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Author: Asif Iqbal, Bangladesh Consultants

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**Asif Iqbal**  
Bangladesh Consultants Ltd.

Asif Iqbal is an engineer currently working for Bangladesh Consultants Ltd. in Dhaka, Bangladesh. He earned his bachelor's degree in civil engineering from Bangladesh University of Engineering and Technology and obtained his master's degree in the same discipline. While with different consulting engineering companies, he has been designing high-rise buildings for the past few years.

Mr. Iqbal is also interested in research on development of urban habitats and has authored technical publications for different international conferences. He is a member of Institution of Engineers Bangladesh and the Bangladesh Earthquake Society.

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## **Tall Buildings in the Urban Context of Dhaka City**

This presentation is based on a paper by the presenter and M. H. Khan of the University of Dhaka in Bangladesh.

The history and status of development of tall buildings in Dhaka City is presented in the background of its evolution and growth. The trend of urbanization in Bangladesh characterizes the growth of Dhaka as typical "dependent urbanization" in third-world countries. It is observed that the number of tall buildings has increased very quickly, especially in the last two decades. However, sufficient improvements in the infrastructure to provide services to these buildings have not occurred. The result is the unplanned and uncontrolled growth of these high-rises which have complicated the situation in a city already overburdened in almost all respects. This indicates that the economic realities overpower the reservations derived from physical constraints. In this situation, we have to adopt appropriate strategies in the development of tall buildings to make the city more habitable.

## TALL BUILDINGS IN THE URBAN CONTEXT OF DHAKA CITY

A. Iqbal<sup>1</sup> and M. H. Khan<sup>2</sup>

1. Bangladesh Consultants Ltd., House 95A, Road 4, Block F, Banani, Dhaka 1213, Bangladesh  
Email: [maiqbal@citechco.net](mailto:maiqbal@citechco.net), Tel: (880-2)-8014784

2. Department of Population Sciences, University of Dhaka, Dhaka 1000, Bangladesh  
Email: [mehedi\\_dps@yahoo.com](mailto:mehedi_dps@yahoo.com), Tel: (880-2)-0171829501

### Abstract

The history and present status of development of tall buildings in Dhaka City is presented in the background of its evolution and growth. It is observed that the number of tall buildings has increased very fast, especially in the last two decades. But there haven't been sufficient improvements in the infrastructure necessary to provide services to these buildings. So the situation has created problems for everyone lining in the city. Besides, the unplanned and uncontrolled growths of these high-rises have also complicated the situation in a city already overburdened in almost all respect. The past and present trends of urbanization in Bangladesh characterize the growth of Dhaka as typical 'dependent urbanization' in third world countries. In this situation, when it is expected that Dhaka will be one of the top 10 cities in the world in respect of population in the next 25 years, appropriate strategies have to be adopted to make the city more habitable.

**Keywords:** Tall Buildings, Urban Environment, Dhaka City

### INTRODUCTION

Dhaka, considering its population and size, is emerging as one of the major cities of the world. The rapidly changing urban scenario in the past few decades has seen the growth of a good number of tall buildings over the past few decades. The urban landscape of Dhaka has been affected considerably by the growth of these buildings. This study tries to look into this particular aspect of urban life as well as the problems and prospects these buildings are related with. The past, present and projected future of high-rises in Dhaka City are discussed in the considering the overall socio-economic situation of the country.

The Council of Tall Buildings and Urban Habitat (CTBUH) decided that a tall building is not defined by its height or number of stories. Rather, it is a building whose height creates different conditions than those that exist in common buildings of a certain region or period. However, CTBUH decided to include only buildings nine or more stories high in their database of tall buildings. The same criterion has been followed in the present study.

Dhaka has been defined with different geographical identities by different institutions. Dhaka City Corporation (DCC), the administrative authority covers only the central existing urbanized area. The Bangladesh Bureau of Statistics (BBS) defined Dhaka Statistical Metropolitan Area (DSMA) that also includes the adjoining townships and sub-urban areas. In the census in 1991, DSMA has been elevated to the status of Dhaka Megacity (DM), comprising Dhaka City Corporation, adjacent five municipalities, three cantonment boards and the sub-urban areas around the built-up areas. Rajdhani Unnayan Kartipakkha (RAJUK), meaning Capital Development Authority is the planning organization for the city, and it has an even wider area including all the above. Respective figures corresponding to the different identities used by BBS at different times have been used in this study.

### EVOLUTION AND STATUS OF DHAKA CITY

Although the origin of Dhaka can be traced back to a distant past, it rose to prominence when Mughal ruler Islam Khan commissioned it as the capital of the 'Subah Bangalah' (about half of the present Bangladesh) in 1608 AD. This status continued for slightly more than a century till 1717, when the provincial capital was shifted to Murshidabad. In spite of declining administrative and defense importance, it became a cosmopolitan city through the commercial activities of different European trading houses. The

advent of British colonial administration in 1766 and their land revenue policy and other industrial and commercial restrictions led to the decline of Dhaka. It regained its status for a brief period when the partition of Bengal took place and it became the capital of a newly formed province of East Bengal and Assam in 1905. But this partition was annulled in 1911 and Dhaka was reverted back to the status of a district town. However, the establishment of the University of Dhaka in 1921 contributed significantly to the development of an urban educated middle class.

At the end of the British rule in 1947, when today's Bangladesh emerged as the eastern province of Pakistan and Dhaka became the provincial capital. Dhaka's status was again lifted by a great deal as the regional center of administration, commerce and education. Over the next two decades, the city went through the process of transformation into a metropolis. But Dhaka had another feat to achieve and it did so through becoming the national capital as Bangladesh emerged as an independent country in 1971.

## POPULATION AND PHYSICAL GROWTH OF DHAKA CITY

Dhaka's fate was determined by different socio-politico-economic regimes and so was its population. Since the first census in 1872, a steady growth of population was recorded in the following census reports. The growth of Dhaka City gained momentum after 1947. The influx of people from India on one hand and the onrush of people to the newly established administrative, commercial and educational center on the other led to an unprecedented growth of the city. Dhaka City witnessed an increase of 66 percent in its population between 1951 and 1961 (Table 1). The need for office spaces for administrative and commercial purposes as well as the residential needs growing out of the increase in population led to the growth of the city in several dimensions.

Table 1: Population and Area of Dhaka City

Census Year	Population of Dhaka City (Millions)	Dhaka City Population as % of total Urban Population	Area of Dhaka City (Sq. km)	Urban Population as % of total population	Annual (Exponential) growth rate of urban population (%)
1951	0.34	18.45	73	4.33	1.58
1961	0.56	21.08	91	5.19	3.72
1974	1.96	31.17	324	8.78	6.70
1981	3.44	25.41	402	15.54	10.97
1991	6.49	28.84	1353	20.15	5.40
2001	10.7	37.45	1464	23.1	3.15

Source: Bangladesh Bureau of Statistics

During this period, Dhaka Improvement Trust (DIT) was created in 1956 (which was later transformed into RAJUK in 1987) for supervision of the overall planning and development of the city. Besides different urban development projects, DIT developed a number of residential areas to meet the housing needs for the emerging elite class. A Central Business District (CBD) was also developed to meet the need for spaces required for increasing commercial and government administrative activities.

Becoming the capital of a newly independent country in 1971 gave the city a completely new dimension far beyond all its past experience. This political impetus changed the urban scenario of Dhaka as well as of Bangladesh. Annual growth rate of urban population and urban population as percentage of total population in Bangladesh became almost double (Table 1). The city expanded considerably in this new context. The city's population increased to 1.96 million in 1974 from 0.56 million in 1961. This growth is mainly attributed to the migration of a large number of people from different areas of the country. Along with different rural push factors all the major pull advantages of Dhaka were the cause of this migration. This sudden increase resulted in problems like housing, land crisis, slum and squatter proliferation, problems in transportation, stress on environment and socio-economic condition. All these new factors were added with the existing ones demanding further development of infrastructure and civic facilities.

The latest stage of expansion of the city began in the early 80s. With significant increase in economic activities on one side and a population growing almost at an exponential rate on the other, Dhaka City has witnessed a phenomenal growth during the last two decades. The newly defined DSMA was 402 sq. km in 1981, whereas the DM became 1353 sq. km in 1991 (Table 1). During this period, the population rose to 6.49 million from 3.44 million in 1981. According to RAJUK's projection the present population is estimated to be over 10 million (DMDP, 1994) in same area.

## HISTORY AND PRESENT STATUS OF TALL BUILDINGS IN DHAKA CITY

The need of growing upward, typical in modern cities, was also felt in Dhaka in order to accommodate new administrative and commercial facilities. The first initiatives towards buildings were taken in the late 50s, which resulted in the construction of the first tall building in 1963. But the process of constructing more buildings was very slow as only 7 tall buildings were completed until 1971. Although the city gained new status in 1971 as the capital of an independent state, the number of high-rises did not increase very rapidly due to economic hardship and political instability. Only 11 more buildings were added in the next 10 years.

But since the early 80s, with increase in economic activities and growing scarcity of high quality land for commercial uses at the same time, there was an accelerated pace in the rate of construction of new high-rise buildings for both commercial and residential purpose. More than forty buildings were constructed over the next ten years and at present total number of tall buildings is nearly four times that of 1990.

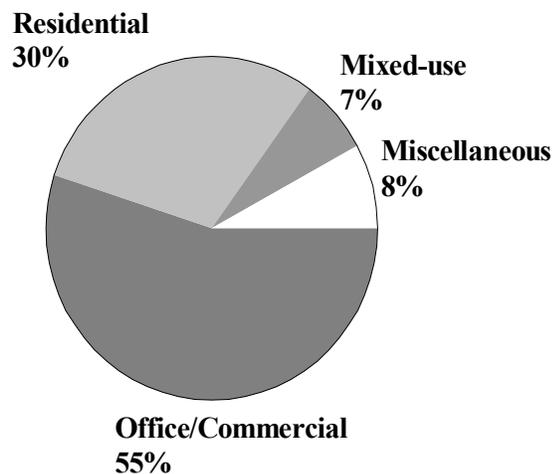


Fig. 1, Types of Tall Buildings in Dhaka City

For the first two decades, almost all the tall buildings were built and used for commercial purposes. Of the 9 buildings completed until 1971, 7 were office buildings and the others were hotels. 9 out of the 11 buildings constructed until 1981 were office buildings of government agencies or banks. Besides, the 9-storied Parliament Building for the National Assembly was also constructed during this period. In the next 20 years, the number of buildings has become more than 10 times that of the early 80s. But still commercial buildings constitute the bulk of the number. At the moment, there are more than 300 tall buildings in Dhaka City, with another 50 or so under construction. More than half of these are commercial buildings (Fig. 1). The rest are for residential and mixed-use purposes except a few hospitals, factory buildings and special ones like the Parliament Building.

Although the first mixed-use high-rise building was built in the early 70s, the idea of living in high-rise apartments was not very popular until the late 80s. Until then, only a few residential buildings were constructed only to fulfill a small portion of the housing needs of the government employees. Tall residential buildings flourished in the 90s with increasing acceptance of the apartment culture. A number of mixed-use buildings have been constructed in recent years also. These buildings have spaces for commercial use like shops and offices in the lower floors and residential apartments in the upper stories.

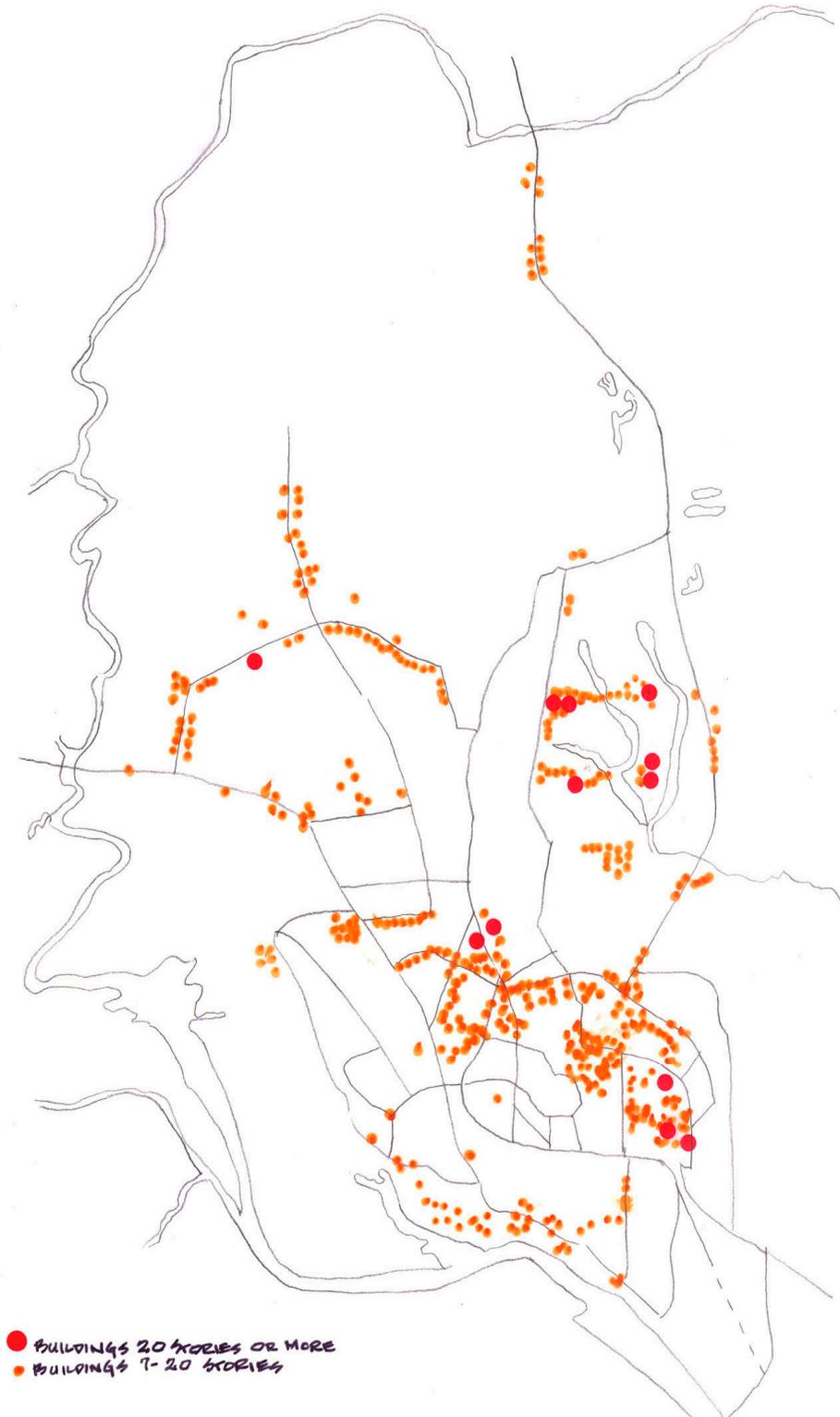


Fig. 2, Location of Tall Buildings in Dhaka City

Apart from the office and residential buildings, a number of tall buildings are being used for some other purposes. All the top-class hotels and several others are located in high-rise buildings. At present, two of

the city's largest hospitals have high-rise buildings as part of their establishments. A few buildings are being used to house a number of apparels and electronics industries.

The early buildings were 9 to 11 stories high. Then some buildings with 15-20 stories were constructed. Although the country's tallest building with 30 stories was constructed in 1990, the majority of the buildings today are 15 to 24 storied.



Fig. 3, View of Central Business District of Dhaka

First few commercial buildings belonged to government agencies and banks. The government also developed the first few of the residential tall buildings. The private companies started to invest in this sector through a few hotel buildings. But in the recent years, they have become the major contributors in this sector. Many large business concerns have constructed high-rise buildings for their office-space as well as an investment for income from rent-able office spaces. As the culture of living in apartments gained acceptance, a number of real-estate companies also entered the business building high-rise residential and mixed-use buildings. The commercial developers also realized the potential benefits from developing high-rise buildings and selling the spaces for commercial use for offices, markets and other such businesses. A substantial portion of the buildings recently developed or under the process of development falls into this category. A few Non-Government Organizations (NGO) involved in socio-economic development of the country have also built their own high-rises for their use and also as a way of income-generation through rents.

A distinctive pattern is evident in distribution of the tall buildings within the Dhaka City (Fig. 2). The Central Business District (CBD) has the largest group of them including all the tallest ones (Fig. 3). The other two commercial areas also have a high density of tall buildings (Fig. 4). A cluster of residential high rises has also developed near the CBD (Fig. 5). As the city authorities don't permit construction of high-rises in residential areas, they have developed in a good number at the fringes of these areas. The rest of the tall buildings are scattered all over the city, especially in the newly developing areas.

### **TALL BUILDINGS AND LAND USE ECONOMY**

Rivers and low-lying flood plains in three directions have constricted the growth of Dhaka City and consequently it only expanded in the remaining one direction. Above that, Dhaka has seen some uneven pattern in growth in recent times. Although the city has grown several times in size over the last 50 years, a large portion of the extended portion was developed as residential areas with restrictions on building height. Beyond that the amount of high quality developed land was limited, which justifies the development of tall buildings in such areas. In the absence of adequate transport network, there was a tendency to stay near the city center and commercial areas, which also enhanced the development of a few limited areas rather than a more widespread distribution of population.

High-rise buildings in Dhaka City were first conceived and constructed for commercial purposes. Although new commercial areas were developed after 1947, the need for additional commercial spaces resulted in

vertical growth of these areas. The number of commercial areas also increased in time, these areas housed in new tall buildings higher than the previous ones.

Another big factor in high-rise development was the land value. The land value of Dhaka City has rocketed few hundred times over the last few decades. Except from a few thousand residential plots for most fortunate of the upper income group, the price of high quality land remained out of reach for almost everyone else. High-rise apartments provided an option for the limited number of people with enough money in hand.



Fig. 4, Cluster of High-Rises

#### **PROBLEMS ASSOCIATED WITH THE TALL BUILDINGS**

The density of population created by the tall buildings comes into serious consideration for public amenities. Without adequate provisions of these, high-rises create nightmares for everyone. Dhaka, which has experienced unplanned and unrestricted growth of a large number of high-rises in a considerably short period of time, the problems are clearly visible.

The essential public amenities in the city include water supply and sewerage, power, gas and telecommunication. These systems are already stretched to their limits by the ever-increasing demand for the additional population. But the tall buildings make the situation even worse, particularly in the areas where a number of tall buildings are located within a short distance. The city's service facilities which were developed decades ago in different situations are simply inadequate for the present day needs. Besides, there are deficiencies in the capabilities of the authorities in providing services like solid waste disposal. Lack of coordination among different urban management authority is also responsible. Mohit (1992) has identified 18 main ministries and 42 organizations, which are involved in the development of urban areas. The political tussle between the elected bodies of the local government and other government organization is can also be blamed for different socio-physical problems of Dhaka City.

The development of transportation and related infrastructure could not keep pace with the high rate of growth of the population in Dhaka City. The uncontrolled growth of a large number of tall buildings has made the situation worse. Consequently, the whole transport network of the city is overloaded at the moment. A large number of the high-rises have grown in alongside a single road link stretching almost the length of the city in the north-south direction. Moreover, a number of 'clusters' of tall buildings has developed within this range. All these have contributed significantly to the city's problems of traffic congestion and delays.

There are specific guidelines for construction of high-rise buildings in Dhaka City. Yet there are lapses and non-abidance of the building regulations is a common practice. Although most of the high-rises are superior in design and construction standards to the average buildings, there are instances of irregularities in these cases too. One high-rise building has already been declared structurally unsafe. In the absence of adequate manpower and authority of the government in enforcing the laws and

regulations, there is always scope to raise questions regarding the proper implementations of the necessary construction and safety provisions.

Although the new buildings are usually constructed with underground parking spaces, even these spaces are found to be inadequate at times. The question of fire safety is not sufficiently addressed in all cases. Two big worrying facts about this are that the authorities has very few equipment for fire fighting in high-rise buildings and even these cannot be used in some cases where the buildings are located by the narrow streets making it inaccessible for the vehicles.

Problems with the buildings themselves are becoming more and more evident with time. There are not enough parking spaces in and around the high-rise buildings developed in the 60s and 70s. This creates a constant problem in their localities. The fire safety provisions in the older buildings are not adequate.



Fig. 5, Residential High-Rise Buildings in Dhaka

## **SOCIAL ISSUES**

Housing, being one of the basic needs, provides an important sense of security among the owners. With better living standards and environments they can keep the inhabitants free from some of the problems of the city life. At the same time, the employment and income generation through this industry and the increased economic activities are helpful in maintaining overall economic and social stability.

But tall Buildings, with spaces high above the ground, unavoidably create a kind of segregation from everything below. This is felt particularly in residential environments. The high-rise apartments induce lesser interaction within and with the rest of the society. But this is important for the social environment, particularly for the children. Only a few of the tall buildings of Dhaka City provide community spaces for social interaction. Lack of privacy is often another important drawback in most residential buildings due to inappropriate building layouts. This is particularly true for mixed-use buildings if they don't have separate entrance routes to the commercial and residential spaces.

The presence of tall buildings can also raise discontenting issues for the whole community. Tall buildings in residential areas block light and airflow to the adjacent neighborhood of lesser height. Higher rate of consumption of water and gas by high-rise apartments creates lesser flow to the neighboring households. Such deprivation may create severe social conflicts.

## **POLITICAL ECONOMY OF TALL BUILDINGS IN DHAKA CITY**

Problems and prospects of tall buildings in Dhaka City are related to the overall urban development of Bangladesh. Bangladesh is characterized by low-level of urbanization (with about 20% of the nation's population living in urban areas in 1991, compared to the Asian average of over 30%). But it, however, has experienced one of the most rapid rates of growths during the last three decades, on an average of 8% during 1961-1981 and 5.4% during 1981-1991 (Table 1). Dhaka has enjoyed a primacy status in the Bangladesh urban structure with 25-30% of the total urban population during 1961-1991 (Task Force on

Urbanization, 1991). It is estimated that around one third of the urban population is now living in Dhaka. According to the United Nations, Dhaka is going to be the 10<sup>th</sup> largest city in the world with a population of 14.5 million by the year 2005 and by 2010, another 3.0 million people is estimated to be added, making it the 8<sup>th</sup> largest city (United Nations, 1993).

All these trends must be comprehended in the context of third world urbanization, which did not happen as a consequence of industrialization within these countries. Rather, the process of industrialization in the advanced capitalist countries resulted in what Castells (1978) called 'dependent urbanization' in the third world countries. This parasitic development is the cause of 'over-urbanization', which is correspondent with the emergence of 'primate city' in third world countries (Gold, 1982). About two thirds of the employment in the informal sector and one third of total urban population of Bangladesh in Dhaka City clearly indicate the trends of third world urbanization. Besides, the lingering effects of colonialism were evident in Dhaka's urban planning from the beginning. Without following any balanced planning, RAJUK (then DIT) acquired the available high land and distributed them among the civil and military professionals and other privileged people. Like the colonial development of a landed aristocracy, an 'urban housing class' developed through this process. This 'sub-urbanization' process is one of the main causes of today's land crisis in Dhaka. The adoption of privatization policies after the mid-seventies and inclusion of Bangladesh into the global economic system increased the activities of different multinational corporations, foreign banks, donor agencies and other commercial bodies. All these created the necessity for their accommodations. Through this process, a high-income group emerged and so did their residential needs. As a result, number of tall buildings for commercial as well as for residential purposes began to increase.

Besides all these factors, foreign remittance and black money played a vital role in developing high-rise apartments. Lack of alternative investment opportunities in the country compelled the wage earners and small capital owners to purchase luxury apartments and to invest in housing sector. According to the World Bank report on Bangladesh economy, about 80% of the total investment in 1995-96 was construction-related, a ratio which had remained relatively stable during the following years. About 60% of this investment came from private sector. Again a large part of the private investment in the construction sector went to the high-rise apartment buildings. This is a process what Harvey (1981) describes as 'investments in the built environment and urbanization of capital' (Khan, 1996).

## **FUTURE**

It is clear from the earlier discussions that Dhaka is going through a process of explosive growth in all respect. The present situation also indicates that this trend will continue for the near future. Although it has some smaller separate areas within its present boundary, it should develop as a compact urban area due to the physical boundaries. The population is expected to be approximately 12.5 to 15 million in 2025 for the same area of present day Dhaka City (Islam, 1991) The density of the urbanized (built-up) areas will be about 75000-100,00 persons per sq. mile in an area of 200 to 300 sq. miles.

Such a huge a figure implies that there will be many more high-rises constructed in these areas in the coming years. But that can only make the existing problems more complicated without proper initiatives to solve them. The first planning initiative for the city was taken in the late 50s by the then newly formed DIT. They produced the first master plan for the city for a 20-year period beginning about 1960 (Minoprio, Spencely and Macfarlane, 1959). But the projections and the policies were soon found to be way out of reality. The city experienced an unplanned growth as no other long-term planning initiative was taken in the next few decades. Then in the early 90s, the Dhaka Metropolitan Development Plan (DMDP) was initiated to formulate policies for the city's growth in 1995-2015. The authorities suggested mid and long-term approached for 1995-2004 and 2005-2015 periods respectively.

## **CONCLUSION**

Tall Buildings, despite all the problems they are associated with, are growing in Dhaka City in large numbers and at a very fast pace. This indicates that the economic realities overpower the reservations derived from physical constraints. The situation has to be judged in this reality. The experience of the last

50 years shows that the factors and parameters are perhaps too complex and dynamic to make any accurate prediction of the future of Dhaka City. But it can be generally accepted that Dhaka is going to be one of the most populous cities in the world in the new millennium. Keeping that in mind, the city planners have to think about the practical provisions to meet the enormous needs in every aspect within the limited resources. When the past planning initiatives has fallen far short of their ultimate goals, initiatives have to taken to see that the present plans and initiatives, like their predecessors, do not end up in only academic interests.

## REFERENCE

BBS, 1997

Bangladesh Population Census 1991, *Report on Urban Area*, Dhaka, Ministry of Planning, Government of Bangladesh.

Castells, M., 1978

City, Class and Power, The Macmillan Press Limited.

DMDP, 1994

Dhaka Metropolitan Development Plan, *Dhaka Structure Plan 1995-2015*, Dhaka, RAJUK.

Gold, H., 1982

The Sociology of Urban Life, Prentice-Hall Inc., Englewood Cliffs, New Jersey.

Harvey, D., 1981

The Urban Process under Capitalism: A Framework for Analysis, In Dear, M. and Scott, Allen J. (eds.), *Urbanization and Urban Planning in Capitalist Society*, New York, Methuen & Co. Ltd.

Islam, N., 1991

Dhaka in 2025 A. D., In Ahmed, S. U. (ed.), *Dhaka Past Present Future*, Dhaka, The Asiatic Society of Bangladesh.

Khan, M. H., 1996

Urban Social Structure and Urban Planning in Dhaka: A Test of Manual Castells' and David Harvey's Models, Advanced Research Monograph, University of Dhaka.

Mohit, M. A., 1992

Institutions at arrangement Development of Dhaka Metropolitan Area: Problems and Issues, In Islam, N. and Chowdhury, A. I. (eds), *Urban Land Management in Bangladesh*, Dhaka, Ministry of Land, Government of Bangladesh.

Siddiqui, K., Qadir, S. R., Alamgir, S. and Huq, S., 1990

Social Formation in Dhaka City: A Study in Third World Urban Sociology, Dhaka, University Press Limited.

Task Force on Urbanization, 1991

Report of the Task Forces on Bangladesh Development Strategies for the 1990s: Social Implications of Urbanization, Dhaka, University Press Limited.

United Nations, 1993

World Urbanization Prospect: The Revision, New York, Oxford University Press.