

## 'Revisiting Planning standards of Community Facilities for Urban Areas in Bangladesh'

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### Abstract

Community facilities are significant components in city planning that are deemed important for sustainable living in cities and settlements. Formulation of appropriate planning standards is necessary while preparing physical plans for urban areas in order to ensure proper community facilities across all parts of the urban areas of a city. This paper revisits planning standards for community facilities as practiced in physical plans and master plans of different metropolitan cities and municipalities in Bangladesh. This study finds that there are deficiencies of community facilities of different types according to the standards, both at metropolitan cities and municipalities in Bangladesh. It reveals that some community facilities are adequate in number as per the planning standards, while they are greatly deficient as per the area standards. Based on the findings of this study, planning standards for various types of community facilities are suggested which could be helpful for formulating future policies and physical plans for urban areas in Bangladesh. However, community facility standards that are recommended in this paper should not be seen as rigid standards by the development agencies or local government authorities. Rather, these set of standards are indicative and therefore can act as a guideline or starting point for assessment of community facilities in the urban areas of Bangladesh.

**Keywords:** Community Facility, Neighborhood, Planning Standard, Recreational Facility, Urban Service Center.

### 1. Introduction

Community facilities are defined as physical properties provided by local government authorities for service delivery, recreational pursuits, social amenity and civic purposes, available to the public for free or at a cost that would not reasonably high enough for impeding entry to anyone. The term "community facility" implies a community asset that is available to all, or most residents (WGCHD, n.d.). The adopted Bridgend Unitary Development Plan defines community facilities as: "shops, arts/culture/entertainment, education, health, recreation, religious meeting places, health and social services, post office services, library facilities, burial grounds and fire and police services."

Mcshane (2008) in his research titled as "Bringing in the Public: Community Facilities and Social Value" described, community facilities as educational, cultural, recreational, health and civic structures or places administered by local government authorities and available to the public. He pointed out two important points — availability to public and delivery by local government — as two important features of community facilities. Ahamed and Khan (2011) describes that facilities and services that are considered as community facilities in Bangladesh includes – Parks, Playground, Theater and Cinema

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Hall, Community Center, Library, Educational Institutions, Religious Institutions, Post Office, Fire Defense Services, Markets and Bazars etc. However various master plans and development plans in Bangladesh generally referred planning standards for three major types of community facilities such as – Educational, Health and Recreational Facilities. However, types of community facilities varies from country to country, even cities within a country, hence planning authorities across the world defines the standard for community facilities according to the context of the particular cities they are dealing with (Khan, 2016).

Planning standard is used to determine the minimum area for use for a certain population or for a certain land area. These minimum standards are set aside for a particular locality by studying the functional requirements, number of users and other similar parameters. The formulation of physical planning standards relates to the formulation of mechanism needed for allocating land for various social, cultural, economic and political purposes, either in urban or rural areas when preparing physical land use plans in particular (LGED, 2009). Planning standards seek to achieve the development goal which is primarily aimed at improving the quality of life of the people.

Planning standards portray a desirable as well as attainable state of affairs at a specific future time, i.e. a desirable state of affairs within the limitations of certain socio-economic conditions (Pissourios, 2014). Planning standards for community facilities aim to ensure that appropriate community facilities are designed and provided for all and that these facilities are appropriately sized and located (Abu Dhabi Urban Planning Council, ADUPC). However, planning standards varies across the world depending on the particular context of the region or locality, availability of resources, strength of the economy of the municipality or number of population living in an urban area.

A.J. Veal (2009), in his paper “Alternatives to Standards: A Review of Leisure Planning Guidelines: U-Plan Project Paper 2” provides an overview of five types of planning standards, such as – Fixed Standard, Area-percentage standards, Catchment area-based standards, Facility standards and Local standards; however he refers that ‘Fixed standards’ have been the most widely used in planning in Australia.

The ‘golden’ era of planning standards is identified as having occurred after World War II, when planners had unfortunately overestimated the importance of standards to urban planning and had formed the erroneous impression that their main task was to identify and implement the ‘right’ standards. This impression was established just before World War II in Germany, where the concept for ‘order’ (offspring of the totalitarian regime) was translated into urban planning as a meticulous standardization of all the required facilities of a settlement (Aravantinos, 1997) and continued after World War II in socialist countries, mainly in the Soviet Union (Pissourios, 2014; USSR, 1962).

Although widely accepted in the past, there is increased recognition that national-based standards may not be getting communities what they really want. However national-based standards may not equally meet the needs of all communities, but most planners would agree that they can serve a useful purpose (MRSCW, 1994). As Krohe (1990) points out, "There's nothing wrong with rational standards, which clearly are an improvement over the allocation of park space on the basis of political favoritism". Standards are used to justify the need for additional facilities in areas that are

inadequately served. National-based standards, which are legitimized by a national organization, may be even more persuasive to elected officials. They may lead to a more equitable distribution of resources by identifying the inadequately served neighborhoods. They provide guidance, whether developing a system-wide plan or planning for a specific site or facility. In this backdrop, this paper finds that development of planning standards for community facilities still regarded essential, which has the potential to act as a guideline for the development control organizations and municipal authorities engaged in physical planning and development in Bangladesh.

Community facility entails various numbers of stakeholders involved in the service provisions for different facilities which are often guided by various rules and regulations. Multiple numbers of agencies are therefore involved in delivering various community facilities in urban areas – both in metropolitan and municipality areas in Bangladesh. Different laws, policies, rules and regulations relating to community facilities are existent which also includes major policies and strategies on Education, Health, Sports and Recreation facilities in Bangladesh as well as duties and responsibilities of various Organizations and Institutions are defined in delivering community facilities at urban areas in Bangladesh.

Government of Bangladesh has drafted National Urban Sector Policy (NUSP) in 2011 for guiding proper urban development of cities, hereby recommending various policy and guidelines for various community facilities for better urban living. City Corporation and Paurashava are the major responsible local government authorities for providing services and facilities for citizens at urban areas in Bangladesh. Local Government (City Corporation) Act (2009) and Local Government (Paurashava) Act (2009) are the two major acts that guides the duties and responsibilities of City Corporation and Paurashava in providing services and facilities to people residing in urban areas. However major functions and responsibilities regarding community facilities, set out for City Corporation and municipalities in the respective Acts are quite similar in nature.

In these backgrounds, this paper revisits planning standards for community facilities as practiced in physical plans and master plans of different metropolitan cities and municipalities in Bangladesh. It also analyzes the current provisions of community facilities in metro cities and municipalities against the planning standards. Based on the findings of this study, planning standards for various types of community facilities are suggested which could be helpful for formulating future policies and physical plans for urban areas in Bangladesh. These set of community facility standards are indicative and therefore can act as a guideline or starting point for assessment of community facilities for future planning in various urban areas of Bangladesh.

## **2. Methodology of the Study**

This paper is primarily based on secondary sources related to planning standards for community facility of various types that are deemed important for sustainable living in cities and settlements. Desk research on the readily available data was conducted for a better understanding of the planning standards for community facilities across various cities and countries around the world. Planning standards and provisions regarding community facilities practiced in urban planning for various cities in Bangladesh in respective master plans, structure plans or any other relevant plans have also been explored here.

In order to get an overall picture of planning standards and provisions of community facilities in urban areas of Bangladesh, various categories of urban areas have been selected for this study to ensure representations from each category of urban areas. Moreover, study areas are purposively<sup>1</sup> selected across various regions of Bangladesh for proper representation of various types of urban areas in Bangladesh.

Six major Metropolitan Cities of Bangladesh have been selected as well as four 'A' Category, Three 'B' Category and Three 'C' Category Paurashavas have been selected for analysis of community facility provisions at different categories of urban areas in Bangladesh.

Table 1: Urban Areas Selected 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)

Based on the findings regarding community facility standard and provisions from national and global practices, planning standards have been suggested for various types of community facilities for urban areas in Bangladesh.

### 3. Comparative Planning Standards for Community Facilities at Metro Cities in Bangladesh

Metropolitan Cities of Dhaka, Khulna and Rajshahi recommended separate standards for their respective development plans and master plans namely DMDP, KMDP and RMDP. Standards of Rajshahi and Khulna have some degree of closeness however planning standards of Dhaka are stingier than those standards. Detailed Area Plan (DAP) for Dhaka city has followed mostly the standards of DMDP however, for some community facilities it has developed its own standards during the preparation of its plan. Barishal and Sylhet city also developed separate planning standards for community facilities while preparing their respective master plans. A comparative picture of the standards for community facilities in different master plans for various metro cities in Bangladesh is shown in Table 2.

<sup>1</sup> Paurashavas that have prepared master plans for their respective municipalities have been considered for this study.

Table 2: A Comparative Picture of Planning Standards for Community Facilities at Metro Cities in Bangladesh

Facilities	Standards in Recent Metropolitan Plans			DAP for Dhaka		Standards in Recent Metropolitan Plans	
	RMDP	KMDP	DMDP	DAP	Remarks	Barishal	Sylhet
Year	2004	2000	1995	2010		2010	2010
Primary School	1 school per 4,000 popn. Area: 1-1.5acre	1 school per 3,400 popn. Area: .5-.7 acre	1 school per 15,000 popn. Area: 1 acre	1 school per 15,000 popn. Area: 1 acre	Per shift 500 Students. * Area With Playground	1 school /7,000 population (approx.); 1 acre of land	(One School) 5000 pop/acre
Madrasa	--	--	--	1 madrasa per 25,000 popn. Area: 1 acre	Area With Playground		(One School) 8000 pop/2acre
High School/ Intermediate College	1 school per 6,000 popn. Area: 2-3 acre	1 school per 5,000 popn. Area:1.5-1.6 acre	1 school per 23,000 popn. Area: 2 acre	1 school per 20,000 popn. Area: 2 acre	Per shift 1000 Students. ** Area With Playground	1 school / 8,000 population (approx.); 2 acres of land	(One College) 25000 pop/3acre
Degree College	1 college per 30,000 popn. Area: 10 acre	1 college per 36,000 popn. Area: 10 acre	--	1 college per 30,000 popn. Area: 2 acre	Area With Playground	1 college/ 30,000 population (approx.); open space equivalent to one football field	
Park/Open Space	1.5 acre per 1,000 popn.	2 acre per 1,000 popn.	0.16 acre per 1,000 popn	0.16 acre per 1,000 popn. or 4 acre per 25000		1 acre/ 1000 population	Park/Open space: 3 acre/25000 pop. Playfield: 2 acre/25,000 popn.
Community Center	1 for each neighbourhood. Area: 0.30 acre	--	1 in each ward. Area: 0.30 acre	1 in each ward. Area: 0.30 acre		Neighborhood Centre: One in Each Ward, 0.30 acre each	0.3acre and 1 for 20000 pop
Health Center	354 person per bed	527 person per bed	Ward basis	Ward basis	Included in community center	1 bed/ 1000 persons	354 person/bed
Graveyard	1 per 50,000 popn.	--	Ward basis	Ward basis Area: 2			5acre/20000

Facilities	Standards in Recent Metropolitan Plans			DAP for Dhaka		Standards in Recent Metropolitan Plans	
	RMDP	KMDP	DMDP	DAP	Remarks	Barishal	Sylhet
Year	2004	2000	1995	2010		2010	2010
	Area: 5 acre		Area: 5 acres				
Market	1 in each ward/spz Area: 0.30 acre	1 for 45,000 popn. Area: 0.30 acre	Ward basis Area: 0.30 acre	Ward basis Area: 0.30 acre		Katcha Bazar: One in Each Ward, 0.30 acre each	Kitchen Market: 1 for 50000 with 0.30 acre each
Post Office	1 for 20,000 popn. Area: 0.50 acre	--	--	1 for 35,000 popn. Area: 0.10 acre			0.05 acre/20000 pop
Fire Station	Area: 1 acre	--	--	1 for every 4 wards Area: 1 acre			
Police Out Post	--	--	--	Ward wise Area: 0.10 acre			
Mosque	--	--	1 for 3,000 popn. Area: 0.30 acre	1 for 6,000 popn. Area: 0.30 acre	No. of story indicates no. of mosque		

\* Schools in built up area may accommodate themselves within a minimum of 0.5 acres. (Following the FAR regulation of the Dhaka Metropolitan Area Building construction Rule 2008)

\*\* High Schools in built up area may accommodate themselves within a minimum of 1.0 acres. (Following the FAR regulation of the Building Construction Act, 1952 (amended in 1987))

Source: 1. DMDP, 1995; 2. KMDP, 2001; 3. RMDP, 2004; 4. Sylhet Master Plan, 2010; 5. Barishal Master Plan, 2010

#### 4. Planning Standards of Community Facilities at Urban Plans for Metro Cities and Municipalities

There are no recommended planning standards or guidelines by any national level organizations regarding community facilities for urban areas in Bangladesh. Standards for community facilities has been developed for specific plans or projects by the planners or consultants, which were regulated by organizations, like Urban Development Directorate, Local Government Engineering Department, Rajdhani Unnayan Kartipakkha or other development agencies of different cities.

Private Residential Project (Plots) Rules of 1991 attempted to provide a guideline for residential projects of private developers. Space standards for urban community facilities for private housing projects has been recommended in the "Private Residential Land Development Project Rules, 2004" – amended in 2012, which is practiced by RAJUK and other development authorities for approving private residential projects. This rule has

proposed standard for different types of community facilities for private residential projects in Bangladesh, which has taken 'Population' as benchmark for determining standard of community facilities.

DMDP for Dhaka city has recommended planning standards for community facilities for metro Dhaka area for a plan period of 1995-2015. It did not, however, provide standards for all types of community facilities. Whatsoever, Detailed Area Plan for Dhaka City, prepared in 2010, has modified some of the standards of DMDP, like reducing coverage of High School from 23 thousand population to 20 thousand. DAP encourages planning for hospital and some other facilities on ward basis and introduces the concept of 'Neighborhood' for planning of community facilities.

Metropolitan Cities of Dhaka, Khulna and Rajshahi recommended separate standards for their respective development plans and Master Plans, namely DMDP, KMDP and RMDP. Standards of Rajshahi and Khulna have some degree of closeness, but planning standards of Dhaka are stingier than those standards. Detailed Area Plan (DAP, 2010) for Dhaka city has followed mostly the standards of DMDP, and for some community facilities it has developed its own standards while preparing its detailed area plan. Barishal and Sylhet cities also developed separate planning standards for community facilities while preparing their respective master plans.

Chittagong Metropolitan Development Plan (CMDP, 1995) did not develop planning standard for community facilities in details while preparing its comprehensive plan. However, the Detailed Area Plan prepared in 2006 and approved in 2008 for Chittagong City has recommended planning standards for community and social facilities, which act as guidelines for physical development of the city.

Unlike the physical planning standards practiced in other metropolitan cities in Bangladesh, Rangpur Master Plan prepared a comprehensive planning standard for various community facilities for the city. For example, Rangpur Master Plan (Draft) recommends different standards for three types of play facilities, such as playlot, playground and playfield, which were not followed in any other cities of Bangladesh in the past.

Paurashavas are generally secondary towns or cities representing District or Upazila headquarters. Community facilities are not properly available for most of the municipalities either in adequate quantity or in appropriate quality and until recent past, most of the Paurashavas did not have any 'Master Plan' though 'Paurashava Ordinance, 1977' urges for having a master plan for every municipality. Urban Development Directorate (UDD) and LGED recommended planning standards for District, Upazila, and Paurashava Master Plans in the nineties (Khan, 2016). However, District Towns Infrastructure Development Project (DTIDP) and Upazila Towns Infrastructure Development Project (UTIDP) are two major projects, guided and implemented by LGED, that have prepared a large number of 'Master Plans' for District and Upazila level municipalities following specific planning standards for community facilities. DTIDP provided detailed planning standards for various types of community facilities, such as education, health, recreation and open space, social and cultural, and commercial facilities for planned development of the district towns in Bangladesh.

## **5. Findings on Various Community Facilities in the Urban Areas of Bangladesh**

### **5.1 Education Facility Standards and Provisions**

#### ***Pre Primary Education Facility***

At present, pre-primary education in Bangladesh is delivered by public primary schools, private kindergartens and NGO schools. It also includes the instructional programs of the mosques, temples, churches and pagodas presently being conducted by the Ministry of Religious Affairs, which seek to impart religious teachings with alphabetical knowledge and modern education with moral lessons.

Exact number of kindergarten schools are not available in our country as this type of schools are not yet registered though Government has recently introduced new laws which has made compulsory for a kindergarten school to be registered under Ministry of Primary and Mass Education. However earlier anyone can establish a school by only managing a trade license from the concerned city corporation or municipality.

At metropolitan city level, with the exception of Khulna city, all other cities have quite adequate number of kindergarten schools—i.e., one kindergarten school is fairly available for 5 thousand population. Besides pre-primary schools operated by NGO's are available for moderately 25 thousand population in metropolitan cities, which are mainly accessed by children belongs to lower income group of people. As a whole, pre-primary education facility is available for every 4 thousand population in major metropolitan cities in Bangladesh though for Khulna and Barisal City, this figure stands at 6 thousand per facility.

Currently, in urban areas in Bangladesh, especially in metropolitan cities, outdoor play areas are rarely provided for children of pre-schools, though many schools attempts to provide indoor play spaces with playing equipment's however in most cases these provisions are quite inadequate. However, importance of outdoor play spaces cannot be ignored and therefore urban planners, architects as well as sociologists stresses for ensuring outdoor play space and playlot for proper physical and mental development of child. Therefore, it is recommended that 3-4 Katha of outdoor play space should be preserved for a nursery school and minimum size of the nursery school should be 0.2 acre. This study suggests that, it is preferable to run the pre-primary schools for two shifts in urban areas for maximizing the utility of these institutions and prioritizing the standard size of these schools with adequate play space and outdoor play areas; instead of provisioning two separate schools by compromising the area and size of the schools.

#### ***Primary Education Facility***

Varying sizes of primary schools have been found in the cities in Bangladesh for both – Government and Private schools. It has been found that size of government operated primary schools drastically varies which reveals that no set of standard has been practiced in the process of development of these primary schools by concerned authorities. On the other hand, for the cases of private schools, some are well sized with a playground facility for the students; while some are running with a building structure only, without play area or open spaces around and even some are operating in the few floors within a building.



This study finds that, presently the number of primary school is fairly adequate according to the size of the population in the urban areas of Bangladesh. But the problem lies with the size of the educational institutions at primary level. Government Primary Schools are relatively better sized, however private schools are not proper sized with lack of open spaces around or lack of playground and play facilities for children. Absence of proper rules and regulations and lack of monitoring by appropriate authorities are some of the reasons behind improper sizes of private schools. Proposed master plans of various municipalities attempted to suggest primary schools with space for playgrounds, thereby allocating minimum of one acre of land for primary schools.

Considering the population density and land scarcity of metro cities in Bangladesh, primary schools can be operated in two shifts which would allow maximum utilization of educational infrastructures. Hence, one primary school can serve a population of 10,000 in metro cities, however where the population density is low and land is quite available – as for the case of some municipalities, population threshold of 5000 can be set as standard for primary school.

#### ***Secondary Education Facility***

Secondary schools, frequently termed as 'High School', of varying sizes, like primary schools, have been observed in urban areas in Bangladesh. Government operated secondary schools are quite adequately sized with playground in most cases; whereas private high schools in cities have been found with and without playgrounds. This study finds that average size of Government Secondary Schools is 1 acre in cities of Bangladesh having a playground of 0.3 – 0.5 acre on average.

Detail Area Plan for Dhaka City recommended for 2 acres of land for secondary school per 20 thousand population though DMDP proposed a secondary school for every 23 thousand people. Requirement of playground in a premise of secondary high school has been asserted in DMDP, however a reduced standard of 1 acre is proposed for high schools in built up areas.

UTIDP proposes for 5 acre of land for a secondary school whereas DTIDP recommends for only 1 acre of land. In the proposed master plans, it has been found that municipalities has recommended for 2.04 acres of land for a secondary school on average which is quite below the proposed standard of UTIDP but above the standard set forth in DTIDP. Khulna master plan proposes 14 secondary schools with total area of 24 acres which reveals a standard of 1.67 acre for every high school which is consistent with the proposed standard in KMDP (2001).

Considering minimum 1 acre of land reserved for playground, recommended standard for secondary school in urban areas is 1.5 – 2.5 acres, however 2 acres may be ideal in size though it may be relaxed down to 1.5 acres for denser parts of metropolitan cities.

#### ***College Education Facility***

Currently there are three types of colleges at urban areas in Bangladesh namely – 'Intermediate or Higher Secondary College' providing two years higher secondary education, 'Degree College' providing three years bachelor education and 'Honors Degree College' providing four years honors education as well as masters level education to the students under the jurisdiction of 'National University'. Various master plans have

recommended different standards for college facility in urban areas in Bangladesh though those standards did not mention the type or category of college such as intermediate, Degree or Honors College. DMDP and RMDP for Dhaka and Rajshahi city have recommended for a college facility for 30,000 population whereas Master Plans for Khulna city proposes a college for 36,000 and Sylhet for 25,000 population.

From the District Data of 2011 from BBS, it is found that population coverage of a college in metro cities in Bangladesh is 38 thousand which is below the recommended standards of master plans. Big metro cities have lower level of coverage in terms of college facilities than the relatively lower sized metro cities in Bangladesh.

As per this study, there are some shortages of college facility in metro cities in Bangladesh according to the standard, but Paurashavas generally have adequate number of college facilities according to their population. So more college should be developed in those metro cities where there is adequate demand for college facilities. Public colleges are relatively higher in sizes while private colleges are comparatively lower in sizes. Significant variations have been observed in terms of size of the colleges in Bangladesh, even for the public colleges in the country. In metro cities, some colleges are being operated with few floors of a building as no standard has been followed in the process of development and registration of these colleges by appropriate authorities.

## 5.2 Health Facility Standards and Provisions

National Urban Health Strategy (2011) states that two ministries such as Ministry of Health and Family Welfare (MOHFW) and Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC) are primarily responsible for urban health care. MOHFW is responsible for the administration of as many as 37 health related laws, LGD is responsible for monitoring functions of Urban Local Bodies (ULB) apart from overall local government bodies. The City Corporation Act, 2009 and the Paurashava Act, 2009 clearly assign the provision of preventive health and of limited curative care as a responsibility of ULBs. Due to their limited resources and manpower, they have not been able to effectively discharge their statutory responsibility. An equally important reason of the above relates to somewhat unclear allocation of functions for the MOHFW and LGD in the existing government document called 'Allocation of Functions' under the 'Rules of Business' (NUHS, 2011).

National Health Policy (2011) acknowledges health facility as basic right, therefore fixes the goal to make necessary basic medical utilities within reach of people of all strata as per Section 15(A) of the Bangladesh Constitution, and develop the health and nutrition status of the people as per Section 18(A) of the Bangladesh Constitution. National Health Policy (NHP) perceives 'Primary Health Care' as very much important for common people and recommends for universal access to primary health care for all. It envisages 'Community Clinic' as the fundamental base for providing this care to everyone. NHP proposes for community clinic for every six thousand people and urges for proper and adequate health care and family planning facilities for urban poor as well.

'Bed per Persons' is the most commonly used standard for health facilities in various master plans for different urban areas in the past – especially in the development and master plans for the metro cities in Bangladesh, though DTIDP and UTIDP proposed

different standards for 'Hospital', 'Clinic' and 'Health Centre/Maternity Clinic' for urban areas in Bangladesh. This study finds that, Tertiary level services (Medical College Hospitals, Specialized Hospitals etc.) are mainly available in metro cities or divisional cities whereas Secondary level services (District Hospitals, Maternal and Child Welfare Centre etc.) are mainly available in District level Paurashavas or A Category Paurashavas while primary level services (Community Clinic, Satellite Clinic, Urban Clinic/Dispensary, Primary Health Care Centre etc.) are available in municipalities as well as metro cities in Bangladesh. Therefore various types of health facilities of varying sizes for different level of health services should be planned for ensuring proper health facilities for urban people.

According to the district statistics (2011) of BBS, a hospital bed is available per 295 persons and population coverage per health facility is 13 thousand in metro cities in Bangladesh, while government health facility is available for every 1.44 lakh people and one public facility health bed for every 1004 persons in metro cities. Therefore, it is revealed that health facility in terms of hospital bed is adequate in metro cities though public facility health bed is quite inadequate in number according to the huge population in the metro cities in Bangladesh. For the case of Municipalities in Bangladesh, one public hospital bed is available per 1333 persons which are quite inferior to the current provision of 1004 beds in metro cities.

Local Government Division of Ministry of LGRD&C have recently formulated 'National Urban Health Strategy – 2014' for providing better health services to urban people with special emphasis on urban poor groups (NUHS, 2014). However, no specific recommendations have been made in this strategy paper regarding the categorizations of health facilities and their planning standards which is quite necessary for achieving the targets of this strategy paper.

Size of the urban areas should be considered while planning for different levels of health services in cities in Bangladesh. Therefore, tertiary levels health facilities and various types of specialized hospitals should be established in the metro cities and divisional or regional centers considering the population size of the urban areas, regional importance of the urban centers, easy accessibility to the urban area and so forth.

### **5.3 Recreation and Open Space Facility Standard and Provisions**

#### ***Park Facilities***

Master plans for various cities in Bangladesh recommended for varying standards for parks and open spaces. DMDP for Dhaka city proposed for a park for every 25,000 people with an area of 4 acre whereas Chittagong Development Plan suggested various standards for different levels of park – such as Neighborhood, Community, City and Regional Park. DTIDP proposes for 'Neighborhood Park' for 10,000 population with an area of 2 acre and UTIDP suggests for 1 acre of space per thousand population for 'Community Park' and 'Neighborhood Park'.

For metro cities in Bangladesh, it has been found that there is a park facility for every 2.1 lakh population. Dhaka city provides highest number of parks for its city people – Dhaka North City have 29 parks and Dhaka South City have 27 parks – thereby every park have an average coverage for 1.25 population, though these parks are not properly distributed

within the city (Ahmed, 2010). Chittagong city has 11 Parks and population coverage per park in 2.36 lakh which is quite inadequate for its city people. Facility Coverage for park ranges for 1 to 1.6 lakh for Rajshahi, Khulna, Sylhet and Barishal cities. Therefore, this study finds that park facilities are quite inadequate for all the metro cities in Bangladesh.

Park facilities are not frequent for the city dwellers in Paurashavas in Bangladesh, however A Category Paurashavas have some parks but B category and C category Paurashavas usually do not have any Park facility for their city people. Nonetheless, B and C Category Paurashavas have some green spaces in the municipality areas which meet the requirements of park though necessity of park as recreational facility for city dwellers needs proper attention from city authorities. Therefore, master plans of Paurashavas under UTIDP and DTIDP have proposed for 'Community Park' and 'Central Park' for various Paurashavas.

Three types of park facilities are recommended for urban areas in Bangladesh namely – 'Local / Neighborhood Park', 'Community Park' and 'City/Metropolitan 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. Community Park is recommended for several neighborhoods or for service population of 30 to 50 thousand comprising an area of 5 – 10 acres. 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.

#### ***Open Space Facilities***

Due to the high price of land in urban areas which has made land acquisition so difficult for government organizations as well as unavailability of land, any extravagant standard of open space would not be feasible to implement by local level organizations or development agencies. Therefore assessment of the requirement of open space in urban areas of Bangladesh demands careful and rational considerations as well as current shortfall of required recreational facilities should be taken into thoughts.

This study proposes that is 0.40 acre should be preserved as open space per thousand population which can be increased up to 2 acre per thousand population as per the availability of land in urban areas. In addition, standard of 10 to 15 percent area for Open Space reserve should be considered as well while planning for urban areas in Bangladesh. This proportion of open space is required for maintaining the ecological balance of nature and appropriate water recharge to maintain the underground water level in urban areas through open space and water bodies.

#### ***Playground Facilities***

Most of the metro cities in Bangladesh have not followed any specific standard for planning for playgrounds while preparing their respective physical plans. Development Plan and Master Plan of metro cities like Dhaka and Chittagong proposed standard for open space per thousand population while ignored the necessity of proposing as well as following those standards in their proposed development plans. DMDP for Dhaka city proposed playground standard as 'Double usage of primary and secondary school yards' for its plan while DAP for Dhaka city also ignored playground standard while detail area planning for Dhaka city.

There is no evidence in the physical planning of urban areas in Bangladesh at any level regarding maintaining specific standards for various levels of playgrounds—such as playlot, playground and playfields except Rangpur Master Plan. Necessity of play and its impact on the development of children and youth was not duly recognized in the past planning efforts in various cities in Bangladesh.

Playgrounds that are accessible for common people are quite few in numbers in major urban areas of the country. Most of the playgrounds, currently available in the metro areas of Bangladesh are presently under the ownership of various institutions—mostly belongs to various educational institutions. Only few playgrounds are owned by city corporations, development authorities or municipalities – that are accessible to common people.

If the case of Dhaka city is considered for instance, there are 148 playgrounds in the city area (Ahmed, 2010) with an area of 235 acres though only 26 playgrounds are public playgrounds which are theoretically accessible for common people and owned by city corporations or public works department or other government institutions. The average size of playgrounds in Dhaka city stands at 1.6 acres. According to a study of Bangladesh Institute of Planners, Dhaka city has only 235 playgrounds against the requirement of 2,400 (BIP, 2019). Of those playgrounds, the common people have access to only 42 while 16 have been grabbed by illegal occupants, 141 are institutional, 24 belong to various colonies and 12 are used as Eidgah. Among the other metro cities in Bangladesh, Chittagong city have highest number of playgrounds (59) with population coverage of 44 thousand per playground.

Playgrounds accessible for common people are quite inadequate also in the Paurashavas in Bangladesh. Like the metro cities, most of the playgrounds under the ownership and supervision of various institutions, thereby barring the accessibility of common people into these grounds. In these backdrops, Sport Centre facilities should be developed in urban areas in Bangladesh for making provision for active recreational facilities which might be provided by private sectors. In these backdrops, Sport Centre facilities should be developed in urban areas in Bangladesh for making provision for active recreational facilities which might be provided by private sectors.

Analyzing the master plans of studied Paurashavas from A, B and C categories, it has been found that 60.2 acres area has been proposed for 46 playgrounds with an average 1.16 acres of area per playground. However proposed playgrounds have not been categorized in various types like playlot, playfield and playgrounds – therefore it can be said that play opportunities for varying age categories have not been recognized in these masters plans.

## **6. Major Findings from Development Plans and Master Plans of Different Cities in Bangladesh**

### ***Dhaka Metropolitan Development Plan***

Dhaka Metropolitan Development Plan (DMDP, 1995) has suggested 'Ward Based facilities' for neighborhood centre, primary health care center, market, welfare center. An important recommendation of Urban Area Plan of DMDP is the proposal for developing neighborhood centers at ward level in the metropolitan area, where community services

may be provided. In linking these to the ward level (about 50,000 inhabitants), the basic design model would have one major and one minor neighborhood centre in each ward. In the major neighborhood centre, all those services will be found that serve the whole ward, while services that only cater to the needs of part of the ward may be distributed over the major and the minor neighborhood centre. Neighborhood centers should be located where they are easily accessible from all parts of the ward, and have good connections to other areas of the city.

There is no uniformity in open space standard throughout Dhaka city (Siddiqui, 1990). The survey conducted by the Ahmed, A (2010) found that only 52 out of 90 Wards have some form of outdoor play and recreational facilities and the remaining 38 wards do not have any outdoor play facilities. The number of play and recreational facilities also varies considerably. Concentration of outdoor play and recreation facilities, is more in the planned residential areas of Dhaka city and there is no equity for the distribution of outdoor play and recreational facilities in relationship to the number of residents in Dhaka city, as revealed by a study conducted by Bangladesh Institute of Planners in 2017. In some of the most high density wards, there are no outdoor play and recreation facilities, although more than 100,000 people reside in these wards (BIP, 2017).

Detailed Area Plan for Dhaka City suggested for utilizing 'Khas Land' to provide various community facilities and indicated on utilizing the khas land as a priority when planning for community services. RAJUK's role in utilizing khas land is very insignificant as revealed by DAP (2010) and thereby DAP recommends to create and maintain "Khas land Data Bank" by RAJUK for provisioning community facilities and services.

#### *Chittagong Metropolitan Master Plan*

The Detailed Area Plan (DAP) for Chittagong City emphasizes on the importance of provisioning community facilities at local level within urban areas. The plan recommends for creating a central focal point for local governance and community interaction in each zone. The area of the central focal point will vary according to availability of land, but the recommended minimum size is 1 acre.

Metropolitan areas lying outside central part of the city are important components of city planning. If urban facilities and amenities are provided in right quantity and quality, migration of people from outer skirts of city could be reduced. Outer city areas of Chittagong city enjoys better service in terms of education and playground facilities, but central part of the city is better served in terms of health facilities.

At present, there is severe deficiency of all kinds of recreational facilities and open spaces. The DAP for Chittagong city admits that at the national level, there is no clear open space policy for recreation or leisure facilities in Bangladesh. At the City level, Chittagong Development Authority (CDA) and Chittagong City Corporation (CCC) perform little obligations to provide parks and open spaces. Twenty-six proposals for various types of open spaces were recommended in the Master Plan of 1961, but received a little attention for implementation.

This study finds that, more than 70% of educational institutions in Chittagong city, particularly schools do not have playgrounds, which is alarming regarding physical and mental growth of students. The DAP for Chittagong city proposes that no school or educational institutes should get government approval or MPO consideration, unless it

has own playground for its students, either in campus or out campus. The DAP further proposes that considering the land scarcity, 3-4 such schools can collectively own their playground for common use.

#### ***Khulna Metropolitan Development Plan***

Khulna Master Plan (KMP, 2001) sets its strategy for health promotion through development of health infrastructure, which includes strengthening of existing facilities and creation of new facilities at appropriate locations in the city. According to KMP (2001), selection of appropriate location for health facilities depends on the accessibility, availability of adequate land and density of population. However, KMP admits that while it is easier to assure location of public sector health facilities through effective development intervention, it is difficult to guarantee the same for private sector facilities, as the government exercises very little control on private sector. KMP attempted to make rational distribution of health facilities through appropriation of spatial distribution.

KMP acknowledges that Government has yet to work out neighborhood level health facilities system. Dispensaries are established by urban local government hardly having any approved standard provision. Khulna City Corporation (KCC) has undertaken a program with external assistance to establish primary health care center at every ward. This center would provide primary health care facilities to the ward people. KMP suggests that the health facilities under the program should be located centrally to enable easy access of the ward people who will be the beneficiaries of the facilities.

The Khulna Master Plan had an intention to provide at least one playground for each of the KCC Wards. But in many wards due to high density and compactness of built-up areas, it is quite difficult to have adequate vacant land for creating a playground. Therefore, Khulna Master Plan suggested playgrounds only in those Wards, where sufficient space was available.

#### ***Rajshahi Metropolitan Development Plan***

KMDP and DMDP have not provided any population standard for katcha bazaar rather just mentioned for one facility per ward. The RMDP proposes a standard of one katcha bazaar for 45,000 population. Likewise, RMDP recommended a standard for graveyard space of 5 acres per 20,000 persons, whereas DMDP and KMDP have not mentioned any population standard for this facility. By and large, RMDP has proposed for relatively larger spaces per facility and per persons for Rajshahi city in its planning standard for community amenities and facilities.

As referred by RMDP, Government has taken a program to develop primary health care center for urban centers having population between 50,000 and 1 lakh. Under the program, Primary Health Care Center (PHCC) will be established at every Ward with facilities covering primary health care, EPI, FP, ARI, Antenatal and Postnatal, STD, etc. RCC is implementing an ADB-GOB joint program called Urban Primary Healthcare Project (UPHCP) within RCC area aimed at providing health services to women and children.

Master Plan of Rajshahi city proposes a Ward office with a community center for every ward with an area of 0.30 acres. RMDP recommended to develop 'Neighborhood Center' in each city corporation ward /Spatial Planning Zone (SPZ) area with community

facilities, like – Community Center, Primary Health Care Center, Ward Commissioner's Offices and other Community Facilities at Ward Level. Each neighborhood center would have minimum 0.30 acre of land emphasizing multiple use of space. Similar area of land will be provided in each of the SPZs in the Extended Area of the Rajshahi city.

Three town centers have been proposed in RMDP with an area of 488 acres in the RMDP for future development plan of Rajshahi. Each of them approximately serving 3 km radius areas and will be accessible through secondary roads and collector roads.

#### ***Sylhet Master Plan***

According to Sylhet Master Plan (SMP), currently number of community facilities is quite inadequate as per the standard of SMP, and therefore, additional community facilities would be required for the added population of 2020 in the Urban Area Plan of Sylhet in order to enhance the quality of life of the people. SMP observes that the required number of different types of community facilities as per the standard is quite large which shows the deficiency in the present supply of community facilities both within the core municipal area and in the extended area of Sylhet city.

Like Rajshahi, SMP suggests that, a neighborhood / Mahalla center can be created in each DPZ combining community facilities, like, community center, primary health care / EPI center, ward commissioner's office, and other community facilities at ward level. Each neighborhood center would have minimum 0.30 acre of land emphasizing multiple use of space and similar area of land will be provided in each of the DPZs in the Extended Area, as proposed by SMP.

#### ***Barisal Master Plan***

Barisal Master Plan elaborates the principles and rationales behind the formulation of planning standards for physical planning, among which some major policies are:

- In view of non-availability of non-agricultural urban land, a conservative approach has to be adopted in the use of available land for urban services and facilities. The principle should, therefore, be on minimizing the misuse of land.
- Multiple use of same land for various services can be encouraged to save land.
- Standards should be within affordable limits of the users and the providers.
- Standards should be simple and precise for implementation.

BMP acknowledges that Community facilities particularly education, health, recreation facilities, shopping and markets, etc. are the key aspects for the growth of an urban territory. Therefore, planning and management of community facilities are reasonably important, even for the extra population that the city has to accommodate in the future planning period. Consequently, BMP recommended various policies that are deemed important for proper planning and management of community facilities for Barisal city.

#### ***Master Plans of Municipalities in Bangladesh***

Community facility provisions in municipalities or secondary towns in Bangladesh greatly vary both in quantity and in quality. The variations among different categories of Paurashavas are also prominent. The higher ordered municipalities are generally capable of providing higher level of services to their people.



At present, there are shortages of land for various types of educational, health, recreational and other types of community facilities in each category of municipalities in Bangladesh. However, this study reveals that number of educational institutions, particularly the primary schools, are quite adequate in the municipalities as the population coverage of educational facilities are quite satisfactory as per the standards, but size of these institutions are not adequate according to the standards. Therefore, appropriate policy interventions are required to ensure that educational institutions are developed in the municipalities as per the standards.

Government health facilities are inadequate in the municipalities in Bangladesh, especially primary and maternity health care services are lagging in municipalities. Therefore, Master Plans of various municipalities, proposed a set of primary and maternity health care centers in those municipalities for ensuring proper health care.

This paper reveals that recreation and open space facilities are quite absent in the municipalities in Bangladesh, especially in 'B' and 'C' category municipalities. Large tracts of urban green space, as termed by Master Plans of municipalities serve the purposes of open space to some extent for the urban people of the municipalities. In this backdrop, it is high time to take appropriate policy and actions for development of park and recreational facilities in the municipalities of Bangladesh.

## **7. Recommendations on Standards for Community Facilities in the Urban Areas of Bangladesh**

Study of various literatures on planning standards followed in diverse countries in the world reveals that population is still regarded as the most common approach adopted in various cities for setting planning standards of community facilities. However, area percentage standard is followed in some cities, particularly for specifying the standards for park and open spaces. Therefore, population standard is mainly adopted by this study for development of planning standards for urban areas in Bangladesh integrating various related factors and issues regarding planning of community facilities in Bangladesh. In addition, various issues, like low level of budgetary provisions by central and local government for community provisions as well as high price of land in the urban areas, current demand of community facilities and as well as 'user participation rate' have also been counted while determining the planning standards for community facilities.

This study does not recommend different set of standards for metro cities and municipalities, however differentiation in standards for some community facility types has been suggested as appropriate for low density and high density urban areas. However, it should be noted that facility standards, recommended in this paper, should not be seen as rigid standards for development agencies or local government authorities, rather these set of standards are indicative and therefore act as a guideline or starting point for assessment of community facilities in the urban areas of Bangladesh. Following Table provides the planning standards for different types of community facilities in the urban areas of Bangladesh.

Table 3: Recommended Standards for different types of Community Facilities for Urban Areas in Bangladesh

Types	Type of Urban Area	Population Threshold	User Threshold	Area	Service Radius	Age Group (User Percent)/ Other Standard
<b>Pre Primary Education</b>		5000; (10,000 for two shifts)	125 Students (250 for two shifts)	0.2 acre-0.4 acre (800-1600 sq-m)	0.5 -1 km	Outdoor Play Area: 3 - 4 Katha
(Indoor play area: 1.5 sq.m per child); (Outdoor play area: 2 sq.m per child); Class Size: 30; Assumption: 50 percent enrollment						
<b>Primary School</b>		5000 (450 Students); 10,000 (for two shifts)	450 Students (900 students for two shifts)	1 - 1.5 acre (playfield 0.5 acre)	1 - 1.5 km	Playground: 0.5 Acre Class Size: 40-50
<b>Secondary School</b>		10,000 (20,000 for double shifts)	800 - 1000 students	1.5 - 2.5	1 - 2 km	Playground 1 - 1.5 acre
<b>College</b>						
<i>Only Intermediate</i>		30,000 - 35,000	800 - 1000 students	2 - 3	2 - 3 km	Playground of 1 acre
<i>SSC and Intermediate</i>		25,000 - 30,000	1000 - 1200 students	2 - 3	2 - 3 km	Playground of 1 acre
<i>Degree and Honors College</i>		30,000 - 35,000	1000 - 1500 students	3 - 4	2 - 3 km	Playground of 1.5 acre
<b>Vocational Training Institute</b>		50,000 (1,00,000 for double shifts)	600 - 1000 students	2 - 3 acres (3 - 4 acres, if land is available)		
<b>Health Facility</b>						
<i>Hospital (General)</i>		1 - 2 lakh		5 - 10 or 10 - 20 (in low density area)	<i>Home to Facility Distance (2 - 3 km)</i>	100 - 200 beds (might be 300 beds)
<i>Intermediate Hospital / Clinic / Community Hospital or Health Centre, which includes Child Care &amp; Maternity Centre</i>		30,000 - 50,000		1 - 2	<i>Home to Facility Distance (2 - 3 km)</i>	50 beds including 20 maternity beds / some observation beds;
<i>Primary Health Care Centre</i>		5,000 - 10,000		0.3 - 0.5 acre or within the neighborhood complex	<i>Home to Facility Distance (0.5 - 1 km)</i>	
<i>Specialized Hospital</i>		In large and metro cities				
<i>Bed Standard</i>		Public Sector: 1 bed / 500 - 600 person				1 bed/ 300 - 350 person
<b>Open Space</b>		0.40 (Min) - 2 Acre/Thousand Population		10 - 15 percent of Urban Area		
<b>Park</b>						
<b>Local / Neighborhood</b>	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	
<b>Community</b>	Low Density	30,000 - 50,000		5 - 10	Several Neighborhoods	

Types	Type of Urban Area	Population Threshold	User Threshold	Area	Service Radius	Age Group (User Percent)/ Other Standard
	High Density	50,000 – 1,00,000		5 – 10	1.5 – 3 km	
<i>City / Metropolitan</i>	Low Density	3 – 5 lakh		15 – 30	5 – 10 km	
	High Density	5 - 10 lakh		15 – 30	5 – 10 km	
<i>Regional</i>		30 – 50 lakh		200 – 400	More than 10 km	
<b>Play or Sport Facility</b>						
<i>Playlot</i>	Low Density	1,500 – 3,000	75 children or less	0.25 – 0.5 acre	0.3 – 0.5 km	3 – 5 years (6%)
	High Density	3,000 – 5,000	[5000 x 0.06 = 300; 300 x 0.25 = 75]	400 – 800 sq-m	Neighborhood	
Where outdoor space are not possible to provide, indoor space should be provided						
<i>Playground</i>	Low Density	5,000 – 10,000	400	1 – 1.5	0.5 – 1 km	6 – 14 years (20%)
	High Density	15,000 – 20,000	[10,000 x 0.2 = 2000; 2000x0.2 = 400]	1 – 1.5	Neighborhood	
<i>Playfield</i>	Low Density	20,000 – 25,000	800	2 – 3 acre	1 – 1.5 km	15 – 24 years (20%)
	High Density	30,000 – 40,000	[20,000 x 0.2 = 4000; 4000 x 0.2 = 800]	2 – 3 acre	Community	Maximizing use of facility
<i>Sports Centre</i>	Low Density	50,000 – 65,000		1 – 2 acre		Private Facility
	High Density	75,000 – 1 lakh;		1 – 2 acre	High density urban areas	Private Facility
<b>Graveyard</b>		1 lakh		4 – 5 acre		Permanent graveyard: max of 25 years.
<b>Urban Service Centre</b>		Ward Population		Min of 1 Acre	1 – 1.5 km	maximum allowable plinth area: 50%
<b>Katcha Bazar/Kitchen Market/ Community Market</b>	Low Density	15 – 20 thousand		0.3 – 0.5 acre	0.5 – 1.5 km	
	High Density	30 – 40 thousand		0.3 – 0.5 acre	0.5 – 1 km	
<b>Cinema Hall / Auditorium/Recreation Hall</b>	Low Density	20 – 30 thousand		0.3 – 0.5 acre	2 – 3 km	
	High Density	30 – 50 thousand		0.3 – 0.5 acre	1 – 2 km	Extra Space for Parking may be needed.

Source: Developed by Author

## 8. Concluding Remarks

Planning standards for community facilities aim to ensure that appropriate community facilities are designed and provided for all as well as these facilities are appropriately sized and located. Planning standards and types of community facilities vary from country to country and between cities within a country. Therefore while defining the standard for community facilities, the contextual background of individual cities and their communities are important. The formulation of physical planning standards relates to the process of allocating land for various social, cultural, economic and political purposes both for urban and rural areas. Given certain data and information, it is probably possible to calculate and design the capacity of hard infrastructure, such as road, drain, electricity and water supply, but it is not easy to set physical planning standards to achieve desired outcome for soft infrastructure, such as education, health, social and cultural facilities as demands for these services are dependent on the community needs and aspirations, which are ever changing.

Although widely accepted in the past, but now there is increased recognition that national-based uniform planning standards may not work for different level of urban areas within a country with varying size and populations. It may be true that national-based standards do not equally meet the needs of all communities, but this study argues that development of a common set of planning standards for urban community facilities in Bangladesh is important. Such planning standards are essential and have the potential to act as guidelines for the development control organizations and municipal authorities engaged in physical planning and development.

For metropolitan cities and municipal towns in Bangladesh, multiple agencies are involved in delivering various community facilities in the urban areas. City Corporation and Paurashava are the major urban local government bodies responsible for providing facilities and services to urban communities in Bangladesh. This study finds that there are no recommended planning standards or guidelines for community facilities in urban areas by any national level organizations in Bangladesh. However planning standards for community facilities are generally developed for specific plans or projects for different cities by respective public agencies that prepare and/or implement the plans.

This study finds that there are deficiencies of community facilities of different types according to the standards, both at metropolitan cities and municipalities in Bangladesh. It reveals that some community facilities are adequate in number as per the standards, while they are greatly deficient as per the area standards. In addition, community facility provisions in the urban areas of Bangladesh greatly vary both in quantity and quality. In this backdrop, 'Ward' as an administrative unit should be in the center of planning for community facilities for urban areas in Bangladesh. 'Urban Service Center' at Ward level can be developed in the urban areas for providing basic local level administrative and community services to the people of city corporations or municipalities in Bangladesh. A range of community facilities can be clustered in such centers. In perspective, the decentralization measures in planning and development with equitable distribution of community facilities and services across different parts of the urban area is a precondition for ensuring quality of life in a sustainable way.

This paper mainly attempted to examine the planning standards for various types of community facilities in different urban areas of Bangladesh. Based on the findings of this study, planning standards for various types of community facilities are suggested which could be helpful for formulating future policies and physical plans for urban areas in Bangladesh. However, community facility standards that are recommended in this paper should not be seen as rigid standards by the development agencies or local government authorities. Rather, these set of standards are indicative and, therefore can act as a guideline or starting point for assessment of community facilities in the urban areas of Bangladesh.

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