ISSN 1608-7844
© Urban and Rural Planning Discipline
Khulna University

Plan Plus, Volume-9, 2019 (71-88)

DEVELOPMENT CONTROL MECHANISM PRACTICES BY URBAN LOCAL GOVERNMENT ORGANIZATIONS IN BANGLADESH

Muhammad Rashidul Hasan*[1], Mohammad Shariful Islam[2]

*1. *Corresponding Author: Assistant Professor, Department of Urban and Regional Planning, Chittagong University of Engineering & Technology (CUET) Chittagong. Email: mrhasan@cuet.ac.bd*

2. Urban Planner, Bhairab Municipality, Ministry of LGRD & Cooperatives, Bangladesh.

ABSTRACT

Bangladesh is a small country with a large population size where 29% of the population living in the urban areas. Except for the big cities like Dhaka and Chittagong, the district towns and Municipal towns are sharing a huge number of populations. In order to manage these urban growths, Government of Bangladesh (GoB) has taken different initiatives to develop the municipalities to ensure sustainable growth of the regional centers. Preparation of Master plan for District Town and Municipalities (Paurashava) and up-gradation of development control Acts and Rules are the major initiatives to empower the local government institutes. This study tried to portrait the current status of implementation of development control mechanism at the municipal level of Bangladesh. The assessment results were used to initially formulate adaptation options, key informant interviews were conducted to verify the results with local authorities and expert whose inputs and recommendations were later synthesized and elaborated by the researcher. This study identified that about three fourth inhabitants of the study area had a conflict with neighbors resulting in the violation of BC Rules. Apart from that, Environmental, Social Aesthetic, Pressure on utility and slow development are notable. Planning authorities should attempt to increase their accountability and have begun to open themselves up to inputs and collaboration from civil society.

KEYWORDS: Planning Practice, Master Plan, Municipalities, Planning Instrument

1. INTRODUCTION

The present urban planning practices in Bangladesh follow the legacy of the British and the Pakistani town planning traditions. Before the British period, the country was ruled by the Mughals, when Dhaka was developed as the capital of Bengal. Some of the ancient settlements in Bengal were planned settlements (Islam, 1996). These settlements were grown centering on administrative, business, military and religious activities. Urbanization in this country is a phenomenon of the post-independent period.

In Bangladesh, most of the urban/rural areas are developing without proper planning and management and encroaching valuable agricultural land, wetland, forest resources, and environmentally sensitive areas. Unplanned development within and in the outskirt of the capital is common. As a result, air, water, and soil pollution deteriorated our living condition (Mo EF, 2012). Around 29 % of its total population lives in 522 urban areas (Kauser. et .all, 2016). Most cities and towns cannot cope with the needs of housing, infrastructure, services, institutional capacity, and resources. To manage this situation urban planning can play a vital role (Taipale, 2012).

However, the development control rules do not grown correspondingly with urban growth in this country (Nazem, 2013). Unlike many other types of civic laws, planning laws affect not only one or two distinct spheres, such as governance, commerce, or health care. The entire range of human (and nature-based) activities require the use of space, and because space is often people's major property asset, the procedures, institutions, and rules for controlling urban and rural development affect many spheres of life. Some of these effects can be anticipated, but many are ancillary or unintended. By impacting the use of land and space, planning laws and development control can deeply influence the existing socio-cultural and economic order. They may have dramatic implications on personal health and safety, housing prices, employment opportunities, family life, personal time (spent on travel), and accessibility to public services (Alterman, 2014). The urban areas are the places of agglomeration of economic activities, important hubs of production, processing, innovation, and employment. Appropriate planning practice can promote overall urban development. For sustainable economic growth and social development, it is essential for Bangladesh to develop its urban areas in a planned way. City planning in Bangladesh needs to be done in a more sustainable way so that rapidly urbanizing parts of the country have the necessary infrastructure and services to make them good places to live (WB, 2017). Development control shall consist of both the making of development plans and the practice of controlling physical development by local authorities through development plans and granting or refusing of planning permission. Under this backdrop, an attempt has been made to focus on the status of development control rules in Bangladesh especially at Municipality (Paurashava) level.

2. OBJECTIVES OF THE STUDY

The specific objectives of the research are-

i. To explore the current development control instruments to manage the development at municipality level of Bangladesh.
ii. To identify the status of the application of Building construction rules in the municipality.
iii. To scrutinize the challenges for the development control process of the municipality.

3. RESEARCH METHODOLOGY

The research combines quantitative and qualitative techniques to operationalize the study framework as the knowledge about problems and prospects of development control practice at municipality level of Bangladesh is very partial. This study tried to bring some light on this issue in the planning perspective. Primary data was collected through a survey questionnaire and secondary data was collected from the different literature review which is relevant to this research. The survey questionnaire was based on the indicators and administered to house owner focusing on the determinants of Building Construction (BC) rules. The researcher used Slovin's formula applying a 90% level of confidence, 7% margin of error, and a 50 % proportion of respondents. The 180 buildings that comprised the sample were proportionately divided into the four (04) residential clusters considering the total number of buildings in those communities, which provided a sound coverage and illustration of the municipality. The assessment results were used to initially formulate adaptation options, based on relevant development control management. A total of five (05) key informant interviews were conducted to verify the results

with local authorities and expert whose inputs and recommendations were later synthesized and elaborated by the researcher. At the end of this study, a set of recommended potential development control strategies were formulated for possible consideration of the community and the local government.

4. LITERATURE REVIEW

Development controls have been defined as the mechanism through which the entire process of urban development is regulated to achieve the objective of promoting the overall benefit of the society and creating a distinct image of the city. It includes guiding the development and use of land, curbing misuse of land and promoting the rational and orderly development of the built environment (CCBP, 2015).

The development control function seeks to manage and regulate property development to ensure that all development takes place at an appropriate time and place and in such a manner that it conforms to a predetermined set of policies or standards. Set of rules that are designed to ensure the proper and efficient development of a city, as well as the general welfare of the public, are commonly known as Development Control Regulations (DCR). Such development control – regulating and managing what is built where and when – allows authorities to manage land across a large area. It allows authorities to balance competing needs – such as allocating land for farming, while accommodating the growth of cities and towns – and to protect areas with particular values considering the larger public interest and general welfare of the community, formulation of the development control should satisfy the basic requirements of the health, safety convenience, economy, and amenity (Thomas, 2001).

There is no international depository of planning regulations (or development controls) used in various countries. Regulatory instruments vary not only from country to country but also from city to city. In developing countries, most land area, including urban areas, is not regulated by planning laws, even if laws exist on paper (Alterman, 2014). The key attributes of urban areas in developing countries include widespread poverty; stark socioeconomic disparities; intense rural-to-urban migration; a huge shortage of adequate and affordable housing leading to mega slums with informal tenure; a weak or absent system of land registration and property recording; and governance issues such as transparency and citizen-empowerment deficiencies. In those developing countries that have planning laws on the books, many dating back to colonial times, the laws are absent in practice from the majority of urban areas and enforcement of the laws is haphazard (Arimah & Adeagbo, 2007).

However, there are few legal instruments exists in Bangladesh to control the development. With the promulgation of Local government (Paurashava) Act, 2009, some of development control issues at local government level have been tried to be addressed. Relevant sections of laws and regulations related to the development control in the Paurashava along with agencies entrusted with enforcement of such regulations have been listed in table 01.

Table 1: Legal Instrument for Development Control

Legal Instruments	Relevant development control aspects	Implementing Agencies	Role of Paurashava
Local Government (Paurashava) Act, 2009	According to section 32 of Local government act 2009, Paurashava may, and if so required by the by the prescribed authority shall draw up a Master plan for the municipality within five years of its establishment. According to section 45 (subsection 1) of local government act 2009, by government approval Paurashava can acquire adjacent or neighboring land of the road for greater public interest. According to the section 45 (subsection 2) Paurashava will bear all cost of land by the defined law in case of land acquisition under subsection 1. Also according to section 33(2) of local government act 2009, Paurashava can acquire land for land development purpose within the Paurashava. Section 95, may, the government shall prepare & implement development plan, which will be subject to the sanction of the Prescribe authority and will provide for the prevention of environmental pollution. Section 35: no person can construct or reconstruct any building before approval of site selection and design of the building by Paurashava authority. If anyone violet the provision of law related to building construction under local Government (Paurashava) act, 2009, Paurashava can demolish that illegal structure by own Agency and Paurashava can impose the cost for the destruction of the structure as the tax to law violator.	Paurashava Authority	Should take appropriate measure for enforcement
	According to the Act. Section 5, nobody can change the use or sell the marked playfield, open space, garden, and natural lake. However, any Landowner having any land with above-mentioned use may apply to appropriate authority to have permission to change the use. If the structure is constructed by violating the Act, Paurashava has the power to confiscate the structure.	Paurashava Authority Department of Environment (DoE)	Regular monitoring and take legal steps to ensure the enforcement of Act, Inform responsible authority in case of any violation of the Act.

Table 1: Legal Instrument for Development Control (continued)

Legal Instruments	Relevant development control aspects	Implementing Agencies	Role of Paurashava
Building Construction Rules, 1996	Section 3(1) of the act presents control on building construction in the country. Mostly approval system of the building plan prescribed in the Rules and punishment for the breach of regulation presented in the Act. But the approval system is lengthy and punishment is poor. Section 12(1) sets a formula for building height determination based on the weight of the front road. This Rule imposes a limit on the building height as long as the front road is less than 75ft. (22.87m). Indirectly this limits the number of families or the size of the population in a building. Setback rules of the building and approval system of the building plan also prescribed here.	Paurashava Authority	Regular monitoring underprovision of Act. Take legal steps to ensure the enforcement of Act. Inform responsible authority in case of any violation of the Act.
Bangladesh National Building Code, 1993	It outlines the administrative requirements necessary for the enforcement of the code. The code illustrates general planning and architectural requirements of building with occupancy and fire resistance. The code also ensures the safety of life during construction and minimization of construction hazards. It sets specific requirements of governing structural design of buildings to ensure safety and service availability. It also sets the earthquake resistance design guideline.	Deputy commissioner, All development authorities and Local Authorities	Regular monitoring and take legal steps to ensure the enforcement of ct, Inform responsible authority in case of any violation of the Act.
Conservation of Environment act, 1995	According to the act, government can declare ecologically critical area through Gadget Notification (Section 5(1)). Such critical environment may be created through human activities or climatic disturbances. Control on motorized vehicle that exhausts smoke dangerous for human health has prescribed in the section 6. Punishment for violation of any order presented in Act may be 5 years imprisonment or fine with Tk. 1,00,000 or with both.	Department of Environment (DoE) All development authorities and Local Authorities	Take environmental

Source: UTIDP, 2013, modified by the author

5. ANALYSIS AND FINDINGS

To assess the function of Building Construction (BC) Rules as a development control mechanism, component-wise detail analysis is required. The following section presents the current status of the application of BC rules in Bhairab municipality.

5.1 Status of the bc rules application

The field survey correspond to 119 violated residential units from a total unit of 180, which represents 66.11% residential units have violated Building Construction (BC) Rule in Bhairab. BC Rules are found violated in all of the four major residential areas (Bhairabpur, New Town, Kamalpur, and Amlapara) of the city as well as spontaneous low-income housing areas. Table 02 shows the situation of building construction rules violations.

Table 2: BC Rules Violation Statistics in Bhairab Paurashava

Name of the Residential area	Total	Number of Violated Residential Units	% of Violationout of the Buildings in Respective R/A	% out of Total
Bhairabpur	83	45	54.22	25
New Town	45	32	71.11	17.77
Kamalpur	27	17	62.93	9.44
Amlapara	25	25	100.00	13.89
Total	180	119	-	66.11

Source: Field Survey, 2018

Table 2 represents that, the highest number of violation in residential units was found in New Town (71.11%) & Amlapara (100%) residential area. Whereas, violation of BC Rules is relatively lower in Bhairabpur and Kamalpur residential areas.

5.2 Application of setback rules

Set back rules are the important component of Building Construction Rules which is essential to follow in construction activities for buildings. Table 3 shows the violation status of the setback rules in the four sample areas of Bhairab Paurashava which presents a bleak picture in this regard.

Table 3: Status of the Setback Rules in Different Residential Areas

Types of Rule Violation		Name of the Residential Area							
		Bhairabpur		New Town		Kamalpur		Amlapara	
		No.	%	No.	%	No.	%	No.	%
Violation of front and back (1st rule)	Front side inadequate space	4	4.81	2	4.44	1	3.7	1	4
	Back side inadequate space	6	7.23	5	11.11	1	3.7	1	4
	Both front and back side inadequate space	2	2.41	3	6.67	3	11.11	2	8
Total (violation of 1st rule)		12	14.46	10	22.22	5	18.52	4	16

Table 3: Status of the Setback Rules in Different Residential Areas (continued)

Types of Rule Violation		Name of the Residential Area							
		Bhairabpur		New Town		Kamalpur		Amlapara	
		No.	%	No.	%	No.	%	No.	%
Violation of left and right-side setback rules (2nd rule)	Left side inadequate space	5	6.02	0	0	1	3.7	2	8
	Right side inadequate space	3	3.61	0	0	2	7.41	1	4
	Both side inadequate space	9	10.84	14	31.11	4	14.81	5	20
Total (violation of 2nd rule)		17	20.48	14	31.11	7	25.93	8	32
Violation of both setback rules (1st & 2nd rule)	Both front, back, left and right-side inadequate space	16	19.28	8	17.78	6	22.22	13	52
Total Set backrules violated residential buildings		45	54.21	32	71.11	17	62.96	25	100
Total non violated buildings		38	45.78	13	28.89	10	37.04	0	0

Source: Field Survey, 2018.

It is found that 71.11% buildings of the New Town area violated the setback rules and in Amlapara area 100% of violation was found. The buildings of Bhairabpur are less violator than the residents of Kamalpur, 54.21%, and 62.96% respectively. Among all the residential areas, the maximum number of buildings in New Town violated the 1st and 2nd set back rules about 22.22 and 31.11, where they did not keep adequate spaces in both the front and backside of the building as well as the left and right side of the building. Status of Bhairabpur and Kamalpur in terms of following set back rules was found better than the other two residential areas. This study also tried to portrait the level of violation of setback rules in the buildings of the sample area which are presented in different tables in this section.

Table 4: Leaving Space at the Front Side of the Building

Left space at the front side of the building		Name of the Residential Area							
		Bhairabpur		New Town		Kamalpur		Amlapara	
Violation	0.5-0.8 meter	18	40.00	16	50.00	15	88.23	20	78.6
	0.8-1.1 meter	11	24.44	4	12.5	1	5.88	4	16.7
	1.1-1.3 meter	7	15.56	3	9.38	0	0.0	1	4.7
	1.3-1.5 meter	2	4.44	2	6.25	1	5.88	0	0.0
	Total	38	84.44	25	78.13	17	62.96	25	100.0
Violation	1.5 meter & above	7	15.56	3	9.36	10	37.04	0	0.0
Grand total		45	100.0	32a	100.0	27	100.0	25	100.0

Source: Field Survey, 2018.

Table 4 shows the level of space left at the front of the buildings in the four sample areas. In terms of leaving the front side space of 0.5 to 1.5 meter, 54.2% of buildings in Bhairabpur, 56.5% in New Town, 62.96 % of buildings of Kamalpur and 100 % in Amlapara were found violating the rules. On the other hand, in violation of 1.5 meters and above Amlapara violated about 37% buildings. Most of the buildings in four residential areas violated about 0.5-0.8 meter of front side space of the buildings.

Table 5: Leaving Space at the Back Side of the Building

Left space at back	Name of the Residential Area							
	Bhairabpur		New Town		Kamalpur		Amlapara	
	No.	%	No.	%	No.	%	No.	%
0.5-0.8 meter	31	68.89	17	53.13	6	35.29	14	56.00
0.8-1.1 meter	4	8.88	8	25.00	4	23.53	7	28.00
1.1-1.3 meter	2	4.44	3	18.75	1	5.88	3	12.00
1.3-1.5 meter	1	2.22	1	3.13	0	0.00	0	0.00
1.5-1.83 meter	1	2.22	0	0.00	0	0.00	0	0.00
Total	39	86.66	28	87.5	11	64.71	23	92.00
1.83 meter and above	6	13.33	4	12.5	6	35.29	2	8.00
Total	45	100	32	100	17	100	25	100

Source: Field Survey, 2018.

Table 5 illustrates, the space left at the back of the buildings of the study area and Amlapar has the maximum number of violated buildings about 92%. On the other hand, New town, Bhairabpur, and Kamalpur has not kept space at the backside of the building about 87.5%, 86.66%, and 64.71% respectively. Status of Amlapara is pretty better considering the other residential areas.

Table 6: Level of Violation at the Left of the Building

Left space at back		Name of the Residential Area							
		Bhairabpur		New Town		Kamalpur		Amlapara	
Violated		No.	%	No.	%	No.	%	No.	%
	0.5-0.8 meter	31	68.89	18	56.25	10	58.82	20	80.00
	0.8-1.1 meter	11	24.44	9	28.13	6	35.29	4	16.00
	1.1-1.25 meter	3	6.67	5	15.62	1	5.89	1	4.00
	Total	45	100	32	100	17	100	25	100

Source: Field Survey, 2018.

Above table (Table 6) describes that Amlapara has about 80% of buildings with a violation of 0.5 to 0.8 meter violation at the left of the building. In Bhairabpur, New Town and Kamalpur area violation were found around 58% to 68%.

Table 7: Level of Violation at the Right Side of the Building

Left space at the right side of the building		Name of the Residential Area							
		Bhairabpur		New Town		Kamalpur		Amlapara	
		No.	%	No.	%	No.	%	No.	%
Violated	0.5-0.8 meter	23	27.72	11	24.44	6	40.74	19	76.00
	0.8-1.1 meter	15	18.07	6	13.33	5	29.63	4	16.00
	1.1-1.25 meter	7	8.43	8	17.78	1	11.11	2	8.00
	Total	45	54.22	25	55.56	12	81.48	25	100.00

Table 7: Level of Violation at the Right Side of the Building (continued)

Left space at the right side of the building	Name of the Residential Area							
	Bhairabpur		New Town		Kamalpur		Amlapara	
	No.	%	No.	%	No.	%	No.	%
Non-violated	38	45.78	20	44.44	5	18.52	0	0.00
Total	83	100	45	100	17	100	25	100

Source: Field Survey, 2018.

Table 7 shows the level of right side violation where this setback rule is seen at least 50% violation in the municipality. Amlapar violated 100% space from 0.5 to 0.8 meter.

5.3 Permissible building height

Permissible height of the building is determined based on the following formula. Maximum Building Height = 2 x (road width + Front side setback space).

Table 8: Violation of Building Height Restriction

Standard Road width (including property line) Permissible height	No of Residential Building							
	Bhairabpur		New Town		Kamalpur		Amlapara	
	No.	%	No.	%	No.	%	No.	%
7.60-10.59 meter	0	0.00	0	0.00	0	0.00	0	0.00
10.60-13.59 meter	6	7.23	2	4.45	3	11.11	0	0.00
13.60-16.59 meter	20	24.10	11	24.44	7	25.92	0	0.00
Total (Violated)	26	31.33	13	28.89	10	37.03	6	24.00
Total (Non Violated)	57	68.67	32	71.11	17	62.97	19	76.00
Grand Total	83	100	45	100	27	100	25	100

Source: Field Survey, 2018.

In terms of violation of building height restriction (Table 8) about 6% to 26% violation observed in the study area. In Kamalpur and Bhairabpur area tendency of height rules violation is higher than the other area, 37.03% and 31.33% respectively.

5.4 Rules and regulations on the construction of boundary wall

Building's boundary wall is also considerable issue at the time of construction. According to Building Construction Rules, 1996, at both sides supervising of the building, the permissible height of the boundary wall is above 1.75 meters or grill of 2.75-meter height can be constructed. If anyone wants to use grills upon the boundary wall, then the boundary wall cannot be constructed not more than 1.75 meters high from the land. For the beautification of the area, the authorized officer can give the special instructions. Among the two planned residential areas, boundary walls have existed in every house of the study area. In the Bhairabpur, the height of the boundary wall of 13% houses are above 1.75 meters and the house owner of the 13% houses follow this rule of the building construction and 19% of house owners violate this rule. In respect of New Town, height restriction follower and violator figure are about to same. In respect of two unplanned residential areas, maximum houses have no wall and the violation is very lower. In the Building

Construction rules, height restriction again varies with grills on the boundary wall or without grills on the boundary wall. In this category, the maximum house owner follows the height restriction of the boundary wall construction and violation is much lower in all four housing areas. Only 17% of violators exist in New Town and less than 10% violators exist in the rest of the housing areas.

5.5 Rules and regulations of constructing car parking facilities

It is very much essential to make the option for parking facilities at the time of building construction. According to Building Construction Rules, 1996, there is sufficient space in every building for a car entering the building and exiting from the residential building. Parking spaces may be covered or without covered. If ramp facilities exist in the parking lot, then it is at least 1:8 roofs and the lot is at least 3 meter far from the road. Bhairabpur and New Town residential Area occupies the high-income group. The residents who have the car, parking facilities exist in their houses. Maximum residents having cars of this residential area maintain the rules and regulations at the time of constructing the parking lots. Only a few do not have enough space for car parking and they are a violator of the rule of building construction. The inhabitants having no car, they do not care about these rules and they do not keep any option. Kamalpur and Amlapara are two unplanned residential areas. They occupy middle income and lower-income group. The figure of rule followed is very poor in these two residential areas. Only 2% of houses have provision for car parking and adequate space for a car entering the house and exiting from the house.

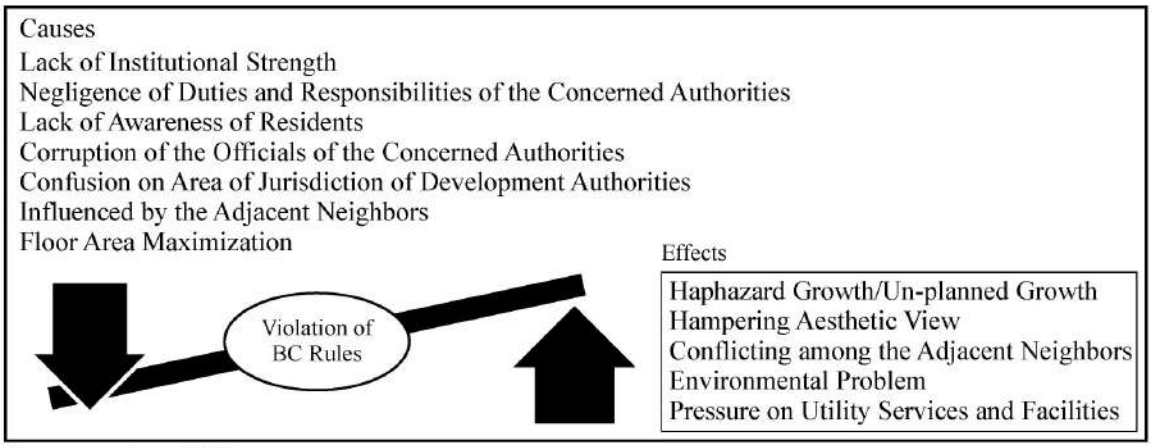
5.6 Lights-Air circulation facilities

The standard of light and air circulation is not much detail in the BC Rules and the standard of the Building Construction Rules is in the following. In every living room of building, doors, windows, fan and lights should be existed for well or smooth circulation of light and air facilities. The kitchen should be positioned at the back wall of the building. Bhairabpur and New Town residential Area are the two planned residential areas. Mainly higher and higher middle class people resides here. For this, light and air circulation facilities are available in these two residential areas. In only 2-3% houses have inadequate circulation facilities (Field Survey, 2018). Kamalpur and Amlaparaare the two unplanned residential areas. The inhabitants of these areas are middle and lower income group. Inadequate light and air circulation facilities as well as well circulation also are available in these two residential areas the scenario is very much mixing and the figure of the two types is various (Field Survey, 2018).

6. REASONS BEHIND THE VIOLATION OF BC RULES

Before going to the detail discussion about the causes and consequences of violation of BC rules here the figure 01shows the principal and common causes and consequences due to violation of BC rules. Besides the above reasons, there is another important reason for which the inhabitants of the study area violate BC Rules. The reason is that though the National Building Code was formed and published in 1993 it is not made mandatory to follow.

Causes behind the violation of Building Construction Rule are more or less the same in the selected residential areas. A large number of violations are seen in the older part of the city that is at Amlapara. Some of the constructed buildings in Bhairabpur Residential Area are not constructed according to the setback rule provided by the Government.



Source: Author, 2018.

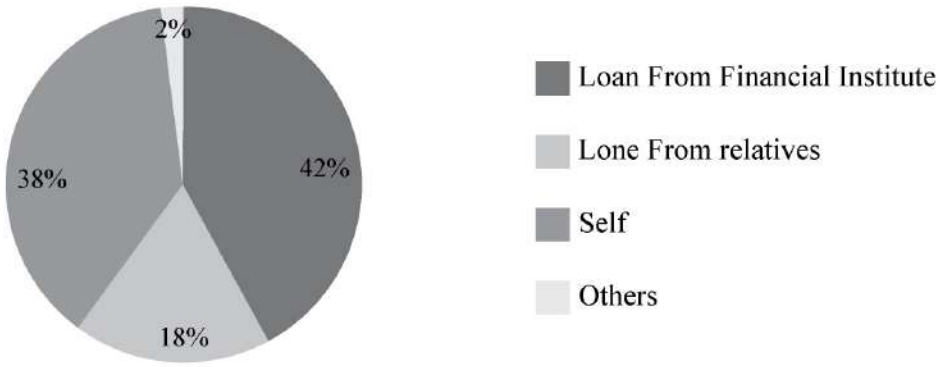
Figure 1: Reasons and effect of the violation of BC rules

Table 9: Percent of Responses of Dwellers on the reasons of violation of BC rules

Residential area / Reasons	Bhairabpur (%)		New Town (%)		Kamalpur (%)		Amlapara(%)	
	Yes	No	Yes	No	Yes	No	Yes	No
Lack of institutional strength	63	27	54	46	43	57	10	90
Negligence of duties and responsibilities of the Concerned Authorities	83	17	76	24	68	32	38	62
Corruption of the Officials of the Concerned Authorities	48	52	58	42	73	27	18	82
Confusion on Area of Jurisdiction of Paurashava	90	10	74	26	34	66	10	90
Lack of awareness of the residents	69	31	58	42	77	27	80	20
Influenced by the adjacent neighbors	81	19	73	27	89	11	80	20
Floor area maximization	64	36	78	22	58	42	75	25

Source: Field Survey, 2018.

It is found that about 12 % of new owners have entered into the older part of the Paurashava by purchasing the land with a completed structure that was constructed without considering the BC rules. Various reasons for violation of BC rules are identified in the study. Among the reasons; lack of institutional strength, negligence of duties and responsibilities of the Concerned Authorities, corruption of the Officials of the Concerned Authorities, confusion on Area of Jurisdiction of Paurashava, lack of awareness of the residents, influenced by the adjacent neighbors, floor area maximization etc are not able to build house housing finance is a vital thing. Source of finance (self-finance, the loan from relatives, the loan from financial institute etc) in the study area are different.

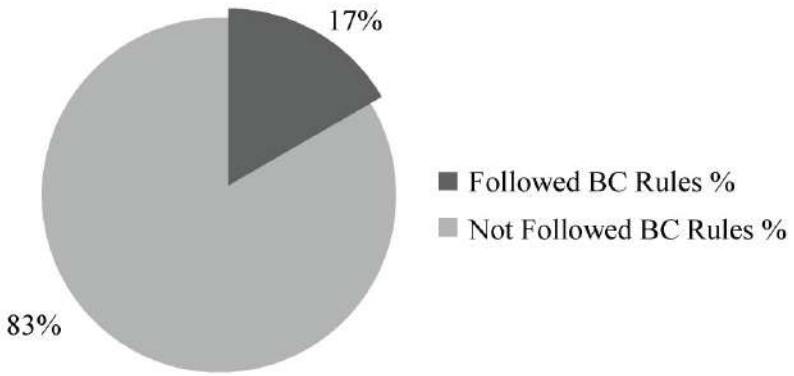


Source: Field survey, 2018
Figure 2: Source of the Financing of the Construction

Figure 2 designates that 42% population of the study area have taken a loan from various financial institutions to construct their house. Only 18 % populations of the study area have taken a loan from their relatives to construct their house. About 38 % population of the study area constructs their house with their own income and about 2 % population of the study area constructs their house collecting money from another sector. A large amount of violation was found who build their buildings by self-finance. These types of people give bribe to the officials and pass the inappropriate design. In the case of taking a housing loan from any institute people usually, do not violate the BC rules as finance institute simultaneously monitors the construction. Above graph designates that only 17 % of people who have taken a loan from financial institutions did not follow BC rules.

6.1 Lack of institutional strength

There are no building inspectors in Bhairab Paurashava and for this reason, Paurashava cannot keep monitoring the new constructions and constructed buildings always. It is really a hard task for single personnel (Town Planner) to maintain the whole city.



Source: Field survey, 2018
Figure 3: Housing Loan from Financial Institution

6.2 Negligence of duties and responsibilities of the concerned authorities

Engineering Department of Paurashava is responsible for the appropriate implication of Building Construction Rules. For the negligence of duties and responsibilities the responsible persons of Paurashava do not always remain strict to the execution of the BC rules.

Table 10: Number of Vsit by Officials During Building Construction

No of visit	Percentage (%)
Once	15
Twice	6
Never	64
Total	84
No Answer	16
Total	100

Source: Field survey, 2018

Table 10 shows most of the respondents said that the inspector did not visit their house at the time of construction. 15 percent said authority visited their house for one time and only 6% said authority visited their house for two times during the period of construction. So it is found that there is a lacking of inspection of the buildings by the authority.

6.3 Corruption of the officials of the concerned authorities

The main cause behind the violation of building construction rule in a residential area is due to inappropriate checking by the authority during and after the construction of the buildings. These irregularities are mainly due to the dishonesty by some official of the authority. They have somehow allowed violating the construction rules. Even sometimes without visiting the building the inspectors submit a report to authority.

6.4 Confusion on area of jurisdiction of paurashava

There is no visual demarcation line of Paurashava jurisdiction area. People do not understand either they are under Paurashava's jurisdiction or not. For this confusion, they build their houses without any permission from the Authority. Even they do not know is there any necessity of taking permission for permanent and semi-permanent structure. In the fringe area, people are not concerned about BC Rules. This is why they do not follow the rules.

6.5 Lack of awareness of the residents

Lack of awareness of the residents is one of the most important reasons for which peoples do not follow the BC rules. In the four study areas, the maximum population does not know about the BC rules.

Table 11: Responses of Dwellers on the Awareness of BC Rules

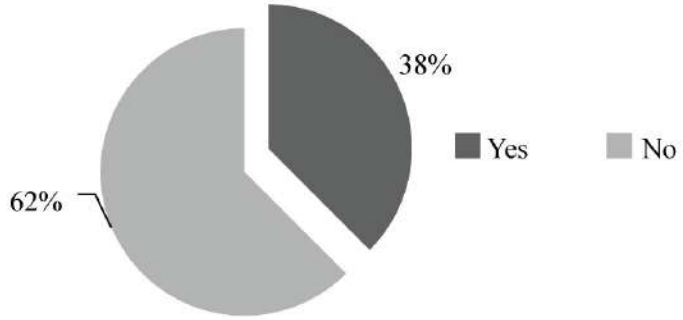
Residential Area	Percentage of Response (%)	
	Know about the BC rules	Don't know about BC rules
Bhairabpur	12	88
New Town	10	90
Kamalpur	06	94
Amlapara	5	95

Source: Field survey, 2018

Table 11 designates that, in the Bhairabpur the residential area only 12% populations know about the BC rule and 88% population do not follow the BC rule, in the New Town only 10 % populations know about the BC rule and 90 % population do not follow the BC rule, in the Kamalpur the residential area only 6% populations know about the BC rule and 94% population do not follow the BC rule.

6.6 Influenced by the adjacent neighbors

In the study area, about 38 % of inhabitants violate the BC rules by the influence of the adjacent neighbors. At the time of construction of their building, they had seen that some of their neighbors constructed a house without maintaining the BC rules. Their neighbors said them that the officials overlooked this matter by taking a bribe. Above graph reveals that 38 % inhabitant violated the BC rules by the "influenced of the Adjacent Neighbors Above graph reveals that 38 % inhabitant violated the BC rules by the "influenced of the Adjacent Neighbors.

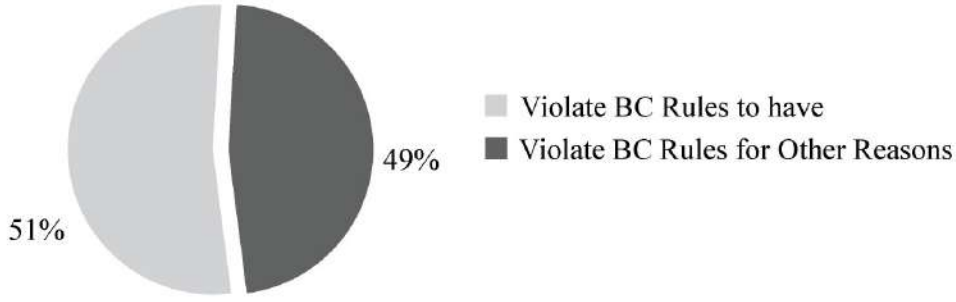


Source: Field survey, 2018

Figure 4: Influenced of the Adjacent Neighbors

6.7 Floor area maximization

Naturally, people want to maximize their floor area to have economical benefits. They think they can earn more if they can increase the floor area even a single square meter. After getting the approval of the plan, people construct their building as their demand without following the approval guideline.



Source: Field survey, 2018

Figure 5: Floor Area Maximization

The above the figure shows that about 49 % of the owners violate setback rules to have a larger floor area and other 51% percent violate the rule for another reason.

7. CONSEQUENCES OF BC RULES VIOLATION

The residents of the area are facing various social, environmental and other related problems. Among them, some important consequences raised due to violation of BC Rules are stated in the following table (Table 12) and explained briefly later on.

Table 12: Type of Problems Faced by the People

Type of Problems	Percentage (%)
Environmental	75%
Social	32.08
Aesthetic	8.00
Lack of Utility services	37.25
Total Responses	290

Source: Field survey, 2018

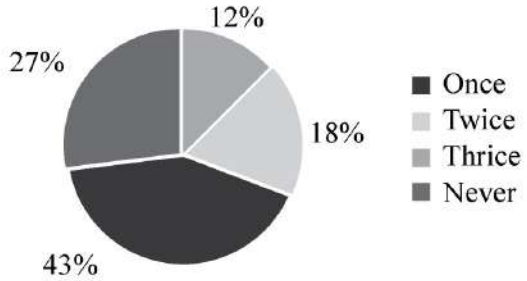
Various types of problems are associated in the study area. Among them Environmental, Social Aesthetic, Pressure on utility and slow development are notable. More than half of the respondents in the study area face an environmental problem. Among the respondents about 75 % response that they face environmental the problem in the study area, about 32% response that they face social problem in the study area, about 8 % response that they face aesthetic problem in the study area, about 37.25 % response that there are lacking utility services in the study area.

7.1 Unplanned growth hampering the aesthetic view

Violation of building construction rules lead to haphazard growth which hampers the aesthetic view of the study area.

7.2 Conflict among the adjacent neighbors

For the violation of building construction rule, haphazard growths are seen in the study area, some houses have a very narrow path for entrance, and some houses have not maintained setback standards. The verandahs, balcony and some other parts of the buildings have encroached on the adjacent plots. For these reasons conflict among the neighbors have occurred frequently. Graph implies the percentage of conflicts committed among the adjacent neighbors. About three fourth inhabitants of the study area had a conflict with others (Figure 6) resulting in the violation of BC Rules.



Source: Field survey, 2018

Figure 6: Adjacement Neighbors

7.3 Environmental problem

Violation of BC Rules is also causing an environmental problem. In the unplanned and haphazard densely populated areas people do not get proper air circulation and sunlight. Sunlight and air are one of the most important elements of our life to survive. Lacking air and light may cause some diseases in the human body.

Table 13: Type of Environmental Problems Faced by the People

Type of Environmental Problem	Percentage (%)
Inadequate Air Circulation Problem	38
Insufficient	42
No problem	20
Total	100

Source: Field survey, 2018

Table 13 reflects that 38 % of house owner said due to the violation of rules they are facing inadequate air circulation, as well as 42 % of the owners, said that they get insufficient sunlight.

7.4 Pressure on utility and services facilities

Extra population creates pressure on utility and services facilities. The Table 14 designates that 74% respondent said be rule violation cause's pressure on utility services.

Table 14: Type of Utility Problems Faced by the People

Utility Problem	Percentage (%)
Yes	74
No	26
Total	100

Source: Field survey, 2018

8. RECOMMENDATIONS

The following sections are some of the recommended actions.

- ✓ Planning authorities should attempt to increase their accountability and have begun to open themselves up to inputs and collaboration from civil society.
- ✓ Urban planning and good governance should play an important role in establishing an effective process towards the achievement of sustainable urban development.
- ✓ Ensure the decentralization of power, decision-making mechanism and decision implementation for efficient and effective urban development.
- ✓ Promote active participation of people, inclusive of all gender, in decision making, management, and services.
- ✓ To preserve the integrity of the authorities, they must strive to rid themselves of corruption. Regular meetings should be organized and it should be accessible to the public through media.
- ✓ The entire Municipality should update their system in a digital way. This will help them to speed the process. They should have properly working web pages that can be seen by the public as per convenience. Their web pages should have all the necessary information for public awareness.

9. CONCLUSION

The rules, regulations, and bye-laws are made by the councils or development authorities taking in view the larger public interest of the society and it is the bounden duty of the citizens to obey and follow such rules which are made for their own benefits. If possible, the citizen of the town should self participate in the process of development of the town. Since planning authority is adequately empowered to enforce the act, the rules and bye-laws, need is to strengthen the municipal council with the technical manpower and adequate machinery to run the mechanism. Provision of land through town planning scheme should be carried out to augment the supply of land resources for balanced development. The present development control rules should also be made dynamic by changing as per the urban development requirement and its validity must be verified periodically. This will inspire new initiatives & stimulate debate in the often neglected area of urban development control rules & regulation for sustainable development.

Proper planning practice is very important in the overall development of a city as well as the country. But still, this practice is not well articulated in our country. In order to manage these urban growths Government of Bangladesh (GoB) should take appropriate planning measures to ensure sustainable development. Therefore, to save the devastating scenario and unplanned and haphazard urbanization and city development, a new move to reform the entire urban planning process should be immediately taken in hand with people's participation. All the authorities are urgently required for sustainable urban planning and development and Ministries should perform effective role according to its own jurisdiction.

ACKNOWLEDGEMENT

This paper is the aspiration made possible by people who unselfishly shared and dedicated their time and expertise. I would like to express my sincere gratitude to Advocate Fakhrul Alam Akkas, Meyor, Bhairab Municipality, and Dulal Uddin Ahmed, CEO, Bhairab Municipality for their time effort and information.

REFERENCES

Alterman , Rachelle , (2014)Planning Laws, Development Controls, and Social Equity: Lessons for Developing Countries, International Bank for Reconstruction and Development / The World Bank.https://www. researchgate.net/publication /264435961_Planning_ Laws_Development _Controls_and_Social_Equity_Lessons_for_Developing_Countries

C. B. Arimah & D. Adeagbo, Compliance with Urban Development and Planning Regulations in Ibadan, Nigeria, 24(3) Habitat Intl. 279–294 (Sept. 2000); Maurice Onyango & Owiti A. K'Akumu, Land Use Management Challenges for the City of Nairobi, 18(1) Urban Forum (2007).

Centre for Policy Dialogue (CPD), (2017), Bangladesh Economy in FY2016-17, Interim Review of Macroeconomic Performance, Hossuse - 6/2 (7th & 8th floors), Block - F KaziNazrul Islam Road, Lalmatia Housing Estate Dhaka - 1207, Bangladesh.https://cpd.org.bd/wp-content/uploads/2017/06/ Bangladesh-Economy-in-FY2016-17-Interim-Review-of-Macroeconomic-Performance.pdf

Comprehensive Capacity Building Programme (CCBP), 2015. Development Control Regulation, Ministry of Urban Development, Government of India. https:// cdma. telangana.gov.in/docs/NIUM_Modules/Development%20 Control %20Regulation.pdf

Kauser, Muhammad Rakibul Hasan, Mostafiz, Kaiser, Maruf, Muhammad and Hasan, Muhammad Rashidul (2016),Planning Practice in Municipality level of Bangladesh: A study on Tangail Municipality, Bangladesh Planning Research Conference (BPRC), Paper ID: 724

Local Government Engineering Department (LGED). (2008). Upazila TownsInfrastructure Development Project (UTIDP), Dhaka, Bangladesh.

Ministry of Environment and Forests (Mo EF), 2012, Rio + 20: National Report on Sustainable Development, Ministry of Environment and Forests, Peoples' Republic of Bangladesh, Bangladesh Secretariat, Dhaka 1000, Bangladesh. https://sustainabledevelopment.un. org/content/documents/ 981bangladesh .pdf

Nazem, Nazrul Islam, (2013). Urban planning in bangladesh: education, research and profession, Centre for urban studies, Dhaka. http://cusdhaka.org/bulletin-articles/urban-planning-in-bangladesh-education-research-and-profession

Paurashava Act, 2009, Bangladesh National Assembly, Ordinance issued for the amendment of local government (municipality) ordinance, 2009. http://www.dpp.gov.bd/bgpress/

Rahman, G. (2008). Town Planning and Political Culture of Planning in Bangladesh, Dhaka: AH Development Publishing House.

RAJUK (1996), Building Construction Rules 1996, Dhaka.

Taipale, Kaarin, (2012), Challenges and way forward in the urban sector Sustainable Development of the United Nations Department of Economic and Social Affairs, Environment and sustainable management of Natural Resources, including energy (ENRTP), European Commission. https://sustainable development.un.org/content/documents/challenges_and_way_forward_in_the_urban_sector_web.pdf

The World Bank, 2017, Bangladesh City Planning Must Be More Sustainable For Livability, press releasehttps://www.worldbank.org/en/news/press-release/2017/10/28/bangladesh-city-planning-must-be-more-sustainable-for-livability.

Thomas, Dr. Deborah, 2001. The Importance of Development Plans/Land Use Policy for Development Control, USAID/OAS Post-Georges Disaster Mitigation Project, Workshop for Building Inspectors, January 15 - 26, 2001. http://www.oas.org/pgdm/document/BITC/papers/dthomas.htm

Upazila Town Infrastructure Development Project (UTIDP), 2013, Master Plan of BhairabPaurashava. Local Government Engineering Department, RDEC Bhaban (Level 9), LGED, Dhaka.

Special Notes on Preparation of Manuscript

If the manuscript is the part of any thesis or official document(s), it must be mentioned in the footnote. If the author(s) of the manuscript is (are) not same as the author of the thesis or document, written permission of the author(s)/authority of the thesis/document must be submitted with the manuscript. The author(s) must give the copyright mandate of the manuscript to PLAN PLUS. Anyone who intends to use these materials must obtain the authorization from PLAN PLUS.

Submission of Manuscript(s)

PLAN PLUS highly encourages all authors to submit their manuscripts via the official email (planplus@ku.ac.bd) for further processing. The submitted manuscript for Plan Plus journal should not be published elsewhere. The submitted paper should also provide the critical evaluation of the defined issues/subjects. More importantly, manuscript should contain sufficient data/arguments to produce acceptable results/conclusion. Manuscripts must be submitted by one of the authors of the manuscript, and should not be submitted by the arbitrary persons on their behalf. The author(s) must submit the "Manuscript Submission Form" along with the manuscript, which can be downloaded from http://ku.ac.bd/call-for-papers-2018/. Manuscript(s) will not be accepted for processing without this form (properly filled and signed).

Please prepare the manuscript(s) in MS word file (*.doc or *.docx). The total size of the MS word file should not exceed 10 MB. For the postal submission, author(s) needs to submit 04 copies of the printed manuscripts (printed on one side of the A4 size paper) to the following address:

Chief Editor
PLAN PLUS
Urban and Rural Planning Discipline
Khulna University, Khulna-9208, Bangladesh

The author(s) must include a CD/DVD containing the manuscript in MS Word file. Manuscripts that do not meet the standard of presentation, language, and formatting have higher chance of rejection without any further editorial processing. If the paper is accepted, the author needs to resubmit the paper in a prescribed format.