may be planned for each ward if population size permits or for several neighborhoods (Rangpur Master Plan proposes for 1 per block, otherwise for 4 Neighborhood for population of 50,000)
- Recreational facility standard for South Africa suggests that, provision ratios suggested for urban areas could be lowered if parks are grouped with sports fields; however multi-use of parks also leads to improved levels of safety and maintenance.
- If parks cannot be well-maintained and proper provisions are not designed, people usually prefer to have access to fewer but larger parks that are better maintained and secured rather than being provided with many small parks that are messy and lack proper facilities (CSIR 2011).
- Linear Open Space (e.g. London City) should be created wherever possible. Roads or embankments or other liner features might be developed and designed as linear

open space. For a densely populated area (e.g. Old Dhaka), where acquisition of land for park or open space is very much tough, some roads might be developed as open space barring its present use if alternative right of way can be provided.

9.0 Concluding Remarks

Parks facilities are one of the basic urban amenities for any modern city. Sufficient area should be reserved for Public Park at suitable locations of the city to enable passive recreation of the city dwellers. Parks should be created at city and at neighborhood levels through Master Plan and Detailed Area Plans. This paper recommends for three types of park facilities for urban areas in Bangladesh namely – ‘Local / Neighborhood Park’, ‘Community Park’ and ‘City/Metropolitan Park’. Local or Neighborhood Park is recommended for 5 to 10 thousand people in urban areas having an area of 1 – 3 acres. Community Park is suggested for several neighborhoods or for service population of 30 to 50 thousand covering an area of 5 – 10 acres. City or Metropolitan Park should be designed for every 3 to 5 lakh population in urban areas having an area of 15 – 30 acres with service radius of 5 – 7 km. Adequate area for park facilities should be reserved while developing residential areas by public or private sector. Appropriate steps should be taken by relevant authorities to ensure that these facilities are well maintained and well protected in the implementation phases of this type of projects in order to ensure their availability for use by common people.

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