

# The Changing Face of a Megacity's Key Industrial Hub in Bangladesh: Towards Assessing its Emerging Transformation Pattern for Pertinent Future Urban Development

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## Abstract

Dhaka, the 8<sup>th</sup> largest megacities of the world, along with its dense and ever-increasing influx of urban population has experienced significant urban growth during the last fifty years. Land uses have undergone a massive unplanned development since the liberation war of Bangladesh in 1971. This resulted in an outward expansion of Dhaka city toward its peripheral vicinity. Eventually, Tejgaon becomes the major attraction for immense industrial activity to meet the mounting demand of emergent population and finds its location in the core of the city from the peripheral location as designated in 1959 master plan of Dhaka city. Incessant changes in land uses have altered the physical characteristics of the area from the state as it was designed by Dhaka Improvement Trust (DIT) in 1968. A Government decision from the People's Republic of Bangladesh in 2015 to develop the area as a commercial cum residential hub has strike the issue again questioning the potential of that particular area for proposed urban gentrification. Therefore this research explores the development potential of Tejgaon industrial area from land use perspective for urban gentrification and hence project the development pattern in conformity with the planning of surrounding. As a major outcome, this research has revealed that there exists an increasing trend of commercial activities and the rate of growth of commercial activities in this area is greater than that of an industrial one. Furthermore, with detail updated and scrutinized information of existing land use and contemporary development trend of this particular expanse, this research can act as a major reference study for forthcoming development planning decision making and further policy implications related to the study area under consideration.

**Keywords:** Development Trend, Urban Gentrification, Land Use Information, Master Plan, Development Potential.

## Introduction

Tejgaon, a major industrial hub in Dhaka city gradually losing its idiosyncratic characteristics due to the massive haphazard and unplanned development. The development trend of this industrial area exhibits a rigorous shift from intensive industrial development to growing commercial establishment followed by a subsequent mixed-use development (Khan et al, 2005). Heavy industries have shifted

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and commercial activities have increased a lot in the last two decades. Most of the plots with industrial uses is now converting into commercial one. After the establishment of RAJUK (formerly known as DIT) in 1987, the trend of mixed-use development increased. Since Tejgaon was adjacent to the core area of Dhaka city, much more commercial and institutional activities have emerged relocating heavy industries in this area. Planning policies of RAJUK also acted as a propelling force behind this shift in land uses in Tejgaon Industrial Area (Oakil and Sharmeen, 2007). Accordingly, the area has become the core economic hub of Dhaka city. But absence of a comprehensive planning, unplanned and haphazard development has increased and the area is undergoing an inobservant Urban Gentrification process.

Meanwhile, The Government of the People's Republic of Bangladesh has taken a decision to develop the area along with its major roads as a commercial cum residential district through a comprehensive master plan (The Daily Star, 2014). On 8 September 2015, the cabinet approved the proposal. The Public Works Department (PWD) has prepared a master plan to turn the capital's Tejgaon Industrial Area into an industrial-cum-commercial and residential area. In the master plan, The PWD also recommended business centres, corporate offices, convention centres, international hotels, and serviced apartments on privately owned industrial plots for commercial use will be approved in the new plan (The Daily Prothom Alo, 2016).

The entire area, as per government plan, will be turned into an iconic zone of commercial cum residential area. But nowhere in the master plan of Dhaka city or DMDP structure plan, urban area plan or DAP there exists a single government policy or proposal to develop or plan residential use in Tejgaon Industrial Area. Rather the literature supports the emerging commercial use in the place of light industries in the study area (Khan et al, 2005). Therefore, on this ground, the research is designed to investigate the development potential of the area for Urban Gentrification.

### **Literature Review**

Urban gentrification is a process of renovating deteriorated urban neighborhoods typically results in an influx of more affluent residents and the consequent transformation of neighborhoods from a low value to a high value by developing new, more expensive housing, businesses and improved resources in that area itself. Gentrification can improve the quality of a neighborhood. Meanwhile, this change has the potential to cause displacement of long-time residents and businesses from the gentrified area, seeking lower cost housing and business centres (Freeman, 2005; Vandergrift, 2017; Freeman & Braconi, 2004). Determination of the development potential of an area for the implication of any particular urban development proposal like as Urban Gentrification or completely changing the land use category is highly dependent on the development trend of that very area under consideration. The documentation of land use change of an area provides a better view for analyzing the development trends and to a large extent also outlines the direction of the future development. Moreover, the existing socio-economic and land use profile of the study area also acts as an important tool for these kinds of policy implication (Matisovs, 2011).

"Land in its natural and urban states in both an input to, and a product of, the planning process. It represents a potential opportunity for social and economic mobility, urban change and growth pattern of an area (Edward et al, 1995, pp. 196-197)". Land use analysis is a means of identifying broadly how land is used. Each type of use has its own characteristic that can be determined by compatibility, location and preference to other land use. The major categories include the structural development on the plot, space use, location and proximity to the other land use etc. (Foth and Dyke, 2000). There are four perspectives that must be recognized to create a complete land use information

for an area as land as functional space, land as a setting for activity systems, land as a commodity to be developed and land as an aesthetic resource. Land use characteristics, Structures, Space uses are important to identify the land as a functional space. Location, area of the plot, ownership pattern is major characteristics of the land. Building type, ground coverage, number of stories and floor area are for identifying the structural characteristics of the plot and existing use, number of units per floor etc. are indicators of space use (Edward et al, 1995). Notwithstanding to it, numerous factors can impact land use including economic activity, population growth and redistribution, transportation facilities and the presence of natural resources.

Alongside, the development trend of an area provides a basis for the planning of new development and the management of its consequent potential impacts on the environment. It is particularly influenced by a number of variables and change in any of the variables or all of them can easily modify the development pattern of an area. Major variables like land use change, change in ownership pattern, change in structural type and height, change in land price etc. are mainly responsible for shaping the development trend of an area.

Additionally, the development trend of an area is shaped by the structural condition of the area. This structural development is highly influenced by the land price. An area with a higher land value is dominated by the high rise buildings. Though land price derived from the survey data is less reliable as a real market price than transaction figures, it presents more exact pictures of existing development trends (Darin-Drabkin, 2013). Higher land price attracts corporate groups, developers that can change the entire land use pattern of an area. There exists a high correlation between land price and land use pattern as any new development of an area can also increase the land price. Analysis of previous year data on land price indicates that development trends of USA and Switzerland from the early 50's is mainly industrial cum commercial based. An area with commercial development changes its characteristics towards mixed-use development (Hoyt, 1960). Apart from this, ownership pattern can also largely persuade the land price and structural height of an area. The best method of evaluating the land price of an area is to compare between the ownership pattern and the land price for each plot (Darin-Drabkin, 2013).

To end with, Policy or plan regarding an area is largely influenced by the existing ownership pattern of the area. If a large parcel of land in an area is under the government ownership, then it is easy to take development decision. But, an area with higher private property is difficult to incorporate in any planning decision. Tejgaon, a major industrial hub in Dhaka city is gradually losing its characteristics due to the haphazard and unplanned development and the situation has aggravated since the establishment of RAJUK (formerly known as DIT). A major decision adopted by RAJUK back in 1968, to shape the Tejgaon area as a light industrial area eventually changes the whole development trend of the area through promoting mixed-use development in this very area.

### **Research Methodology & Data**

Prior to the massive urban development of Dhaka, Tejgaon Industrial Area, a major and striking industrial hub of the city was in the fringe of the city. But with a gradual morphological change of the city itself, the industrial hub has found its location in the core of the city along with its 430 plots accompanying an area of about 500. The rising price of land values in the city core and land use conflicts due to insufficient capacity in terms of emerging demand of goods for an ever-increasing population, this massive and haphazard industrial development in the city's central area has become cancer for the whole city itself. The study of Khan et al (2005) also indicated the trend of land use

change in Tejgaon industrial area. The area was developed primarily as a planned industrial zone but the land use change of surrounding areas, better proximity with the central area, higher land value etc. attracted different non-industrial uses like residential, commercial, office etc with a wider variation of people living and working there (RAJUK, 2004). This change in land uses has now shaped the typical industrial area into a commercial cum industrial area. Therefore, Tejgaon Industrial area along with its 430 plots is the study area for this particular research to identify its development potential for Urban Gentrification. The research work of Khan et al (2005) has acted as the baseline for this particular study. The base map of the study area is collected from their research work and updated thereon.

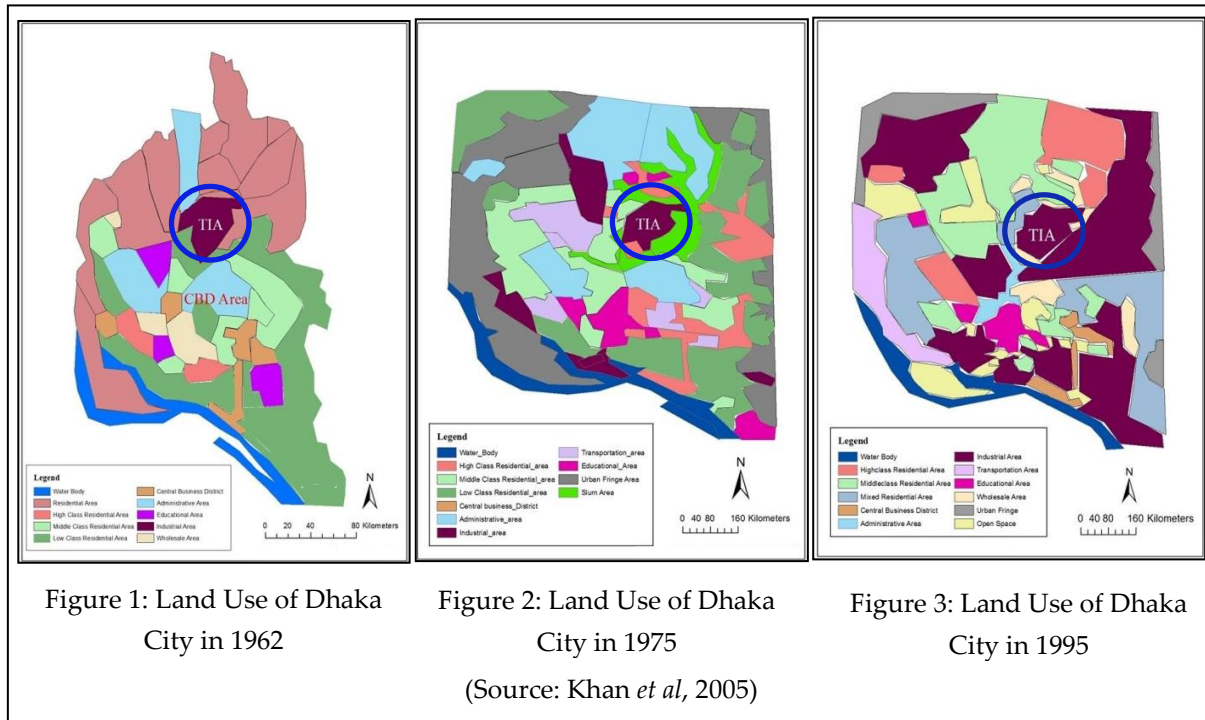
The required data is collected both from primary and secondary sources by means of the questionnaire survey, checklists and/or literature works subsequently. Primary data collection includes land use information of the plots and people's perception regarding the development of the site. Secondary information includes preceding land use pattern, structure type and structure height of the study area. The study of Khan et al (2005) proceeded as a key resource of the secondary database for this research. The required database was also collected from Dhaka City Corporation.

Assembling of land use information incorporates a massive and scrutinized physical survey of each of the 430 plots of the study area. Land ownership and market value of the plots is collected by surveying the corresponding owner or the caretaker of the lands. To ensure the accuracy of the data acquired, the Market value of the plots is further verified by interviewing key informants as Ward Commissioner and/or Officer at land record office in the study area. Socio-economic information of the inhabitants of the study region under consideration is gathered by surveying the household head of the families residing in a plot with residential dwelling units by means of sample survey. The plots with existing residential use are identified during the land use survey. The sample size for socio-economic survey of the household is determined considering a 95 percent confidence level and margin of error of five percent. The simple random sampling method is occupied to serve the purpose.

### **The Historical Development and Current Status of Tejgaon Industrial Area (TIA)**

The development of Tejgaon as an industrial area encompasses a number of phases in the different period. In the Mughal period, the present Tejgaon area was totally a forest land. Then in the colonial period, the Portuguese people came to Dhaka and established some 'vacation House' in Begun Bari near Tejgaon area. For further development they demolish the forest land and left the area as a fallow land. After then in 1948, the Public Works Department (PWD) started developing the area as an industrial area adjacent to the Dhaka city (Khan et al, 2005). The Dacca master plan (1959) indicated the Tejgaon industrial estate located outside the Dhaka city in 1959 (Kabir and Parolin, 2013).

In 1968, RAJUK formerly known as DIT (Dhaka Improvement Trust) planned Tejgaon to develop as a light industrial area. After 1971, the area has undergone a massive unplanned development due to rapid growth and haphazard urban sprawl of Dhaka. After then Tejgaon industrial area was included in the core Dhaka city area to support that growth (Oakil and Sharmeen, 2007). Land uses of Dhaka city in the period of 1962, 1975 & 1995 is exhibited consecutively in Figure1, Figure 2 & Figure 3.



As non-industrial land uses (commercial, residential, office etc.) increased rapidly in Tejaon industrial area after liberation, so that RAJUK proposed different types of mixed land uses in Detailed Area Plan (DAP) for this area. RAJUK also proposed that industrial use may exist in the planned segment of the area with further subdivision of medium weight industrial plots. Furthermore, industrial area should be relocated outside the boundary of Group-C area of the Detailed Area Plan (DAP). It also proposed that to cope with the ever-increasing demand of the growing population Tejaon industrial area should be kept as an extension of Kawran Bazar for commercial use (RAJUK, 2004).

At present Tejaon industrial area is a part of Tejaon Thana which is located in the core of the Dhaka city (Banglapedia, 2015). The total extent of the Tejaon industrial area is about 500 acres including nearly 430 plots with a variety of land uses ranging from industrial to institutional and commercial uses. Table 1 exhibits existing land use pattern of Tejaon industrial area.

Table 1: Existing Land Use Category of Tejaon Industrial Area

Land use category	Number of Plots	Total Occupied Floor area (in acres)
Commercial	147	150
Industrial	141	200
Institutional	61	65
Residential	61	60
Service Category	20	25
<b>Total</b>	<b>430</b>	<b>500</b>

(Source: Field Survey, 2015)

Existing land use pattern of Tejgaon industrial area is analyzed both by means of distribution of the number of plots and total floor area occupied by different land use. The plots with a mix of different land uses are categorized as a single distinctive use based on the priority of a single use within the plot. If a distinctive land use within a plot exceeds at least fifty percent of total land use, the land uses of the plot is categorized as per that land use.

The analysis reveals that a significant proportion of existing land uses in Tejgaon industrial area are constituted by the industrial and commercial land use but the result is somehow incongruous in between land use pattern based on the number of plots and total floor area occupied. The total number of commercial plot exceeds the number of an industrial plot in this area. But the total plot area covered by the industrial land uses is higher than the commercial one. Existing land use map of Tejgaon the industrial area is shown in Figure 4.

Commercial developments within this area are mainly encouraged by vertical expansion and thereby less plot area are occupied than the industrial one. As a result, the impact of the industrial activities in Tejgaon industrial area is greater than those of commercial activities. Residential development in this area is still not prominent in this area.

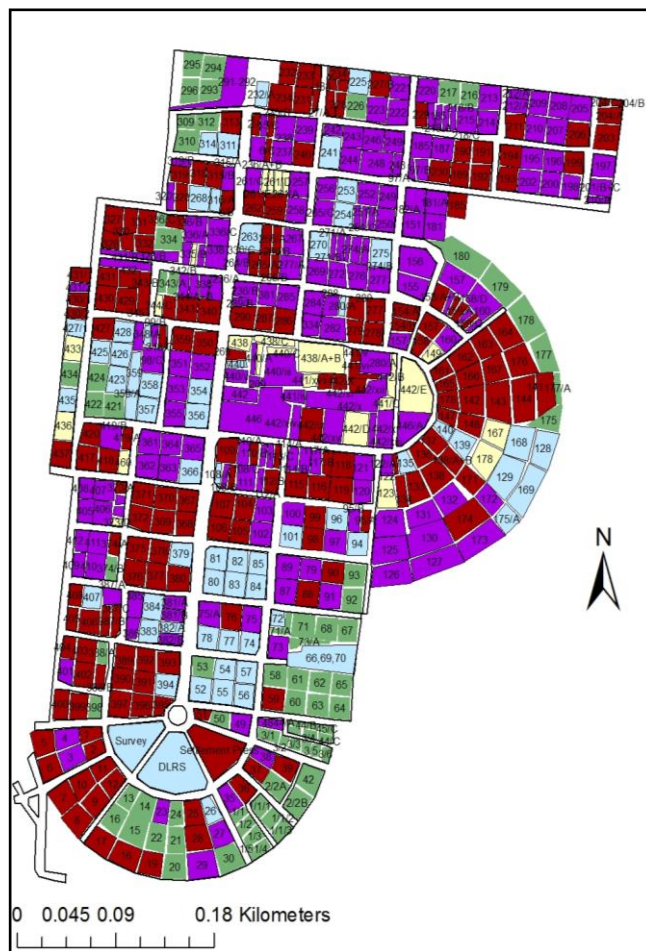


Figure 4: Existing Land Use Pattern of Tejgaon Industrial Area  
(Source: Field Survey, 2015)

### Existing Land Use Profile of Tejgaon Industrial Area

#### Existing Land Use Information of Tejgaon Industrial Area (TIA)

Tejgaon industrial area (TIA) consists of around 430 plots in total. The distribution of different land uses is shown in Figure 5. The analysis shows that a significant proportion of existing land uses are

constituted by the industrial and commercial land use. The plots with a mix of different land uses are categorized as a single distinctive use based on the priority of a single use within the plot. If a distinctive land use within a plot exceeds at least fifty percent of total land use then the land uses of the plot is categorized as per that distinctive land use. For example, if a building has mixed land uses in its ten stories then the distinctive use that exists in areas equivalent to five or more sorties of the buildings are categorized as the land use of the plot on which the building is located. That is, if the total floor area of residential use of a mixed-use plot is higher than the other land uses, the plot will be denoted as a residential plot. The findings from the study of Foth and Dyke (2000) also support that land use analysis is a means of broadly analyzing how land is being used and each type of use has its own characteristic that can determine compatibility, location and preference to other land uses.

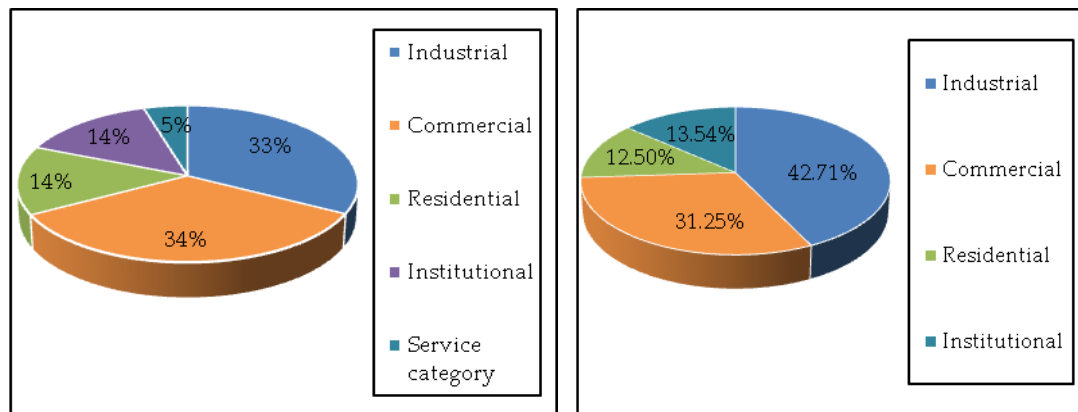


Figure.5: Land Use Pattern of Tejgaon Industrial Area on the Basis of (Left) Number of Plots and (Right) Total Floor Area  
(Source: Field Survey, 2015)

Further detail categorization of land uses within each major land uses of the area as commercial, industrial, residential, institutional reveals that three major industrial land uses dominates the total industrial establishment within the study area namely chemical, pharmaceuticals, garments industries. Garment industries constitute the major share as there exist many bulky garment industries like Brothers garments, Urmi garments; Alam garments etc. Commercial developments are mainly vertical and less plot area is required than the industrial one. Major commercial activities of Tejgaon industrial area (TIA) consists of bank, automobile showroom, export-oriented business, printing press, retail shop etc. Some major governmental printing press largely adds to the area covered by the commercial use. Recent development trend of Tejgaon encourages the establishment of different types of export-oriented business offices. Orion groups, Rangs groups, HNS group like all high-class business groups' have established their corporate offices in Tejgaon industrial area. Most of the residential land uses within the area is located adjacent to the Hatirjheel Lake along Hatirjheel-Gulshan link road.

### Descriptive Land Use Analysis of TIA

The descriptive statistical analysis of variables associated with land uses provides a clear perception of existing land use information of the study area. Table-2 represents the descriptive statistics of the relevant variables representing existing characteristics of land parcel and structures within TIA.

Table 2: Descriptive Statistics of different variables associated with land use

List of variables	Minimum	Maximum	Mean	Standard Deviation
Size of the plot ( Measurement Unit- <i>Katha</i> )	.50	200	20.40	19.62
Ground coverage ( Measurement Unit- <i>Katha</i> )	.50	90	14.94	12.01
Number of stories	1.00	20.00	4.11	3.08365
Number of unit on each floor	1	8	1.88	1.01
Area of each unit (Measurement Unit- <i>Katha</i> )	.25	112.5	9.61	10.22

(Source: Field survey, 2015)

From the analysis, it is found that there exists a large variation in the size of the plot in the study area varies between .5 *Katha*<sup>1</sup> to 200 *Katha*. The average size of the plot is about twenty *Katha*. Whereas average ground coverage of plots is about fifteen *Katha* which implies that on an average about seventy percent space of any plot is utilized by the structures built on it. The distribution of plots on the basis of area along with its land uses is exhibited in Table 3. The analysis reveals that most of the average (around twenty *Katha*) and oversized plots (greater than fifty *Katha*) are occupied by the industrial land uses within the study area. The size of the plots with most of the commercial and residential land uses varies between zero to fourteen *Katha*.

Table 3: Relationship between plot size and land use of the plot in 2015

			Land use of the plot in 2015				
			Residential	Institutional	Commercial	Industrial	Service category
Plot size (measurement Unit- <i>Katha</i> )	0-4	% within plot size	38.9%	11.1%	36.1%	11.1%	2.8%
	5-14		21.9%	15.9%	36.4%	20.5%	5.3%
	15-25		9.4%	10.4%	27.4%	44.3%	8.5%
	25-50		2.1%	14.4%	26.8%	51.5%	5.2%
	>50		0.0%	29.6%	18.5%	44.4%	7.4%

(Source: Field survey, 2015)

<sup>1</sup> It is a local land measurement unit used in Bangladesh. One *Katha* of land resemblance 720 square feet in standard unit.



The residential land uses within the study area mainly occupies small sized plots within the study area. Structure height within the study area varies between one storey to twenty stories and average heights of buildings are of four storied. The existing distribution of buildings on the basis of structure height is exhibited in Figure 6.

Most of the existing buildings in the study area are under five stories. There exist a few proportions of high rise buildings in the study area. The buildings with the height of eleven stories or above are considered as high rise buildings as per the final draft of Bangladesh National Building Code (BNBC-2014) (The Financial Express, 2015). From further detail analysis of the relationship between structure height and land use, it is revealed that most of the buildings commercial and industrial land use within the study area are of high rise categories. The height of structures with residential, institutional and service category land uses mainly varies between single to nine stories. The analysis of number and area of each unit at each floor of buildings within the study area reveals that on an average most of the buildings have two unit and the average area of the units are about ten *Katha*.

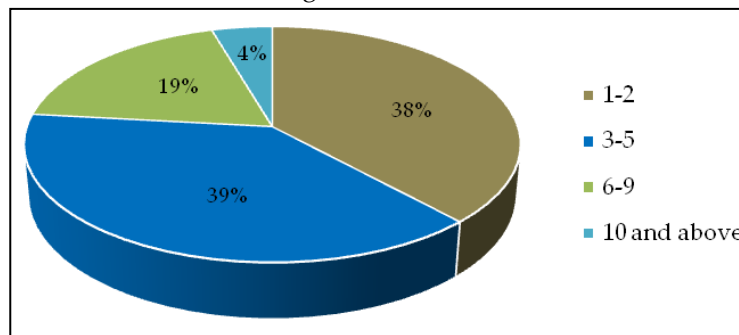


Figure 6: Distribution of existing building of different height (number of stories)  
(Source: Field survey, 2015)

### Existing Land Ownership and Market Value of Plots in TIA

The ownership pattern of Tejgaon industrial area is of paramount importance for the effective analysis of the trend of land use change in this area. Different pieces of literature suggest that ownership pattern highly influence the variables that are indicators of development trends of an area. For the purpose of the study, the ownership of different types of land uses in Tejgaon industrial area is categorized into four distinct classes namely "Private property", "Group property", "Leasehold property" and "Government or khas land". The unambiguous distinction between different ownership categories is stated in the glossary. This analysis helps to identify clearly the explicit ownership pattern of existing different land use categories of Tejgaon industrial area which is presented in Figure 7.

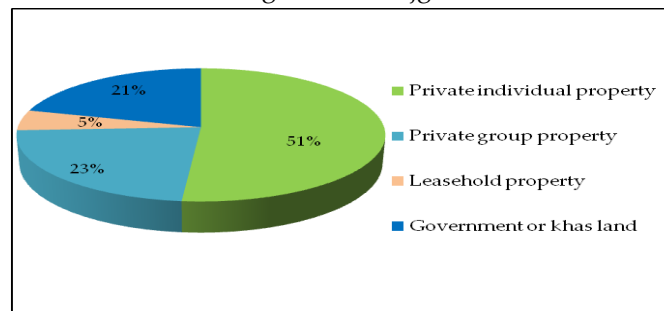


Figure 7: Existing ownership pattern of land in TIA (on the basis of the number of the plot)  
(Source: Field survey, 2015)

The analysis reveals that most of the residential, commercial and industrial land uses of this area are under private ownership. A significant portion of industrial land uses is also group property. One of the basic reasons behind this is that along with private ownership most of the large industries are owned by a group of owners or several industries clustered into a single land. Institutional land uses mainly falls under government ownership. In the case of service, category land uses both private owner and government ownership constitutes the equal proportion.

A further detail analysis regarding the existing land uses and the ownership of the corresponding plots of Tejgaon industrial area seeks to identify the crucial relationship between these two variables (Table 4). The analysis reveals that most of the residential, commercial and industrial land uses of this area are under private ownership. A significant portion of industrial land uses is also group property. One of the basic reasons behind this is that along with private ownership most of the large industries are owned by a group of owners or several industries clustered into a single land. Institutional land uses mainly falls under government ownership. In the case of service category land uses both private owner and government ownership constitutes the equal proportion.

Table 4: Relationship between Land Use and Ownership of the plots in TIA

			Ownership of the plot in 2015			
			Private individual property	Private group property	Leasehold property	Govt. property or khas land
Land use of the plot in 2015	Residential	% within Land use of the plot in 2015	70.7%	6.9%	5.2%	17.2%
	Institutional		23.0%	8.2%	1.6%	67.2%
	Commercial		56.6%	27.1%	7.8%	8.5%
	Industrial		49.3%	36.1%	2.1%	12.5%
	Service category		16.7%	8.3%	37.5%	37.5%

(Source: Field survey, 2015)

The price of the plots in Tejgaon industrial area varies between thirty lakh to ninety lakh BDT per *Katha* unit. The market price of land in Tejgaon industrial area varies between fifty-four lakh to sixty-five lakh BDT per *Katha* (Figure 7).

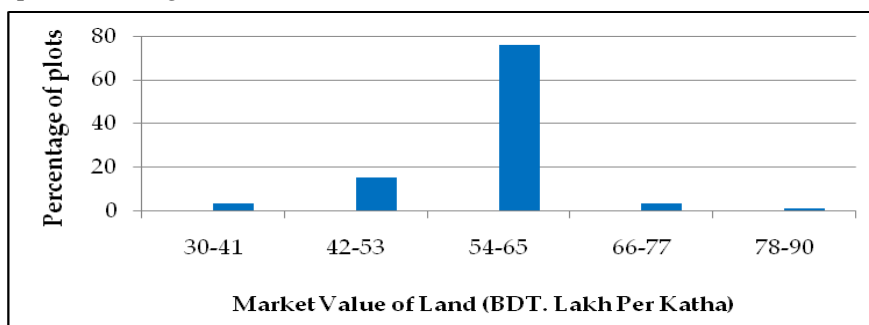


Figure 8: Distribution of plots according to land price in Tejgaon Industrial Area

(Source: Field survey, 2015)

The average price of land is around fifty-eight lakh BDT per *katha*. To clearly demonstrate the distribution of land price in Tejgaon industrial area the land prices are categorized into five categories. The even distribution of data in each class is taken as the major selection criteria of the best-suited frequency distribution method for this analysis. To analyze the spatial variation among different categories of the market price of existing plots in Tejgaon industrial area, the price of the lands are exhibited in Figure 9.

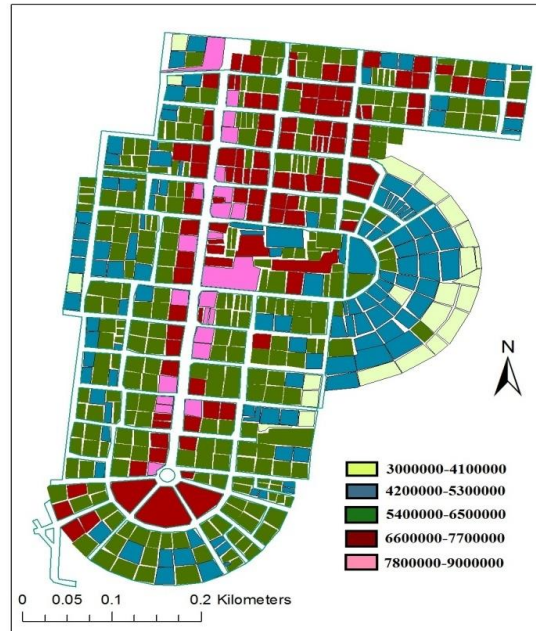


Figure 9: Map Showing Land price of Different Plot in TIA in 2015  
(Source: Field survey, 2015)

The highest priced plots in this area are situated at first row on both sides along Shaheed Tajuddin Ahmed Avenue which is a four-lane major thoroughfare passing through the centre of Tejgaon industrial area. Most of the commercial and industrial land uses along this road exhibit high market price compared to other land uses as most of them are institutional or service category land uses.

## Development Potential of TIA for Urban Gentrification

### Changing Land Use Pattern of TIA

Change in land use pattern in Tejgaon industrial area between 2005 and 2015 has been exhibited by means of analysis of the relationship between land uses of this area for the relevant two years under consideration (Table 5). Very diminutive or no variation is exhibited in the analysis findings of changing land use pattern by means of a total number of plots or total floor area occupied by different land uses. This analysis has only been possible for the plots whose present holding number matches that of in the 2005 year period (Khan et al, 2005). About 85 percent of the holding number of the present plots matches the holding numbers of the relevant plots of Tejgaon industrial area in 2005.

Table 5: Change in land use of the plots in TIA between 2005 and 2015

% within the land use of the plot in 2005 = A % within the land use of the plot in 2015 = B			Land uses of the plot in 2015					
			Residential	Institutional	Commercial	Industrial	Service category	
Land uses of the plot in 2005	Residential	A	35.0%	10.0%	30.0%	25.0%	0.0%	
		B	53.8%	11.1%	11.1%	9.4%	0.0%	
	Institutional	A	0.0%	29.4%	47.1%	17.6%	5.9%	
		B	0.0%	27.8%	14.8%	5.7%	16.7%	
	Commercial	A	7.7%	7.7%	61.5%	7.7%	15.4%	
		B	7.7%	5.6%	14.8%	1.9%	33.3%	
	Industrial	A	5.4%	9.7%	34.4%	47.3%	3.2%	
		B	38.5%	50.0%	59.3%	83.0%	50.0%	
	Service category	A	0.0%	100.0%	0.0%	0.0%	0.0%	
		B	0.0%	5.6%	0.0%	0.0%	0.0%	
	Total			11.5%	10%	37.5%	36.8%	4.2%

(Source: Khan et al, 2005; Field survey,2015)

From the analysis, it is found that major changes have occurred in commercial and industrial land uses of the area between the 2005 and 2015 year period. In 2005, Industrial land use constituted a major portion of the total land uses (64.6%). But in 2015 a massive change has been noticed in the land use of Tejgaon industrial area. At present commercial and industrial land uses constitute a major portion of the area and approximately both contribute equal proportion. Most of the industrial and institutional land uses that existed in 2005 have been converted into commercial land uses for the period of 2015. Heavy industries were shifted and commercial activities were increased in the last two decades. Most of the industrial plot is now being converted into commercial use. Figure 10 and Figure 11 exhibit the land use pattern of Tejgaon industrial area in the year of 2005 and 2015 subsequently and hence a provide a basis for the analysis of the land use change in this area within 2005 to the 2015 year period.

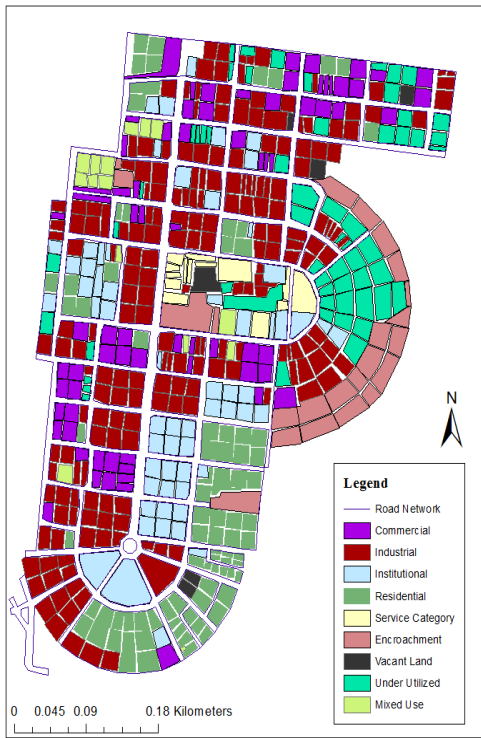


Figure 10: Land use map of TIA in 2005  
(Source: Khan et al., 2005)

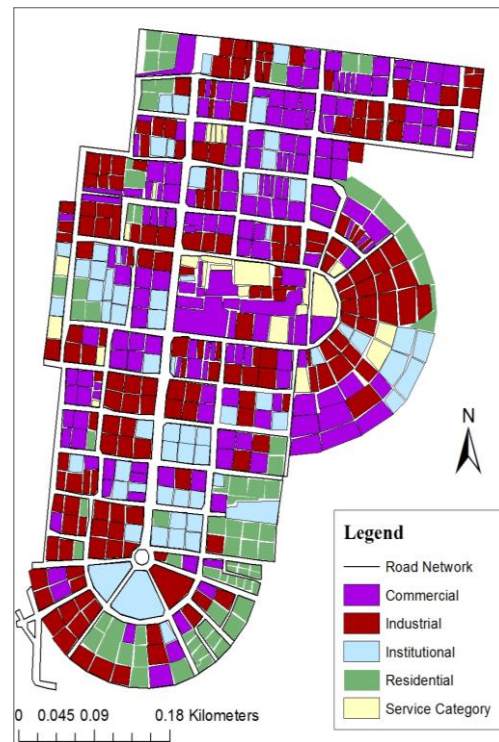


Figure 11: Land use map of TIA in 2015  
(Source: Field Survey, 2015)

### Change in Structure Type & Building Height in TIA

Change in structure type and building height is one of the major indicators for identifying development trend of an area. Increase in structural buildings traditionally shows that the area exhibits a growing trend of commercial development (Rodrik, 2013). The structural condition of the buildings in Tejgaon industrial area has changed a considerable amount throughout the period of 2009 to 2015. The growing trend of commercial development in the Tejgaon industrial area supports the over increasing growth of “Pucca” structure in the area. Alongside, the proportion of high rise building has increased in the Tejgaon industrial area than that of in the period of 2009 (Figure 12). The categories of structure heights are so selected to clearly distinguish between small storied buildings and high rise buildings both in accordance with Bangladesh National Building Code (BNBC-2006) and the final draft of Bangladesh National Building Code (BNBC-2014).

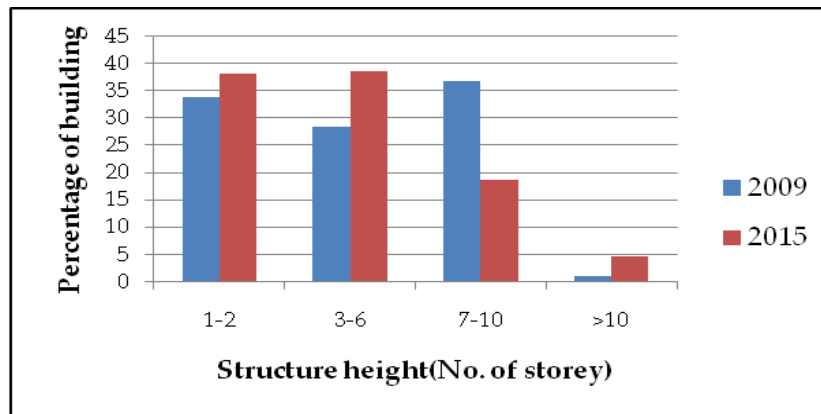


Figure 12: Change in structure height in Tejgaon Industrial area  
(Source: Khan et al, 2005; Field survey 2015)

### The Growth of Industrial and Commercial Land Uses in TIA

Development of Tejgaon was started during the 1950s by Public Works Department (PWD) as an industrial area. The first Master Plan of Dhaka (1959) also supported industrial development in Tejgaon. The development trend of Tejgaon was mainly industrial and the establishment of industries increased up to the period of 2005 (Figure 13).

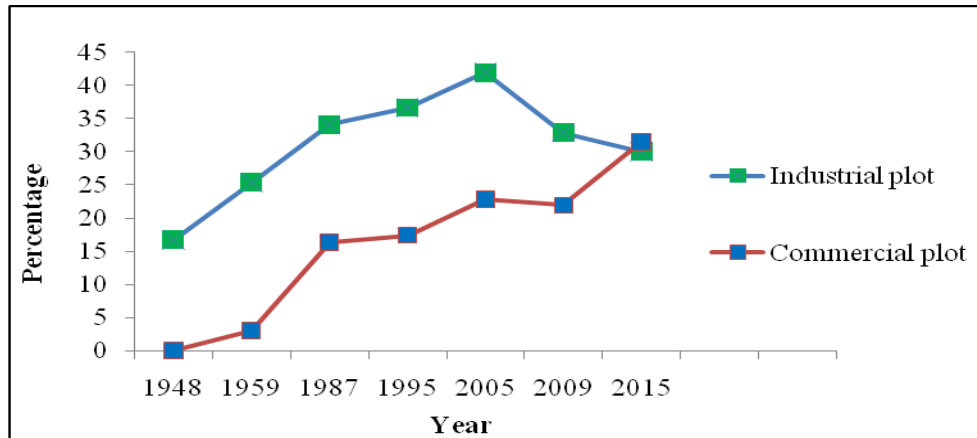


Figure 13: Growth of Industrial and Commercial Land uses in TIA  
(Source: Khan *et al*, 2005; DCC, 2009; Field survey 2015)

But the recent trend of industrial development is declining due to increased commercial development, relocation of heavy industries, strategies for reduction of pollution etc. As stated in DMMP, being close to the core of Dhaka city Tejgaon attracts numerous commercial activities in this area. Thus there exists an increasing trend of commercial activities and the rate of growth of commercial activities in this area greater than that of an industrial one.

### Closing Remark and Policy Implication for Future Urban Development

Gentrification often shifts a neighborhood's racial or ethnic composition and average household income by developing new, more expensive housing, businesses and improved resources. The recent development trend of Tejgaon industrial area exhibits a rigorous shift from intensive industrial development to growing commercial establishment followed by a subsequent mixed-use development and the rate of growth of commercial activities in this area is greater than that of an industrial one. A significant change is also observed in the prospect of ownership pattern of the land of this area. At present private property constitutes about half of the different land uses in this area. Alongside, the price of the plots in Tejgaon industrial area varies between a wide range and the average price of land is quite high in this area compared to other areas of Dhaka city. With continuous rapid development, there also exists a rising trend of high rise building in Tejgaon industrial area because of the location of the Tejgaon industrial area at the core of Dhaka city. All of these outcomes support the growing trend and most favorable condition for further mostly commercial development in this very region.

Meanwhile, the changing land use pattern of Tejgaon industrial area exhibits a lethal effect on the area itself and its surroundings. Furthermore, it has attracted different non-industrial uses like residential, commercial, office etc with a wider variation of people living and working in this area. Heretofore, the study of Darin-Drabkin (2013) concludes to an interesting finding that if the share of

private property in any area exceeds the other one, sometimes it is found difficult to incorporate the private sectors in any sort of development planning decision and implementation as the scenario persists in Tejgaon Industrial Area. As a consequence, the major share of private property in the study area can create further obstructions related to any kind of government policy implication connected with this area unless and until strict development control is followed to the land use practice of this area.

To sum up, despite some notch of potential for Urban Gentrification mostly in terms of commercial and institutional development, this area is not quite favorable for future residential development considering the transformation trend and the development pattern in conformity with the planning of surrounding of this area. Furthermore, the location of such an industrial area is quite not justifiable in the core of Dhaka city with which was also indicated in the DMDP Detail Area Plan (Gazetted in 2010). Beside, In the absence of proper development control, the growing trend of commercial development integrating lion's share of private land ownership, have already altered the physical characteristics of this area from the state as it was designed by Dhaka Improvement Trust (DIT) in 1968 and may furthermore results in such development which may deteriorate and more unlikely to collapse the entire cityscape. Private landowners can continue haphazard and unplanned development to maximize their personal interest. As a consequence, this study strongly recommends the introduction and enforcement of strict development control in the context of any existing and further development initiative associated with Tejgaon industrial area to fabricate a better and more livable cityscape.

#### Acknowledgements

The article is an Extended and Detailed version of the paper selected for presentation in the 1st Bangladesh Planning Research Conference (BPRC) held at the Department of URP, Jahangirnagar University of Bangladesh during 05-06 February 2016. The author gratefully acknowledges the support and advice of Professor Dr. Afsana Haque from the Department of Urban and Regional Planning (DURP), Bangladesh University of Engineering and Technology (BUET). Finally, he is thankful to Sk. Abu Taher and Md. Abdus Salam, Graduate Student, DURP, BUET for their assistance in collecting various database used in this paper and shaping the framework of the original research.

#### References

- Banglapedia. (2015) Tejgaon Industrial Area. Available at: [http://en.banglapedia.Org/index.php?title=Tejgaon Industrial Area\\_Thana](http://en.banglapedia.Org/index.php?title=Tejgaon%20Industrial%20Area_Thana) [Accessed 10 April 2015].
- Drabkin, H.D. (2013) Land Policy and Urban Growth. *Urban and Regional Planning Series*, 16 (1).
- Edward J. K., David R. G. and Chapin, F.S. (1995). *Urban Land Use Planning* (Fourth edition). University of Illinois Press, Urbana and Chicago.
- Foth and Dyke, V. (2000) Town of Clover land Comprehensive Land Use Plan. Available at: <http://co.vilas.wi.us/landuse/cl-land.pdf> [Accessed 10 April 2015].
- Freeman, L., & Braconi, F. (2004) Gentrification and Displacement New York City in the 1990s, *Journal of the American Planning Association*.
- Freeman, L. (2005). Displacement or Succession? Residential Mobility in Gentrifying Neighborhoods. *Urban Affairs Review*, 40(4), 463–491.

- Hoyt, H. (1958). A re-examination of the shopping centre market (UrbanLand Institute. Technical bulletin). Available at: <https://books.google.com.bd/books?Id=MR4hAQAAIAAJ&pg=PA1236&lpg=PA1236&dq=A+reexamination+of=false> [Accessed on 7 may, 2015].
- Janelle, V. (2017) *Gentrification and Displacement (PDF)*. Calvin.edu. Retrieved 2017-04-02.
- Khan, B. M., Islam, R. M. and Jahan, I.(2005) *Changing land use pattern of Tejgaon industrial area and its Impact on surrounding areas*, Unpublished BURP thesis, Department of Urban and Regional Planning, Bangladesh University of Engineering and Technology.
- Losch, A. (1956) *Economics of Location*. Yale University Press, New Haven.
- Matisovs, I. (2011) Urban Development Trends in the Latgale Region at the Beginning of the 21st Century, The 8th International Scientific and Practical Conference Proceedings, 1 (3), pp.130-138.
- Oakil, A.T.M and Sharmeen, F. (2007) Commercialization of Tejgaon Industrial Area, Dhaka: An Evaluation. *Journal of Environmental Science*, 5 (9), pp. 81-94.
- RAJUK. (2004) Preparation of Detailed Area Plan (DAP) for DMDP Area: Group-C, RAJUK. Available at: [www.rajukdhaka.gov.bd/rajuk/image/dap/groupC/Chapters\\_c.pdf](http://www.rajukdhaka.gov.bd/rajuk/image/dap/groupC/Chapters_c.pdf)[Accessed 23 February 2015].
- The Daily Star. (2014) *Tejgaon to become industrial-commercial-residential area*, published on September 20, 2014. Available at: <http://www.thedailystar.net/tejgaon-to-becomeindustrial-commercial-residential-area-40760> [Accessed 10 November, 2014].
- The Financial Express. (2014) Final draft of BNBC redefines high-rise from 11th storey, published on November 10, 2014, Available at: <http://www.thefinancialexpressbd.com/2014/11/10/65212> [Accessed 20 November, 2014].
- The Daily Prothom Alo (2016) Tejgaon industrial area set to undergo changes, published on January 10, 2016. Available at: <http://en.prothomalo.com/bangladesh/news/91379/Tejgaon-industrial-indus-area-set-to-undergo-changes> [Accessed 13 March, 2018].