

## **Revisiting Planning Standards for Recreational Facilities in Urban Areas**

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Recreational facilities are integral part of city planning because of the impact that it generates and eventually perpetuates through the city fabric and city life. Proper planning of recreational facilities therefore demands greater attention and care for ensuring vibrant city life for urban dwellers. Recreational facilities includes various types of facilities, however major types that draws particular attention for city planners while preparing physical plans for cities mainly includes open space, park, play field, playground, playlot. Identification of proper standards for these recreational facilities always poses challenges for urban planners and policy makers because of the limited availability of land in urban areas associated with the high value of land. Bangladesh, being a developed country, with limited financial affordability of city corporations, local level government and various development authorities as well as the huge scarcity of vacant land in urban areas, faces the challenges of providing proper recreational facilities, in terms of adequate quantity as well as appropriate quality. As a result, setting appropriate planning standards for parks, playgrounds and open spaces are of paramount importance for providing proper recreational facilities for its urban people in order to ensure vibrant urban life.

Generally planning standard is used to determine the minimum area for each use for a certain population or for a certain land area (LGED, 2009). These minimum standards are set aside for a particular locality by studying the functional requirements, number of users and other similar parameters. More clearly, these standards are based on the total amount of land required for selected urban services and facilities expressed as acres/hectres per population threshold, served by the municipal authorities. It is worth mentioning that, national standards for recreational facilities are not present for urban as well as rural areas in Bangladesh. As a result, different organizations usually set their standards while implementing land use plan or master plan for the purpose of that particular plan or project.

### Open Space Standards in Bangladesh

Over the years, various planning standards have been adopted for preparation of master plans for different cities of Bangladesh. Master Plan of 1959 for Dhaka city adopted a standard of 20 acres of open spaces for a neighborhood of 7500 persons leaving the standard of open space of 2.67 acres per thousand population. Dhaka Metropolitan Development Plan of 1995 proposes for 4 acres of open space for 25000 people, thus indicating a standard of 0.16 acres of open space per thousand population. Khulna Master Plan of 1961 recommended 4 acres of open space for every 1000 population, however Khulna city Master Plan of 2001 reduced that standard to 2 acres per thousand population. Rajshahi Metropolitan Development Plan of 2004 proposes for 1.5 acres per thousand population whereas Barishal Master Plan recommended for 1 acre of open space per thousand population.

**Table-1: Standards for Open Space (in Acre/1000) in physical plans of metropolitan cities of Bangladesh**

<b>Khulna City Master Plan, 2001-2010</b>	<b>Dhaka Metropolitan Development Plan, 1995-2015</b>	<b>Rajshahi Urban Area Plan/Functional Master Plan, 2004-24</b>	<b>Barishal Master Plan 2010-30</b>
2 acre/ 1000 population	0.16 acre/ 1000 population	1.5 acres / 1000 population	1 acre/ 1000 population

Source: DMDP Project, 1995; Khulna Master Plan, 1999; Rajshahi Metropolitan Development Plan, 2004; Barishal Master Plan, 2010.

A standard of 1 acre per 1000 population was fixed by Zila and Upazila Planning project of Urban Development Directorate, 1985. Upazilla Town Infrastruce Development Project (UTIDP) suggested 1 acre of open space or neighborhood park space per thousand population for preparation of master plan for Pourashava while District Town Infrastruce Development Project (DTIDP) proposes for 2 acres of park space for 10000 population, suggesting an standard of 0.2 acres per thousand population. Private Residential Land Development Project Rules, 2004 recommends for 0.20 acres of open space per thousand population of which 0.08 acre for playground and 0.12 acres for park spaces.

### Planning Standards for Recreational Facilities in different countries in the world:

Planning standard for community facilities generally varies for different countries according to their particular planning context and it is noteworthy that standards of

any country cannot be replicated to other country without detail assessment of demand of that particular locality or group of people for whom it is going to be applied. Following part of the article describes some planning standards followed in various countries and cities in the world.

The rule which is generally adopted now in the re-planning of British cities is to provide 7 acres [2.83 ha] of public open space per 1,000 persons and the continued use of this standard is considered appropriate where no other basis has been established (Veal, 2008). It is generally accepted that the provision of open space ranges from *10 square metres to 28 square metres per person* (Daley, 2000). In the United States, the National Recreation Association advocates neighbourhood park and recreation areas on a basis of ten acres [4 ha.] per 1,000 persons (recommended) and five acres [2 ha.] per 1,000 persons (minimum), or at least 10 per cent of the neighbourhood area (Brown and Sherrard, 1951).

In the absence of an existing approved plan, where open space is required from a parcel of land to be subdivided, *the amount of unencumbered open space required is not less than 6% of the site area* (JVMAH, 1989). No basis is offered for this 'fall-back' recommendation, only that it has been adopted 'after careful consideration'. *The widespread practice in New South Wales city of Australia is dividing the 2.83hectares into 1.21 hectares for 'active' open space (that is, sports fields) and 1.6 hectares for 'passive' open space (for informal recreation)*. As with the overall standard, no documented rationale for this division has been identified (NSW Dept. of Planning, 1992). Vancouver, British Columbia's standard of 2.75 acres of neighborhood park space per 1000 population is based in part on the observation that requests for additional park land come largely from areas with a lesser amount of park space.

In 1906, "Playground Association of America" called for playground space equal to 30 square feet per child. In the 1970's and early 1980's, the first detailed published works on these topics began emerging (Gold, 1973, Lancaster, 1983). In time "rule of thumb" ratios emerged with 10 acres of parklands per thousand population becoming the most widely accepted norm. Other normative guides also have been cited as "traditional standards," but have been less widely accepted. In 1983, Roger Lancaster compiled a book called, "Recreation, Park and Open Space Standards and Guidelines," that was published by the National Park and Recreation Association (NRPA). In this publication, Mr. Lancaster centered on a recommendation "that a park system, at minimum, be composed of a core system of parklands, with a total of 6.25 to 10.5 acres of developed open space per 1,000 population (Lancaster, 1983). The guidelines went further to make recommendations regarding an appropriate mix of park types, sizes, service areas, and acreages, and standards regarding the number of available recreational facilities per thousand population. While the book was

published by NRPA and the table of standards became widely known as “the NRPA standards,” these standards were never formally adopted for use by NRPA.

Since that time, various publications have updated and expanded upon possible “standards,” several of which have been published by NRPA. Many of these publications did benchmarking and other normative research to try and determine what an “average Level Of Service (LOS)” should be. It is important to note that NRPA and the prestigious American Academy for Park and Recreation Administration, as organizations, have focused in recent years on accreditation standards for agencies, which are less directed towards outputs, outcomes and performance, and more on planning, organizational structure, and management processes. In essence, the popularly referred to “NRPA standards” for LOS, as such, do not exist.

### **Open Space Standard in Hong Kong**

Hong Kong is a densely populated country in the world which is facing similar problem of land scarcity like Bangladesh. Hence planning standards for recreational facilities followed in Hong Kong might provide some directions for city planning of our country.

Planning Department of Hong Kong acknowledges that there are competing demands for the limited land resource in Hong Kong. However, Hong Kong Government recognizes that recreation activities are very important to the individual as well as the whole community, and has made every effort to designate open spaces for such use. Other than recreation use, these open spaces also allow the penetration of sunlight and air ventilation, as well as planting for visual relief (Planning Department of Hong Kong). It is thus an essential land use element in urban design, moreover these functions are particularly important in a high density, high-rise built-environment like Hong Kong.

Hong Kong Government has formulated a set of guidelines on the planning, layout and design of open spaces under the “Hong Kong Planning Standards and Guidelines (HKPSG)”. According to the HKPSG, open spaces are generally divided into “Recreation Open Space” and “Green Space” while the former is subdivided into 3 hierarchies: “Regional Open Space”, “District Open Space” and “Local Open Space”. Generally speaking, “Regional Open Spaces” are large sites (at least 5 ha, for example the Victoria Park with an area of about 19 ha) to serve the wider recreational needs of the territorial population and tourists. “District Open Spaces” are medium-size sites (at least 1 ha) to meet the needs of a district’s population. “Local Open Spaces” are smaller sites (if possible, at least 500m<sup>2</sup> for those within the urban areas) to serve the neighborhood’s population.

In the urban areas (including the Metro Area and the New Towns), outlying islands and rural townships (such as Sai Kung etc.), the standard for provision is a minimum of 20 ha per 100,000 persons (i.e. 2m<sup>2</sup> per person), among them at least 10 ha should be “District Open Space” and 10 ha should be “Local Open Space”.

In rural villages and small residential developments in the rural areas, the standard for provision is a minimum of 1m<sup>2</sup> per person for Local Open Space. Noting the rural locations of these settlements which enable the residents to have more easy access to the countryside, and the scattered distribution of the population, there is no requirement for the provision of District Open Space for the rural population in the HKPSG.

The prime function of “Green Space” is for conservation of the natural environment as well as for amenity and visual enhancement. Many “Green Spaces” have been designated as “Country Park” and “Special Area” which are conservation areas protected by law, or are zoned “Green Belt”, “Conservation Areas” or “Coastal Protection Area” under the statutory outline zoning plans and the development permission area plans. These zones would generally be for passive recreation, conservation and education/research uses, and are not suitable for development.

According to the above planning guidelines, Hong Kong Government has been sparing no efforts in providing open spaces for the public or reserving suitable land for recreation use in order to meet public needs. At present, there is at least one town park in each new town in the New Territories and more than 80% of the territorial population are living within a radius of 400 metres of various types of open spaces. If the “Country Parks” and the “Special Areas” are taken into account (such areas cover 40% of the area of 1,100 sq. kilometres of Hong Kong), then nearly 90% of the population are living within a radius of 400 metres of open space in a broader sense. Furthermore, the parks located in the urban area generally are within 10 minutes walking distance from the MTR stations/public transport terminals and are easily accessible by the public.

### **Open Space Standards for India**

The term open space, within the context of physical planning, means the land covered and used by nurseries, schools, play lots, playgrounds and parks , etc (Hamid, A. 2002). The Indian Town Planning Institute recommends following standards for recreational facilities for Indian cities.

- A play lot of 2000 to 5000 sq-ft shall be required as children’s playground for about 100-200 families.
- A neighborhood playground – the area is determined either as 4-7 acres or 1 acre per 2,000 population.

- A playfield which should be provided for 4 to 5 neighborhoods. Area will be 12-20 acres or 1 acre for 2000 population.
- A park space shall have to be provided at the rate of 2.5 acres for 1000 population.

### **Open space planning standards in Australia**

In New South Wales of Australia, the persistence of fixed open space planning standards seems to be partly due to the existence of Section 94 of the Environmental Planning and Assessment Act 1979, which allows councils to determine contributions which developers must make to the provision of public infrastructure and services, including recreation. Councils must set out such determinations in a 'Section 94 Contributions Plan' and, since these plans are examined closely by developers and, if challenged, may have to be defended in the Land and Environment Court, they must be very clear, specific and quantitative, which are features of standards. A number of NSW local councils and other agencies continue to refer to standards in their contribution plans.

For example, the City of Hurstville's 2004 Open Space & Community Recreation Facilities Contributions Plan states that the amount of open space required to satisfy the general needs of a community can be assumed to be 28.3 m of open space per person [= 2.83 ha. per 1000 population], which is the most widely accepted standard in Australia and the United Kingdom for the provision of local open space within a Metropolitan urban context.

Centennial Parklands, a state government agency responsible for a major park complex in central Sydney, recently stated in its magazine: 'The current ratio of open space in the city of Sydney is 2.36 ha. per 1000 people, which is below the widely accepted industry standard of 2.43 ha. per 1000 people'.

Even when councils have not based their own planning on the standard, its use is still often referred to as accepted practice. For example, the Sutherland Shire Council Contribution Plan itself is not based on standards but it refers in passing to 'the 28 m<sup>2</sup>/person [= 2.83 ha./1000] general standards of open space provision' (Sutherland Shire Council, 2006: 12). And Blacktown City Council, in one of its contributions plans for recently released land areas, states that 'Council used a 'needs based approach' to determine the Open Space requirements that places an emphasis on providing the appropriate amount and quality of open space needed by the population rather than adherence to the 2.83ha/1000 persons standard.

Whilst the study was undertaken at a time when planning practice endorsed the standard However, in another plan relating to earlier release areas, the same council states that 'Council acknowledges recent trends away from the traditionally accepted

level of provision being 2.83 ha per 1000 people in lieu of a more qualitative approach to open space provision. However, as the 1980s Release Areas [to which this report refers] are substantially developed, Council has decided to maintain the traditional level of provision.'

### **Planning Standards of National Playing Fields Association (NPFA), UK**

'British standard' for recreational facilities are developed by the National Playing Fields Association (NPFA) and has a long history. NPFA states that, "In 1925 the National Playing Fields Association was founded to help ensure that every man, woman and child in Great Britain and Northern Ireland would have the opportunity of participating in outdoor recreational activity within reasonable distance of home during their leisure hours. The Association urged all local authorities to adopt a minimum standard of provision of 5 acres [2.02 ha.] of public open space for every 1000 people, of which at least 4 acres [1.62 ha.] was to be set aside for team games, tennis and bowls. ... In 1934 this standard was increased to 7 acres [2.83 ha.] in order to include private playing space and school playing fields. ... In 1938 the 1 acre [0.4 ha.] of open space, originally included for parks and public gardens, was dropped so that the standard became one of 6 acres [2.43 ha.] applying to playing space only."

NPFA's 1971 report on the standard, indicated that the standard arrived at in 1925 was 6 acres per 1000 population, based on the following premises:

- For every 1000 population, 500 people were below the age of 40;
- Among these population, it was assumed that 150 would either not want to play sport or would be unable to because of infirmity;
- Further 150 would use school facilities;
- So 200 people in every 1000 would need to be catered for.

Given the size of sports teams and frequency of play, it was estimated that the needs of these 200 people could be accommodated on 1 senior football pitch, 2 tennis courts, 1 junior football pitch, 1 children's playground of ½ acre (0.2 ha.), 1 cricket pitch, 1 pavilion, 1 three-rink bowling green. These facilities would occupy 6 acres [2.43 ha.]. However, this standard excludes school playing fields, military sports grounds, verges, woodlands, commons, gardens and parks, golf courses, large areas of water, indoor facilities.

The standard was reviewed in 1955, 1971, 1974, 1986, 1989, 1992 and 2001. On each occasion, it was concluded that the effects of such factors as rising living standards (which would have increased the standard), and changing age structure

(which, because of the growth in the numbers of elderly, would have reduced the standard) cancelled each other out and left the standard at 6 acres.

Thus the original NPFA standard was based on an estimate of likely participation levels, which can be seen, for its time, as a needs-based approach. Demand estimates were made in the absence of formal survey data on participation but, although survey evidence has been available in Britain since the 1960s, the published reports of the revisions of the standards do not refer to this evidence as a basis for making revisions. And the latest review (2001) does not refer to the changing demographic structure of the country.

In the late 1960s studies commissioned by the British Ministry of Housing and Local Government (MHLG) in new and established towns concluded that provision of playing fields above 1.5 acres (0.6 ha.) per 1000 population did not result in increased levels of participation, but this clearly did not influence the NPFA. Around the same time, the newly formed Sports Council put forward a demand-based procedure for assessing requirements for playing fields (and other types of recreation facility) using MHLG and other available participation data. The report, *Planning for Sport*, included a worked example of the use of the procedure, based for illustrative purposes on the age-structure of the whole of Great Britain, resulting in a requirement of 2.4 acres (0.97 ha.) of playing fields per 1000 population. But, the report stated, in bold lettering: 'We are not putting forward this figure as a standard'. It was, however, frequently quoted as such by local councils in Britain.

**Open space standard for some selected cities**

As stated earlier, standard for park and open space varies greatly in various cities and countries due to varying national, regional or local context and scenarios. Following table shows standards for open space per thousand population in different cities of the world.

**Table-2: Standard for Open Space in various cities**

City	Acre per 1,000	City	Acre per 1,000
Greater London	10	Kanasas	9
Washington	9.5	Bristol	2.5
Los Angels	12	Public Playing Field in India	1.5

Edinburgh	7.16	Parks in India	2
Minneapolis	5.5	Parks and Play Field in Pakistan	1.3
Cambridge	11.35		

Source: Khan (2012)

**Planning Standards for Playlot, Playground, Playfield and Park**

The standards for playlot, playground, playfield and park varies across different cities and countries because of relevant variations in the socio-economic and planning context. As a result, planning standard for recreational facilities for urban areas should be formulated after careful considerations of its socio-economic and planning context. Khan (2006) recommended following planning standards for Playlot, Playground, Playfield, Park for the cities of our country.

**Table-3: Planning standards for Playlot, Playground, Playfield and Park**

Type	Recommended space standard for the cities Bangladesh (Acres Per 1000 Population)	USA Standard (Acre Per 1000)	Recommended size of a Facility for the cities of Bangladesh (in Acre)	Recommended size in USA	Maximum distance served /Service Radius
Play lot	0.125	0.25-0.5	0.4	1	1/8 mile
Playground	0.50	1.5	1.2	3	1/2 mile
Playfield	0.75	1.5	06	15	1 mile
Park	0.75	1.25	08	20	1 mile

Source: Khan (2006) and McGraw-Hill, 1999

In order to ensure proper dwelling environment for people in a community, every residential area requires a wide range of recreational facilities. Play lot, playground and playfields are recreational facilities that must be provided by the developers to ensure recreational facilities for the inhabitants. Gallion and Eisner (1986) recommended for the following standard for playground for a residential area according to the size of the population.

**Table-4: Standards for Playground for a residential area according to population**

<b>Population</b>	<b>Number of Children</b>	<b>Size in Acres</b>
2000	450	3.25
3000	600	4.0
4000	800	5.0
5000	1000	6.0

Source: Gallion and Eisner, 1986

For an ideal residential area as international standard, a playground for fewer than 200 children is impracticable to operate whereas more than 1200 children require two or separate playgrounds. The playground should provide an area for apparatus and an open space for informal play. There should be courts for various games such as soccer, volleyball, badminton, cricket etc.

The playfield is intended for young people and adults and provides a variety of recreational activities. A single playfields may serve several neighborhoods and the walking distance should not exceed one mile, one-half-mile radius being preferred.

In the residential areas, parks should be provider in order to create healthy environment and provide recreational facilities to the dwellers of the area. The number of parks will depend on the estimated population of the area.

### **Recommendations for Recreational Facilities Planning**

Proper planning for recreational facilities should be done by development authority, municipal corporations and other relevant organizations in an integrated way in order to ensure better urban life for city dwellers. In this respect, development of appropriate planning standards for these facilities are quite important. In addition, other institutional and managerial co-ordination and vigilance are also of paramount significances for better enjoyment of recreational facilities in an urban area. Therefore, following section of the article provides recommendations for planning of recreational facilities and open space in the context of cities of Bangladesh.

- **Fixing specific standards of for urban areas recreational facilities and open spaces**

At present, planning standards are generally absent for various urban areas for our country. So, specific planning standards should be made for urban areas for our country by the planning authorities. Absence of proper standards has led to the

unplanned development of our cities, both for metropolitan cities or municipalities. There is no planning standard for the municipalities of our country though at present Pourashavas of our country are following a guideline developed by Local Government Engineering Department (LGED) for preparing master plans for Pourashavas under Upazila Towns Infrastructure Development Project (UTIDP) project. In these consequences, specific standards protected by law, should be developed that will help to ensure proper allocation for open space and recreational facilities in planned physical development of any area.

DMDP, RMDP and Khulna Master Plan provided some guidelines regarding different facilities and amenities but those guidelines are not specific. As a result, no standard have been maintained while preparing the detail area plans for those cities. Hence, the major cities of Bangladesh lack adequate number of recreational facilities and open spaces. So, planning standards for recreational facilities and open spaces for metropolitan cities should be formulated to ensure proper development of these cities.

- **Land Pooling and Banking for preserving land for open space for future use**

As land is a scarce resource in our country and the price of land is increasing in geometric progression year by year, it is quite difficult for planning authorities to manage scarce land for open space and recreational facilities. Keeping this in mind, planning authorities should adopt land pooling and land banking techniques for preserving land specially for considering future growth of the urban area. This type of land can be preserved in sub-urban area or peripheral area where land prices are relatively lower compared to the core urban area.

- **Under-development incentive fee for land owners**

It is a reality that, creating new open spaces in the existing core urban area is a gigantic task because of the limited financial ability of development authorities or municipal authorities. Besides, core urban areas of the cities are very dense in terms of physical development. Bearing this on mind, private properties that are still left vacant can be utilized by the planning authorities in order to create recreational facilities and open spaces. As it is quite difficult for the municipal authorities to acquire these lands with giving due compensation, authorities can provide under-development incentive fees annually for the respective land owners. Fund for *under-development fees* may be collected from the users of open space and recreational facilities or increasing the holding tax for the people of particular locality for whom the recreational facility has been provided.

○ **Applying Innovative techniques to increase the availability of facilities**

Use of existing recreational facilities that are prevalent in the urban areas can be increased with some innovative ideas. As for example, the playgrounds are not generally used at evening or at night. Introducing flood-light to playgrounds can increase the use of these facilities by more people, especially for those who do not get the opportunity during daytime to enjoy the facility. Generators may be used to provide light for playgrounds and some charges may be applied for users of these facilities at evening.

In addition to the above interventions, following recommendations regarding planning for open space and recreational facilities might help for recreational facility planning for urban areas in our country.

- Proper Management of existing recreational facilities in urban areas.
- Community participation in recreational facilities planning.
- Appropriate assessment of demand for recreational facilities prior to fixing standard and planning.
- Demand Management of recreational facilities.
- Land reserve in sprawl area.
- Formulating Land use plans and Master plan and their appropriate implementation.
- Proper supervision and monitoring of recreational facilities and open spaces by planning authorities.
- Proper monitoring of residential land development projects and apartment complex projects for assessment of recreational facilities.
- Protecting existing facilities from intrusion or other inconsistent use.

**Concluding Remarks**

Recreational facilities are important part of city planning; therefore no city can become sustainable in the long run without providing proper provision of recreational facilities and open spaces. As a result, proper standard for these facilities should be formulated and at the same time these facilities should be provided for the city dwellers at any cost in order to maintain proper functioning of the city. Revisiting the planning standards followed in various cities in the world could help planning authorities in formulating planning standards for recreational facilities and open spaces in urban areas. By and large, a holistic approach should

be taken from concerned authorities in order to ensure proper recreational facilities for urban dwellers of Bangladesh.

(Acknowledgement: Some findings and recommendations of this article are derived from the Author's Research on "Planning Standards for Recreational Facilities and Open Space in the Context of Urban Areas of Bangladesh" funded by 'Faculty Research Grant' of Jahangirnagar University in 2011-12.)

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