

# Urban Transformation of Dhanmondi Residential Area: Causes, Impacts, and Strategies for Revitalization

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## ARTICLE INFORMATION

Received: May 12, 2024  
Revised: July 22, 2024  
Accepted: August 08, 2024  
Published online: August 22, 2024

### Keywords:

Urban Transformation,  
Land Use Change,  
Floor Area Ratio (FAR),  
Land conversion,  
Uncontrolled Development

## ABSTRACT

This study delves into the changes in Dhanmondi over the years—a residential neighborhood in Dhaka, Bangladesh, established during the 1950s and known for its spacious plots and peaceful living ambiance with low-density buildings in place. Due over time, Dhanmondi has undergone significant changes in land use and organization, particularly in terms of building heights and the intensive use of space, as measured by criteria such as building coverage and floor area ratio (FAR). The findings reveal a shift in the area's primary purpose; commercial use now occupies around half of the land, replacing residential use, and taller apartment buildings with six stories have supplanted about one fifth of the original shorter structures, standing at one or two stories high. cover, the proportion of land covered by buildings increased significantly over the years. It jumped up from 28% in 1962 to 50% in 2000. The floor area ratio (FAR) also experienced significant growth, increasing from 0.39 to 1.68 within the same time period. The change aligns with the expansion of Dhaka's cityscape since the 1950s. The proximity of Dhanmondi to the city center has increased its significance, leading to a surge in demand for new urban amenities in the area. This neighborhood now features a mix of high-rise apartments. The neighborhood's residential charm and environmental well-being are compromised by uncontrolled commercial ventures. The research concludes by suggesting an updated set of regulations to curb haphazard development and preserve Dhanmondi's appeal.

## 1. Introduction

The Dhanmondi town originated from a periodic paddy market—"Dhan" signifying paddy and "Mondi" denoting market—that developed in the region in the early 17th century. The existence of multiple ponds, an Eidgah for semiannual religious assemblies, and other mosques from this era indicate a prosperous society established in this location. Nevertheless, the settlement diminished subsequent to the decline of the Mughal Empire. The early 1950s saw the conception of a new residential community in Dhanmondi, encompassing 472.64 acres, in response to the escalating housing demands of Dhaka, which experienced swift growth following its designation as the provincial capital of East Bengal in 1947. The community's

goal was to deliver high-quality housing for the city's

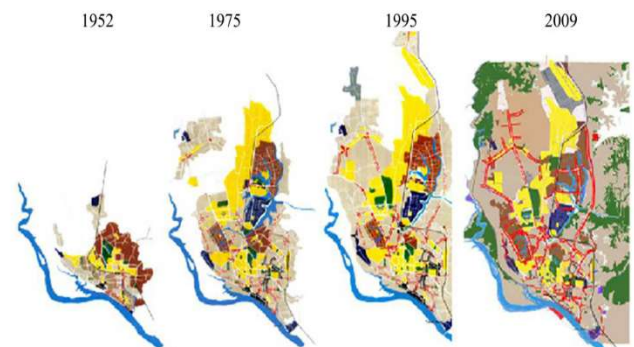


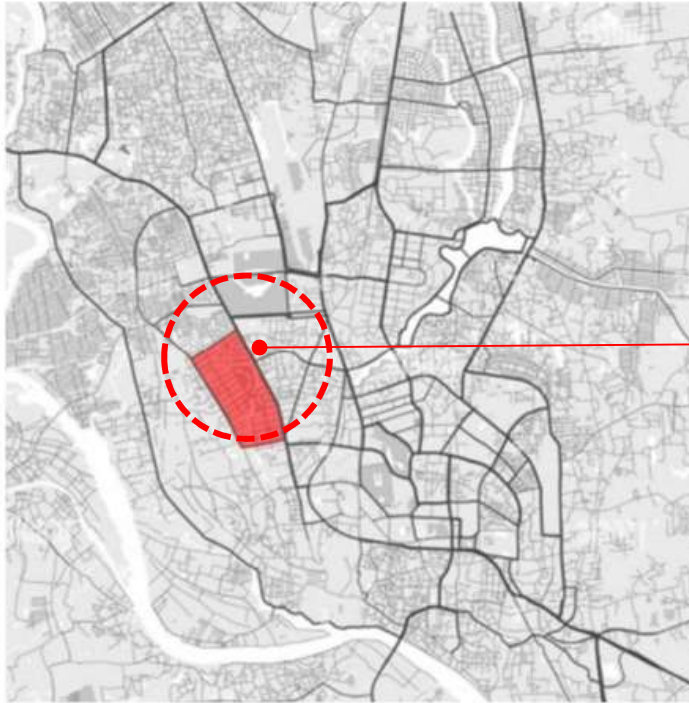
Figure 1: Evolution of Dhaka city land-use  
[Source- Hussain, 2014]

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This article is published with open access at [www.seu.edu.bd/seuja](http://www.seu.edu.bd/seuja)  
ISSN No.: 2789-2999 (Print), ISSN No.: 2789-3006 (Online)

burgeoning populace.

### 1.1 Backdrop of study

The Dhaka District of Bangladesh hosts the Dhanmondi residential area, also known as Ward No. 49, situated at 23.7389° N latitude and 90.3847° E longitude. Dhanmondi spans 9.74 square kilometers and contains around 33,451 residential units, indicative of a systematic urban development effort (Bangladesh Bureau of Statistics [BBS], 2006).



**Figure 2:** Dhaka Guide Map

In 1950, the Construction and Building Department of East Pakistan initiated a land acquisition project, acquiring approximately 500 acres of agricultural and horticultural property, which they graded, subdivided, and subsequently distributed to public figures, government officials, and various professionals. The development of public facilities, road infrastructure, and essential utilities in the region fell to the Dhaka Improvement Trust (DIT), which later transformed into Rajdhani Unnayan Kartripakkha (RAJUK). A grid plan of streets with widths of 150 feet, 45 feet, and 30 feet divided Dhanmondi into many blocks and 1,083 rectangular plots, each approximately one-third of an acre. We deliberately positioned the plots around an existing waterway, which we enlarged to create an irregularly shaped lake, enhancing the neighbourhood's unique landscape and verdant lawns beside two-story structures (BBS, 2006). Allottees obtained plots on 99-year leases at a modest fee of Tk 5,000 per bigha.

Initially, DIT—subsequently rebranded as RAJUK in

1987—limited Dhanmondi's usage solely to residential purposes, forbidding commercial activity in the area. However, after 1972, Dhaka's significant urban pressure and housing demands gradually relaxed this restriction, allowing commercial enterprises under specific conditions. In 1995, the Dhaka Metropolitan Development Plan (DMDP) officially classified Dhanmondi as a mixed-use zone, allowing restricted commercial services specifically aimed at meeting the daily and weekly requirements of the residential community (Shafi,



**Figure 3:** Blow Up of Dhanmondi Residential Area [Source: DMDP]

2005).

Currently, commercial activities such as housing shops, government and semi-government offices, showrooms, NGO offices, clinics, educational institutions, and minor manufacturing operations occupy around 50% or more of Dhanmondi's plots. Numerous surviving plots have transformed into multi-story residential edifices, generally six stories tall, frequently accommodating up to 20 families per bigha—significantly surpassing the initial guideline of one family per plot. Inadequate parking spaces have exacerbated the significant commercial shift, leading to significant traffic congestion, especially during peak times when students drop off and pick up from school and during nighttime shopping hours. The increasing commercial presence has transformed Dhanmondi from a predominantly residential neighborhood to a multipurpose urban area characterized by much social and economic activity (Shafi, 2005).

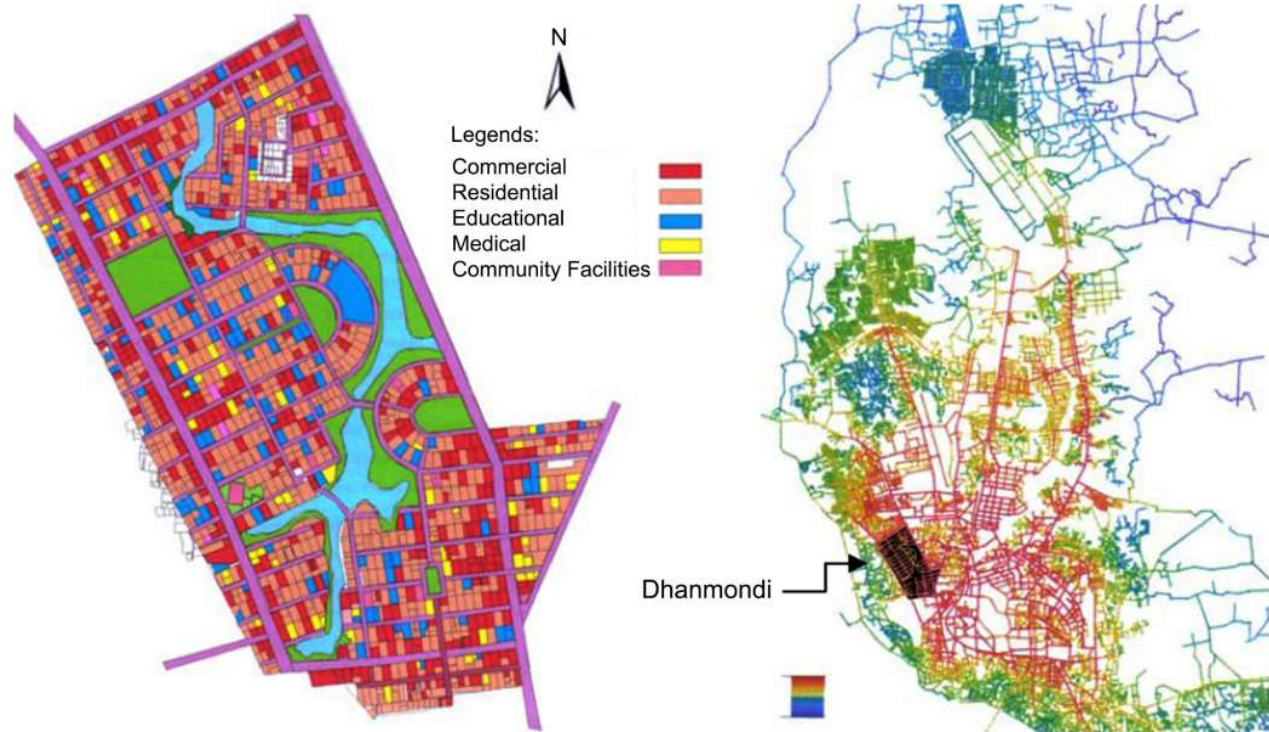


Figure 3: Land use map of Dhanmondi (2007) & Axial map of Dhaka city (2007), [Source: Khan, N. 2008]

**1.2 Objectives of the study**

It has become necessary to understand the existing movement of transformation pattern of the area, so that effective measures can be taken to control and protect the area from invasion of further unplanned development. Hence, the paper has been prepared with the following objectives:

- a) To study the spatial variation of the existing transformation of the area.
- b) To figure out what changes have happened in the way the area has been developed.
- c) To study the perception of the user regarding the changes.
- d) To formulate policy guidelines and a brief proposal for future development of the area.

**1.3 Methodology of the study**

This study employs a thorough methodology to examine the urban transformation occurring in Dhanmondi (Figure 3). The process commences with a comprehensive examination of existing literature, establishing a fundamental comprehension of the intricacies of land use and the dynamics of urban planning within residential contexts. This review guided the focus and structure of the data collection for the study.

The process of primary data collection unfolded in two

distinct phases: the first phase involved a preliminary survey that provided overarching insights into Dhanmondi, while the subsequent phase entailed a comprehensive survey encompassing all plots within the area. This comprehensive survey investigated various land use categories, plot divisions, building elevations, and traffic loads on the roads, accompanied by an in-depth analysis of land use intensity on 5% of the plots, evaluating building coverage and floor area.

Secondary data played a significant role, sourced from important institutional references such as the 1984 Land Use Survey conducted by the Housing and Building Research Institute, the 1999 survey by the Public Works Department, and the RAJUK 2008 Detailed Area Plan. The resources provided crucial historical and regulatory insights into the development of Dhanmondi.

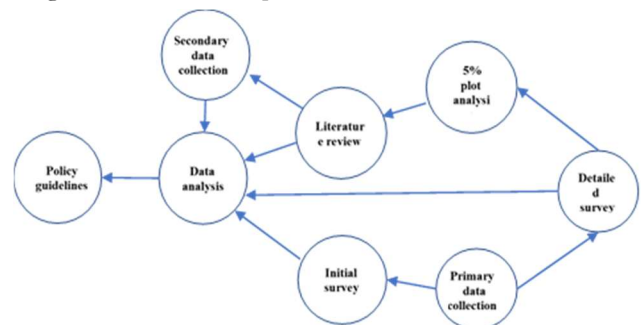


Figure 4: Methodology of study

The process of data analysis encompassed manual tabulation alongside fundamental statistical techniques, facilitating the visualization of spatial variations in land use and buildings' heights. This approach facilitated the formulation of policy guidelines aimed at addressing the dynamic requirements of Dhanmondi, all while maintaining its residential essence and fostering sustainable urban development.

#### 1.4 Meaning of transformations

Over the years, transformations examine informal alterations in urban regions, emphasizing the evolution of cities beyond legal and planning structures as a result of social, economic, and spatial factors. These modifications encompass diverse forms, including alterations in land use, architectural styles, and temporal dimensions, as illustrated by the Dhanmondi area.

**Utilize Affiliation:** This type of transition entails the encroachment of non-residential activity in residential areas and public places. Demand and economic factors are converting residential buildings, particularly those near commercial centers or main thoroughfares, into commercial premises. Moreover, illicit constructions such as residences and commercial establishments frequently occupy open spaces. This transition signifies the preeminence of economic value above residential purity as market dynamics advocate for more lucrative land applications.

**Built Form:** Transformations here emphasize enhanced spatial utilization within existing plots, leading to increased density, encroachments, and modifications to building heights. Residential structures may incorporate additional floors to facilitate commercial activity on the lower levels while shifting residential functions to the upper floors. This change is especially common in high-density regions, where restricted living space and an increasing population need adaptability. Social constraints profoundly affect these alterations as urban dwellers strive to optimise usable space within constrained planning limits.

**Temporal affiliation:** time-based transformations emphasize incremental modifications that frequently convert transient arrangements into enduring frameworks. Instances encompass transient roadside stalls that evolve into permanent marketplaces. These modifications may transpire ahead of the scheduled timescale, indicative of the pressures from urban demands and the changing economic and social requirements of the community.

In conclusion, these changes show an urban environment that adapts, where unplanned changes affect economic and social conditions, often going against planned development and the law.

## 2. Study area appraisal

### 2.1 Planning aspects of the project: Dhanmondi residential area

The plan for the Dhanmondi Residential Area included

a standard road system and a comprehensive sites and services scheme for residents. In the north, Tejgaon and Mohammadpur Thanas are on the other side of Dhanmondi Thana, which covers 7.74 square kilometers. On the south, Lalbagh Thana is on the other side, Hamaribagh and Mohammadpur Thanas are to the east, and Ramna Thana is to the west. The administrative Dhanmondi Thana came into existence in 1976. It has three wards and twenty mouzas.

#### 2.1.1 Land acquisition and plotting

By the order Dhaka No.11413 rcqu.-9th December 1952 whereas by order, dated the 25th February 1949/16th September under section 3 of the East Bengal (Emergency) Requisition of property Act. 1948 (E.13.Act XIII of 1948), seven mauza (some fully and some partially) were acquired, which are given in the following table:

**Table 1:** Land Acquisition [Source: Alam, et al, 1986]

Mauza	J.L.No.	Acquired C.S.Plot Nos.	
		Fully	Partially
Dhanmondi	251	166	29
Taleperbag	253	22	x
ldgah	252	84	x
Shukrabad	260	180	30
Shibpur	254	81	25
Sarai Jafrabad	257	43	14
Sarai Begumpur	258	X	2

Total area of the project was divided into 1,000 nos. of plots originally ranging from 15 decimal to 33 decimal (Alam, et al, 1986). But in the layout plan, found in the present Public Works Department the total number of plot is 1083 (PWD, 1958). Allotment price was Tk. 15,000/- per 33 decimal (locally called Bigha) and there was provision of paying the price in four installments with low rate of interest. The annual rent of the land was fixed to tk. 36/- per Bigha per annum and payable from the 5th year of the allotment (Alam, et al, 1986)



Figure 4: Dhanmondi old and new situations [Source Google photos]

**2.1.2 Road pattern**

Dhanmondi is characterized by a grid-patterned road layout, with nearly all plots following a uniform rectangular shape, each covering approximately 14,400 square feet (Figure 5.1). The area's road network was initially designed to include three types of roadways: major thoroughfares, secondary roads, and access roads. The primary thoroughfares, Mirpur Road and Satmasjid Road, were constructed with widths exceeding 30 meters to facilitate high-capacity traffic flow. Secondary roads, designed at 15 meters in width, and access roads, ranging

from 10 to 15 meters wide, form the internal street network. For both secondary and access roads, only one-third of the total width was paved, with the remaining space allocated for footpaths on both sides, ensuring pedestrian accessibility (Figure 6).

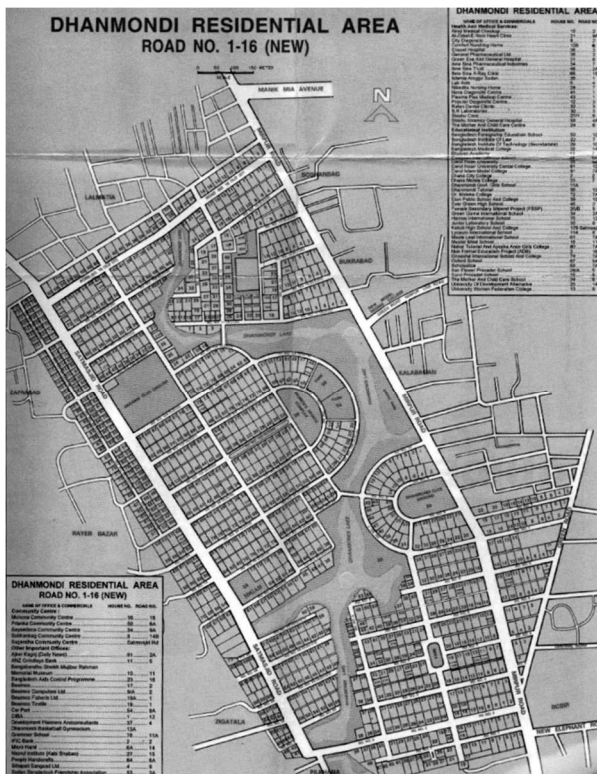


Figure 5: Road Network of Dhanmondi [Source: Dhaka City Corporation]

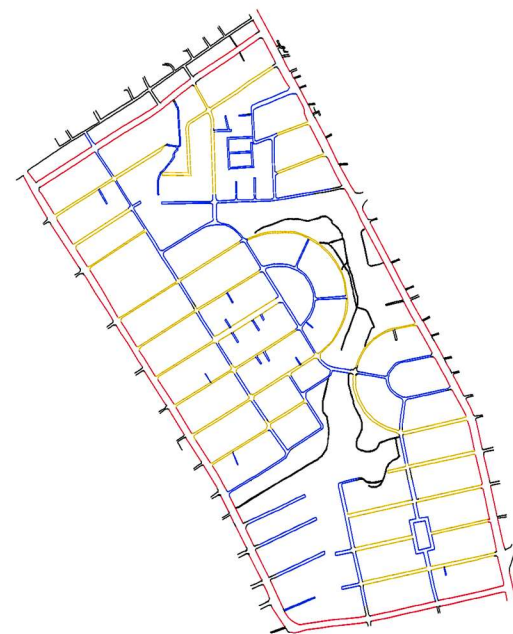


Figure 6 : CAD Drawing of Dhanmondi Road Network

**2.1.3 Land use**

Of the overall area, about 61.4% was designated for residential development, 9.2% for open space, 9.2% for aquatic bodies, and more than 18% for internal road circulation (Table 2). The open space, which includes water bodies and children's playgrounds, constitutes approximately 18.4%. Dhanmondi features an artificial lake. In addition to these places, there exists 4.7 acres of private land (Sobahan Bagh) located within the Dhanmondi

Residential Area. An existing khal has been excavated and expanded to create an irregularly shaped lake. This is the sole disruption in the repetitive configuration of the Dhanmondi Area. Islam (1996, p. 24).

**Table 2:** Land Use of Dhanmondi Residential Area [Source: Public Works Department, 1958.]

Land Use	Area (in acre)	Area (in %)
Total residential area (plot)	298.3	61.4
Roads	89.6	18.4
Water body	44.6	9.2
Park and play ground	44.7	9.2
Mosque	4.7	0.9
School (public and provided in the original plan)	4.4	0.9
<b>Total area</b>	<b>485.9</b>	<b>100</b>

The analysis of land use patterns from 1985 to 2020 illustrates a gradual decline in residential land in favor of increased mixed-use and non-residential purposes. In 1985, residential land use was predominant, covering 47.39% (230.55 acres) of the total land, while commercial land occupied 12.28% (59.76 acres) and mixed-use areas covered only 4.23% (20.57 acres). Over the subsequent 35 years, approximately 22.76% of the residential land from the first master plan was converted to non-residential use. By 2000, residential land had reduced to 40.2% (195.58 acres), and mixed-use land had expanded significantly, now representing 15.2% (73.93 acres)—three times its 1985 level. This increase in mixed-use land resulted mainly from the conversion of commercial plots, causing commercial land to decrease to 9.32% (45.32 acres). Additionally, non-residential use reached 24.51%, reflecting a 15.17% conversion of residential land from 1985 to 2000.

In 2005, residential land continued to decline, accounting for only 38.54% (187.5 acres) of the total area. Commercial land decreased slightly to 8.96% (43.59 acres), while mixed-use land remained significant. New additions included educational use and service activities, occupying notable portions of land at 6.76% and 3.13%, respectively. Non-residential land use reached 26.58%, with a 4.13% conversion of residential land to other uses from 2000 to 2005. By 2012, residential use further declined to 37.26%, with mixed-use land emerging as the second most dominant category at 42.67 acres. Commercial use decreased to 5.23% of the total land, and educational facilities occupied 6.76%. Health services, service activities, and community services accounted for a growing portion of

land use. Non-residential land reached 28.39%, and residential land experienced a 3.14% conversion to non-residential uses between 2005 and 2012.



**Figure 7 :** Land use pattern of Dhanmondi 2012 [Source: Hasan et al, 2024]

By 2020, the trend continued, with residential land covering only 36.56% of the total area. Mixed-use remained the second dominant category with 45.41 acres, while commercial use and educational facilities occupied 5.11% and 6.98% of the land, respectively. Health services took up 2.93% of the area, alongside other community and service activities. Notably, residential land continued to convert to non-residential purposes, with an additional 2.05% of residential land converted between 2012 and 2020. This overall pattern reflects a steady shift from residential to mixed-use and other non-residential land uses, underscoring changes in the urban landscape and the increasing diversification of land utilization over time.

Dhanmondi Residential Area did not have any neighborhood shopping centre, corner store, park, community centre, club, etc. The entire region was partitioned into plots without consideration for the facilities necessary for a community (Islam, 1996).

Table 3 : Land Use scenario of Dhanmondi Residential Area from 1950 - 2020

Types of Plot	Year 2020 <sup>1</sup>		Year 2012 <sup>2</sup>		Year 2005 <sup>3</sup>		Year 2000 <sup>4</sup>		Year 1985 <sup>5</sup>		Year 1950 <sup>6</sup>	
	Area (Acre)	%	Area (Acre)	%	Area (Acre)	%	Area (Acre)	%	Area (Acre)	%	Area (Acre)	%
Residential	177.88	36.56	181.27	37.26	187.5	38.54	195.58	40.20	230.55	47.39	298.5	61.36
Commercial	24.87	5.11	25.46	5.23	43.59	8.96	45.32	9.32	59.76	12.28		
Educational	33.94	6.98	32.87	6.76	28.49	5.86					4.4	0.90
Industrial	0.97	0.20	0.84	0.17	15.22	3.13						
Health Service	14.27	2.93	12.45	2.56	1.64	0.34						
Service Activity/ Offices	13.92	2.86	14.81	3.04	187.5	38.54						
Religious	1.79	0.37	1.64	0.34	43.59	8.96	1.86	0.38	2.24	0.46	4.7	0.97
Eidgah	0.86	0.18	0.86	0.18								
Community Service	2.97	0.61	2.78	0.57	1.79	0.37						
Police Station	0.34	0.07	0.34	0.07								
Post office	0.09	0.02	0.09	0.02								
Governmental	3.67	0.75	3.67	0.75	3.08	0.63						
Mixed Use	45.41	9.33	42.67	8.77	35.5	7.30	73.93	15.20	20.57	4.23		
Open Space/playground	46.74	9.61	47.92	9.85	48.75	10.02	44.27	9.10	49.1	10.09	44.7	9.19
Water Body	36.17	7.43	36.39	7.48	38.17	7.85	44.22	9.09	42.52	8.74	44.6	9.17
Road	82.61	16.98	82.45	16.95	82.74	17.01	81.39	16.73	81.74	16.80	89.6	18.42
Total	486.5	100.00	486.5	100	486.5	100	486.5	100	486.5	100	486.5	100

<sup>1</sup>Survey for this study in 2020 (Calculated Using Arc GIS 10.0); <sup>2</sup>Field Survey for the study in 2012; <sup>3</sup>Dhaka City Corporation (former); <sup>4</sup>PWD, 1999; <sup>5</sup>Alam, et al. [19]; PWD, 1996; <sup>6</sup>PWD, 1958

### 3. Transformation of Dhanmondi residential area-causes and effects

A 1974 study on urban development patterns reveals the emergence of a traditional neighborhood form, commonly referred to as a mahalla, chawk, or neighborhood square, within the imposed grid plan (Mowla, 1997, p. 251). The trend of plot subdivision began to evolve informally, leading to unrestricted expansion. Subsequently, plot subdivision regulations were established, enabling subdivisions to a minimum of 8 decimals and allowing the construction of buildings up to six stories, accompanied by notably diminished setback requirements. The establishment of regulations allowed for a maximum of ten family units per 33-decimal plot. Additionally, zoning relaxations progressively took effect, allowing educational institutions to be located on any parcel and allowing non-residential uses along designated thoroughfares such as Satmasjid Road, Road no. 2, Road no. 16, and Mirpur Road, a vital artery, to a depth of 6 meters. As a result of this alteration in land utilization, unexpected public spaces began to materialize, drawing a variety of unintended, mixed uses that altered the functional landscape of the area (Mowla, 2003).

#### 3.1 Regulatory measures for the Dhanmondi residential area

The unplanned and unregulated encroachment of non-residential uses into the Dhanmondi Residential Area has considerably compromised the area's residential purity, resulting in a gradual decline of its status as a prestigious residential neighbourhood in Dhaka City. This decline in residential character has elicited apprehension among public authorities. The Ministry of Housing and Public Works instituted regulations to govern development in the Dhanmondi Residential Area. Subsequently, the Ministry formed many committees assigned to examine diverse development activities in the region and disseminated official circulars delineating choices and policies intended to regulate these developments.

Circular of May, 1995, Ministry of Housing and Public Works

The authority imposed the following development control "measures for Dhanmondi Residential Area in May 1995:

Plots, adjacent to Mirpur Road may be used for commercial purpose up to 20 feet depth, with 15% "Conversion Fee". This rule also will be applicable for Road no. 16 (Old Road no. 27), Road no. 2 and "Satmasjid Road".

Circular of January, 1996, Ministry of Housing and Public Works

The authority legalized all the plots, on both sides of Mirpur road, Satmasjid road, Road-2 and Road-16(old 27) for commercial use with 15% "Conversion Fee". By the circular the total plot (not partial) was permitted to be used for commercial purpose.

This authorization was deemed effective as of December 1995. It is noteworthy because, according to the original concept, no constructions were intended to exceed three stories (Alam, et al, 1986).

However, the authority rescinded the limit on residential density to 10 units per bigha (33 decimal). These circular states:

- The maximum permissible number of storey in the buildings will be six but the number of flats may be as much as is possible to be served by the service organizations.
- The building shall have lift facilities and parking arrangement within the plot area.
- The size of a subdivided plot shall not be less than 5 katha.

This circular was considered to be effective from December 1995.

To establish guidelines for land use, plot subdivision, apartment construction, title transfer, and building height in the Dhanmondi Residential Area, a committee of 16 members was constituted in June 1995, referred to as "The Zahir Uddin Committee" (June 1995, Ministry of Housing and Public Works). The committee resolved that:

- a. Present rule of building height of maximum 6 storeys in Dhanmondi Residential Area would continue.
- b. The service giving organizations would assess the problems providing services to increased height of building and will recommend to the ministry whether the heights of the buildings could be increased further.

These organizations will assess the problems and their solutions at interval of 2.5 and 10 years. After receiving the opinions, of the service giving organizations the Ministry would call another meeting to take decision in this regard as soon as possible.

But up till year 2000 there was no new decision to increase building height.

The preceding debates clearly indicate that governmental authorities are strongly committed to preserving the residential nature and regulating nonresidential development within the Dhanmondi Residential Area. The public authorities aim to enhance land utilization by increasing building heights while ensuring no negative impact on environmental conditions, particularly on utilities and service infrastructure.

### ***3.2 Detailed area plan by Rajuk***

The Dhanmondi Residential Area (DRA) has seen a surge in population density, currently exceeding 300 people per acre and surpassing 150,000 residents. Due to this

overpopulation, regulatory recommendations propose limiting further residential development and imposing stringent land-use restrictions. Key points from a proposed regulatory framework aim to preserve residential integrity and improve urban livability, including:

- **Land-Use Regulations:** Removal of offices, hospitals, clinics, and schools from the DRA, with exceptions only in designated commercial zones. This initiative aims to alleviate the congestion caused by mixed-use developments and return DRA to a primarily residential district.
- **Traffic Management:** To control traffic, converting select roads to one-way streets is recommended, alongside restricting entry to Dhanmondi for through-traffic from surrounding neighborhoods. This could include constructing gates at strategic entry and exit points. Additionally, extensive use of Satmasjid Road is encouraged, potentially by opening BDR Road for public use and connecting it to New Market through an internal BDR road.
- **Development and Building Restrictions:** All new construction and redevelopment within DRA must comply with existing building codes, with a proposed height limit of six storeys to contain population density. Additionally, guided land development is suggested for areas like Kalabagan Triangle.
- **Environmental and Social Facilities:** DRA lacks civic amenities such as libraries, community centers for women and elderly, art galleries, and green spaces. It is recommended that abandoned properties within DRA be repurposed to address these needs, with the park on Road No. 4 dedicated exclusively to women, children, and elderly individuals.
- **Neighborhood Associations and Civic Responsibility:** To enhance community involvement in environmental upkeep, neighborhood associations could be established. These bodies would be responsible for maintaining the area's environmental and security standards.
- **Lake Revitalization:** Dhanmondi Lake, which has suffered from illicit activities, would benefit from a redevelopment strategy aimed at converting the area into a peaceful garden. Business activities and food sales around the lake should be limited, and new landscaping with plants and bird habitats should be encouraged. Restricting access hours for public use is also advised to maintain serenity.
- **Greenery and Infrastructure:** To restore the natural aesthetic of DRA, roadside plantations and pavements should be revitalized with greenery initiatives. Further urban planning could explore linking Begunbari Khal with Dhanmondi to create an interconnected network of recreational spaces, thereby reducing pressure on the Dhanmondi Lake area.



Overall, the proposed regulatory framework aims to balance urban density management with the enhancement of community life, prioritizing green spaces, traffic control, and civic amenities to make DRA a more sustainable and livable residential area.

### 3.3 Causes of non-residential use at Dhanmondi

Dhaka city has a current growth rate of 6.5 percent and contains almost 30 percent of the total urban population of the country. By 2015, it is predicted that Dhaka's population will be 23 million and it will be the world's fourth largest city. This rapid change in land use and the use of buildings etc. without reference to any planning or assigned function are destroying the characteristics of planned areas in the city. The reason for this is not only lack of planning and control but also investments of accrued wealth in the construction of new buildings for all types of uses i.e. residential, commercial, institutional etc. A recent study on tall buildings on Dhaka city reveals that there are more than 550 tall buildings in Dhaka city, which have been constructed in the last 20 years bringing about changes in the land use and general environment of the city. Also an invasion by commercial type of building seems to be taken over most of the planned residential areas. Initially, in Dhanmondi, the need for community facilities was totally ignored. Originally envisioned as a serene residential enclave, Dhanmondi was once limited to just one school and one mosque, serving the local community. However, over the years, Dhanmondi has experienced a dramatic transformation due to the unplanned growth of non-residential developments. Presently, the area hosts approximately 89 educational institutions (including schools, colleges, and universities), 88 medical facilities, and around 108 offices. The neighborhood is also home to numerous community centers, beauty salons, food outlets, clubs, and museums, all of which cater not only to Dhanmondi's residents but to the broader Dhaka metropolitan area. Urban planners note that this shift reflects broader deviations from Dhaka's original urban design intentions. The city's 1959 Master Plan designated specific commercial areas, such as Motijheel, Dilkusha, and the industrial zone of Tejgaon, as hubs for economic activity. The plan, which was expected to be fully implemented by the 1970s, encountered delays, and a revised Master Plan was not introduced until 1995. In the absence of updated guidelines, the demand for commercial space drove rapid expansion beyond these designated areas, transforming residential zones into mixed-use spaces. Consequently, Karwan Bazaar, initially an informal market, has evolved into a commercial hub featuring major corporate offices and bank branches. More recently, Agargaon has also begun to emerge as a burgeoning commercial district. As a result, even traditionally residential neighborhoods, including Dhanmondi, are now home to private educational institutions, multinational offices, and telecommunications companies. The proliferation of kindergarten schools, colleges, and universities within Dhanmondi reflects the increasing

tendency to convert residential spaces for educational and corporate use, reshaping the neighborhood's identity and challenging the original residential focus of the area. (Shafi, 2005).

### 3.4 Effects

The historical trajectory of DRA from 1952 to 1996 indicates that this formerly exclusive residential region is progressively evolving into a conventional mixed-use zone, or in planning terminology, 'an outlying commercial district.' (Mowla, 2003).

#### 3.4.1 Plot sub-division

In Dhanmondi, land ownership has largely passed to second- or third-generation inheritors, often involving multiple successors per plot. Approximately one-fifth of the plots are now physically subdivided, though legal requirements prevent subdivisions smaller than five kathas. Successors holding portions below this threshold must maintain common ownership, restricting individual rights to sell or mortgage without group consensus, which complicates transactions and redevelopment (Alam et al., 1986).



**Figure 9:** Google Earth Image of Existing Situation of 2024 [Source: Google earth]

In contrast, apartment ownership permits individual titles for subdivided plots, allowing owners to sell or mortgage independently. This has made apartment development an attractive solution to the complexities of common ownership. Financially constrained inheritors often partner with developers for redevelopment favoring multi-storied apartment housing to bypass common ownership restrictions and facilitate more flexible property management (Field Survey, 2000).

This trend toward multi-story apartments has reshaped Dhanmondi’s urban environment. Initially, there were 1,083 residential plots in the original layout, but owner-driven subdivisions had increased this to 1,131 by 1984 (Alam et al., 1986). By 2000, the number had reached 1,382 due to further subdivision and sales, contributing to a denser, more vertical landscape across the area (Field Survey, 2000).

**3.4.2 Intensity of vehicular movements**

Three types of streets (30meter, 15 meter and 10-15 meter), having sidewalks, are provided in Dhanmondi. Traffic system of Dhanmondi, though a planned area, collapsed due to the presence of too many educational institutions, medical clinics and hospitals. A number of roads in Dhanmondi are also being made one-way from 7:00am to 8:00am to reduce traffic.



**Figure.8:** Dhanmondi Dhaka Guide Map [Source: DMDP]

**3.4.3 Conversion of lands**

Dhanmondi, initially intended as a purely residential area, experienced significant shifts in land use, marked by a steady increase in non-residential development over time. Analysis of four distinct time periods reveals a fluctuating trend in residential-to-non-residential land conversion. From 1950 to 1985, the conversion rate was relatively modest at 0.65% per year. This rate peaked between 1985 and 2000, reaching 1.01% annually, primarily due to the development of previously undeveloped land and the transformation of smaller buildings into multi-story, mixed-use structures. Following this peak, the conversion rate declined to 0.86% from 2000 to 2005, 0.44% from 2005

to 2012, and 0.22% from 2012 to 2020. The decline reflects a saturation point, as most plots had already been developed, reducing the scope for further multi-story conversions.

**3.4.4 Impacts of transformation**

Good access and favorable size of plots in Dhanmondi proposed the conversion of plots and even individual apartments to commercial services for all of Dhaka city’s population. The result is that residents of Dhanmondi area have to suffer from huge influx of from outside resulting in severe traffic congestion, air and noise pollution and solid waste management problem (Shafi, 2005).

**Table 3.** Per Year Land Conversion in Different Time Period

Time period	Reduction of Residential Land (Acres)	Conversion Percentage	Conversion Percentage per year
1950-1985	298.5-230.55 =67.95	22.76	0.65
1985-2000	230.55-198.58 =31.97	15.17	1.01
2000-2005	195.58-187.5 =8.08	4.13	0.83
2005-2012	187.5-181.61 =5.89	3.14	0.44
2012-2020	181.61-177.88 =3.73	2.05	0.22

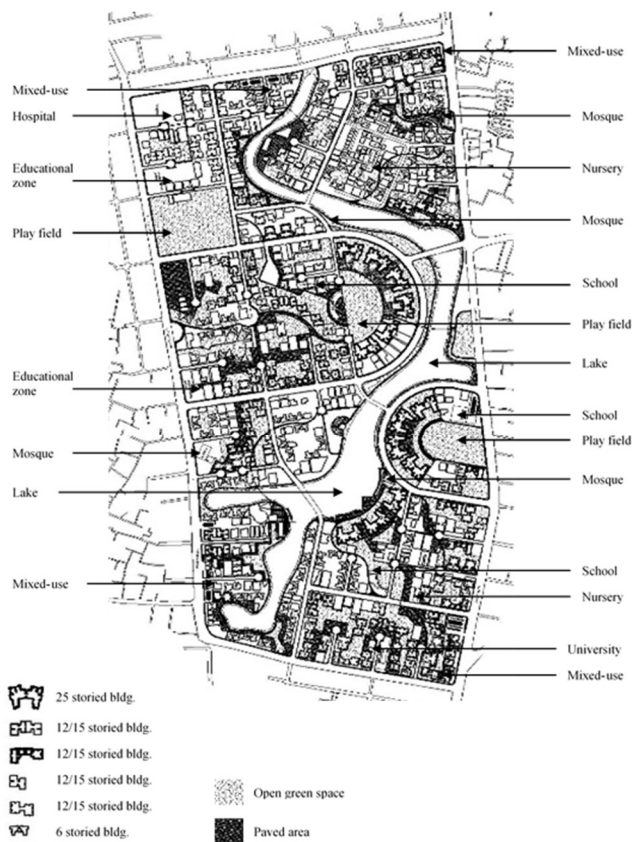
The over-concentration of schools, medical facilities and business establishments has extremely negative social consequences. Every work day of the week, these commercial operations draw in thousands of parents, drivers, and rickshaw pullers and inevitably, the vendors that caters to them. The result is further loss of environmental quality and deepening social chaos.

**4. Future Proposals**

Dhanmondi, a residential area, requires protection from unplanned development to preserve its character and functionality. With careful planning, this area could become a self-sustained township, benefiting from improved governance and local area planning to control land use and building regulations. Such measures could reduce traffic congestion and prevent inappropriate development. Local residents are expected to resist high-impact developments like shopping centers and large hospitals, instead supporting amenities that meet local needs. Managing residential density is crucial; densification should include adequate open spaces proportional to population increases, favoring complexes over single buildings. To accommodate additional civic, institutional, and commercial needs, local planning could utilize land-sharing and land readjustment techniques, allowing for necessary facilities like schools, markets, and health centers. Implementing these strategies would require both professional expertise and active

community involvement, ensuring a balance between development and the preservation of Dhanmondi’s residential integrity.

**Refine zoning and land use regulations:** It is imperative that we prioritize the preservation of Dhanmondi’s unique character by implementing stringent regulations regarding land use and thereby mitigating excessive commercialization in the region. This methodology involves restricting residential activities to alleviate traffic congestion and reduce ecological impact. In the end, we strive to keep Dhanmondi a delightful and environmentally sustainable place for its inhabitants.



Cul De Sac



**Encouraging Community Participation and Local Governance:** Integrating community-based groups and local residents into the planning process can significantly improve neighborhood management and decision-making, fostering greater community involvement and enhancing local governance. The adoption of a localized governance framework and it has the potential to stimulate resident-led initiatives aimed at addressing urban issues and environmental challenges with efficacy. This notion further underscores the importance of enlightening residents about planning, fostering a sense of ownership, and encouraging active engagement in community development endeavors.

**Implementing Incremental and Flexible Urban Design Improvements:** Enhancing design in a gradual and adaptable manner can foster a vibrant and interconnected neighborhood by prioritizing pedestrian-friendly streets

and thoughtfully repurposing public spaces, while also facilitating monthly community events to actively involve residents in the development plan of the area. This approach encompasses the concept of expanding pedestrian zones, particularly highlighting the area surrounding Dhanmondi lake. The establishment of designated sidewalks and spaces for street vendors can facilitate social interactions and significantly enhance economic development.

**Ecological and Landscape Preservation:** The primary objective of a restoration project should be to safeguard the equilibrium and inherent beauty of Dhanmondi lake and its adjacent regions. This may encompass initiatives aimed at minimizing land occupation surrounding the lake through effective management strategies and the restoration of the lake's ecosystem to mitigate the adverse impacts of urban development.

## 5. Conclusion

The most recent assessment indicates that Dhanmondi was originally conceived as a designated area, yet it has experienced significant transformations shaped by a confluence of social dynamics, including economic development and political changes throughout the years. Originally designated for residents, Dhanmondi has undergone significant transformations in land use, attributed to heightened population density, the easing of construction regulations, and the emergence of new commercial and educational establishments. Unexpected expansion of the region, along with the construction of new structures and an increase in external visitors, has led to a variety of challenges within the city. These challenges include traffic congestion and environmental degradation, which have ultimately compromised the quality of life for its inhabitants.

The alterations have significantly influenced both the aesthetic appeal and ecological significance of Dhanmondi lake. The implementation of height regulations aimed at addressing utility constraints, such as those related to water and electricity, has placed considerable strain on both infrastructure and community amenities, stemming from the evaluations conducted prior to these modifications. In the absence of community-orientated strategies aimed at proactively addressing these developments, Dhanmondi may face a continued decline. Community-driven planning and active citizen participation are essential to preserve Dhanmondi's allure and foster a sustainable urban environment.

## References

- Alam N. K. M.R & Ullah M.S (1986) Residential Scheme for High and Middle Income Groups in Dhaka city, Bangladesh. World Congress on Land Policy, 1986.
- Ali T. (2008) Dhanmondi Residential Area-All about a broken promise. The Daily Star.
- Bangladesh Bureau of Statistics (BBS), 2006.
- Bhatt A. (2008) Transformations Due To Socio - Economic Pressure. The Daily Star.
- Hossain, N. (2014) History of Commercial Development in Dhaka and the Spatial Significance of Spontaneous Retail Growth. IOSR Journal of Humanities and Social Science, 7, 66-73. <https://doi.org/10.9790/0837-191176673>.
- Islam, M. S. & Nabi, A. S. M. M (1990) Population of Dhaka City: Past, Present and future. Journal of Bangladesh Institute of Planners, Vol.1, Nos. 1&2.
- Islam K. S. (2004) The Death of Dhaka's Posh Spots. The Daily Star.
- Morshed, K. M. (2008) Transformation of Dhanmondi Residential Area- Causes and Effects, unpublished Master's term paper in the Department of Architecture, BUET, 2008, Dhaka.
- Mowla Q. A. (2003) Contemporary planning dilemma in Dhaka. Jahangirnagar Planning Review, Vol.1, pp.13-29.
- Mowla, Q. A. (1997). Traditional mahalla and neighborhood square: An architectural analysis. Journal of Architectural History, 51(3), 249-261.
- Mowla, Q. A. (2003). Unplanned urban spaces and spontaneous civic formations: A study of changing uses in neighborhood settings. Urban Studies Journal, 60(5), 387-400.
- Public Works Department (1958) Ministry of Housing and public Works. Government of Bangladesh.
- Public Works Department (1996) Resolution of the Committee Meeting, Section-6/1 M-16/96/78 (22), Date 11/09/96, Ministry of Housing and public Works. Government of Bangladesh.
- Public Works Department (1999) Dhamondi Abashik Elakae Obaioho Banijjik/ Onabashik Babahan, Otirikta Zmi Dakhal o RAJUK Onumodito Naksha Bahirvuto Nrman Bishoe Jarip Bobarini, (in bangla) vol.iii. Government of Bangladesh.
- Rahaman, J.A, (2008) Dhanmondi losing its Residential Flavor. The Daily Star.
- RAJUK (1993) Strategic Growth Options-Dhaka 2016. Rajdhani Unnayan Katriphakhya, Dhaka.
- RAJUK (1993) Report and recommendation on the Non-Residential Uses in Dhanmondi Residential Area (in Bangla), Town Planning Department. Rajdhani Unnayan Katriphakhya, Dhaka.
- RAJUK (1995) Dhaka Metropolitan- Area Development Plan (DMDP). Rajdhani Unnayan Katriphakhya, Dhaka.
- RAJUK (2008) Dhaka Metropolitan- Area Development Plan (DMDP). Rajdhani Unnayan Katriphakhya, Dhaka.
- Rahman M. (2006). Development of Valuation Model for Residential Properties, Intregatiting unpublished thesis, School of Architecture.
- Shafi, S. A. (2005) Growth of Dhaka City and Land Use Changes in Dhanmondi residential Area. Dhanmondi Recollections and Vision, Dhanmondi Poribesh Unnayan Jote, June 2005, Dhaka.
- Zerin, I. and Rahman M. (2007) Revitalization of Dhanmondi Residential Area, unpublished Bachelor's seminar paper in the Department of Architecture, AUST, 2007, Dhaka.