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EFFECTS OF HIGH RISE APARTMENTS ON THE HOUSING SITUATION OF DHAKA CITY

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ABSTRACT

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At present as analyzed Dhaka Metropolitan City the capital of Bangladesh has turned into first slum rich mega city and less educated populous city of the world. The size of Dhaka city has grown from 2.07 square km in 1700 to about 1526 square km in 2008. The centurial trend of unplanned urbanization generated serious deterioration of the environmental habitat quality measured by traffic congestion, solid waste mismanagement, water logging, essential services, water, air and noise pollution. The high rate of population growth has created heavy pressure on housing and the land market. As a result, housing becomes a problem with indiscriminate proliferation of slums and squatters. It was found that high rise building development for residential use increased in the range of 3-10% of the real estate productions. The opportunity cost supposed to be paid in full amount by witnessing the next generations engulfed in socio psychological problems, for the trade off now a days made between poor housing environment and proximity to central business district work place by specially the affluent class of society. For serving that particular target group of people, it may be concluded that the overall city environment is degrading due to indiscriminate construction of high rise structures on the hydromorphic and made lands. It is recommended that a coherent and homogeneous urban environmental planning is necessary with effective measures to make a better and livable city of Dhaka.

Key words: *slum city, high rise buildings, urbanization, housing environment*

INTRODUCTION

Bangladesh is one of the least urbanized countries of the world. Housing problem in the urban areas of Bangladesh is a phenomenon typical of most developing countries of the world. Dhaka, the capital city has at present a population of more than 20 million is experiencing rapid growth (BBS 2001, 2005). The availability of better education, modern healthcare facilities compared to other urban centers have made Dhaka very attractive. The prospect of increasing income also has made Dhaka attractive to all section of people. Dhaka has assumed large size in terms of number of population. But it has not achieved the capacity to cope with rapidly increasing population. As a result serious problems have emerged over the years regarding housing provisions and other related services.

Housing is not merely a shelter, but a complex package of goods and services from which each family makes a social and economic contribution to the community in which they live. Housing not only provides shelter for a family but also serves as a centre of its total residential environment. As a focus of economic activity, as symbol of achievement and social acceptance and as an element of urban and regional growth and income distribution, housing fulfills a social need and satisfies criteria for remunerative urban and regional investment (Grimes 1976). The scarcity of land influenced the ever highest land value in Dhaka which compelled high income group of people to choose high rises as their residing place. High rises are usually located in and around the central city areas which attracted people to reside in high rise apartments as it is within short distance from working place, market, educational institution etc. Since the growth of high rise buildings particularly high rise residential apartments is a relatively new phenomenon in this city, the effects of high rise living is still unknown. The impact of high rise apartments on its surrounding and city has been tremendous in terms of quality of indoor and outdoor environment, socio-economic and environmental requirements. Hence it is high time for studying the housing environment both inside and outside high rise residential buildings and make suggestions regarding its effects on the growth of Dhaka city. In the context the present piece of research has been conducted with the goal of identifying the high rise building issues and probable line of solutions to this problem.

MATERIALS AND METHODS

The methodology followed in this study was quite elaborate with technical survey using a relevant and specific questionnaire. Two sets of questionnaires, one for the apartment dwellers and other for the developers were used. Developers and officials of different government agencies who were responsible for housing were directly interviewed checking evidences of their statements. Besides these, professionals and experts on housing were interviewed as part of Focus Group Discussion (FGD) to obtain comprehensive opinions regarding the impact of high rise on the present and future environment of the Dhaka City. The methods preferred by Seraj (2003) and Islam (2005) for such studies were considered in formulating the methods and materials. The collected data was analyzed and presented here with interpretations.

Study areas: Old and New Dhaka and present down town extensions.

RESULTS AND DISCUSSION

High rise apartments have both positive and negative impacts. These impacts relate to economic, physical, social, cultural, psychological and other special fields. All these fields have been identified and analyzed on the basis of field survey.

Growth Trend of Urban Population

The results collected for studies and analyzed at different steps are given in the Tables 1 and 2 and in the Figs 1, 2 and 3. Bangladesh is still representing an agrarian society though nearly one fourth of the population lives in the urban areas. The censuses 1901-1974 treated all places with municipality or town committee or cantonment areas as urban. From 1981 onward development centers and Thana Headquarters have also been considered as urban area (Karim 1962; MHPW 1993; Minoprio and Mcferlane, 1958; and RAJUK 1995). The main factors involved in the rapid urban population growth are natural growth, rural to urban migration and changes in the delimitation and definition of urban areas. Table 1 which gives the trend of urban growth of Bangladesh for the last century shows a very slow and retarded urban growth for Bangladesh. The overall trend is curvilinear, unstable and periodically fluctuating.

Table 1. Urban Population in Bangladesh 1901-2001

Year	Population (000)	Urban Population	Urban %	Variation %	Growth Rate %
1901	2892	702	2.43	-	-
1911	3155	807	2.56	14.96	1.39
1921	3325	878	2.64	8.78	0.85
1931	3560	1,074	3.02	22.32	2.00
1941	4199	1,537	3.66	43.11	3.59
1951	4116	1,280	4.12	18.41	1.69
1961	5522	2,641	4.74	45.11	3.72
1974	7639	6,274	8.21	137.56	6.66
1981	8991	13,228	14.71	110.84	10.66
1991	11145	20,872,000	18.73	57.79	4.56
2001	12924	28,605,000	22.13	37.05	3.15

Source: Reanalyzed from BBS, DCC and WASA database 1971-2010.

Population of Dhaka City

The results on the historical trend of the population of Dhaka city given in Fig.1 and Fig.2 shows that the population started rapid increase after 1951 and still continuing up to the current decade. The trend accelerated with time. All the parameters like total population, yearly variations and the growth rate increased.

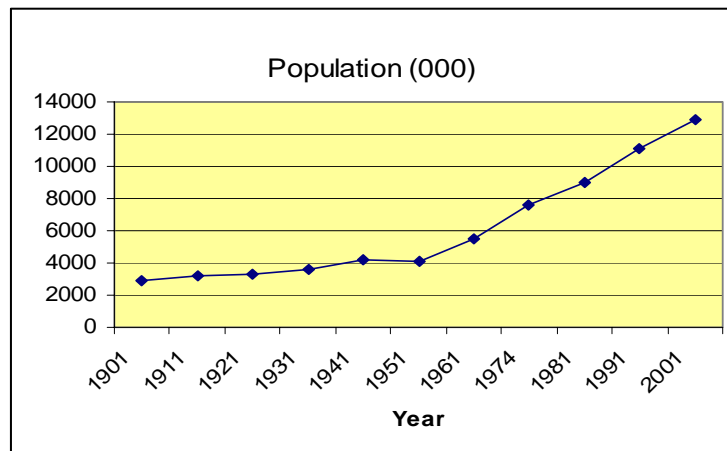


Fig. 1. Urban Population of Dhaka City from 1901 to 2001

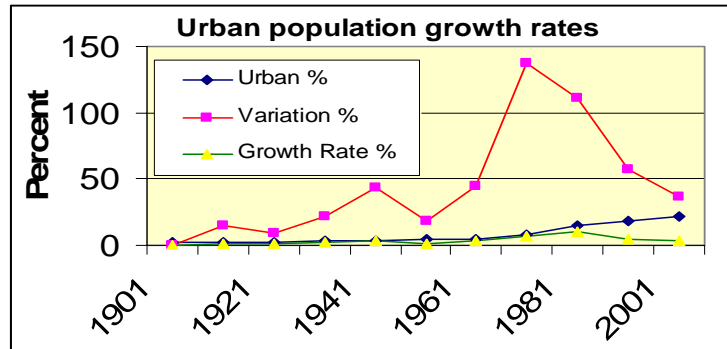


Fig. 2. Urban population growth rate variations over time by the current century

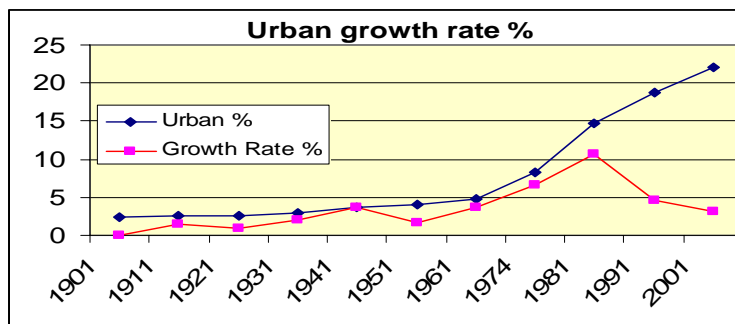


Fig. 3. Dhaka City urban growth rates

Table 2. Population and area of Dhaka during different periods

Area	Period	Area (sq. mile)	Population (lacs)
1600	Pre Mughal	1.59	Unknown
1608	Pre Mughal	2	30,000
1700	Mughal Capital	50	9,00,000
1800	British Town	8	2,00,000
1867	British Town	8	51,635
1872	British Town	20	69,212
1881	British Town	20	80,358
1891	British Town	20	83,358
1901	British Town	20	1,04,358
1911	British Town	20	1,25,733
1921	British Town	20	168,510
1931	British Town	20	1,96,110
1941	British Town	25	2,95,735
1947	British Town	25	2,50,000
1961	East Pakistan Capital	320 sq.km	5,50,143
1974	Bangladesh Capital	336 sq.km	20,68,353
1981	Bangladesh	510 sq.km	34,40,147
1991	Bangladesh	1353 sq.km	68,87,459
2001	Bangladesh	1528 sq.km	107,12,206
2009	Bangladesh	1528 sq.km	142,51,000

High rise apartments in Dhaka city

Though high rise constructions are recent addition in Dhaka city, yet a very recent phenomenon is the development of high rise residential apartments in and around it. A few years back acceptability of these building as dwelling units was much less than today. In the early 90s there were about 40 real estate companies doing business in Dhaka city. The number of housing units supplied by them including those under construction was about 1000. The price of such flat was affordable only by the wealthy and affluent class of society. In many potential locations construction

of apartment in upper floors is associated with commercial development of lower floors. During the last two decades, Dhaka Metropolitan city has attempted to expand vertically to meet the problems of urban population explosion, scarcity of land and spiraling land prices in cities and towns. At present, high rise buildings for residential purposes are being seriously considered in an effort to provide a sensible answer to housing problems.

Change of land use and land value

Economics of land is a very complicated subject containing various socio-economic, dynamic and physical parameters as variables. In general land value in an urban area largely depends on the proximity and accessibility from the important land use or the central business area. The spiraling land prices that accompany high-rise buildings drive away the low income groups and add to the acute slum conditions already prevailing in cities. There is a keen relationship among high rise apartment, land use and land value. Generally solvent people live in the apartments. To fulfill the demands and necessities of the apartment dwellers a good number of commercial, industrial and various other types of uses are introduced in the locality. These newly introduced uses are developed in place of some other previous uses involving change in land use. For example, a good number of multistoried market buildings are now constructed or under construction which were earlier vacant land or were used for residential or other purposes. It is revealed from the field survey by interviewing apartment dwellers and neighbors that 96% respondents felt that land value increased due to construction of high-rise apartments in the locality.

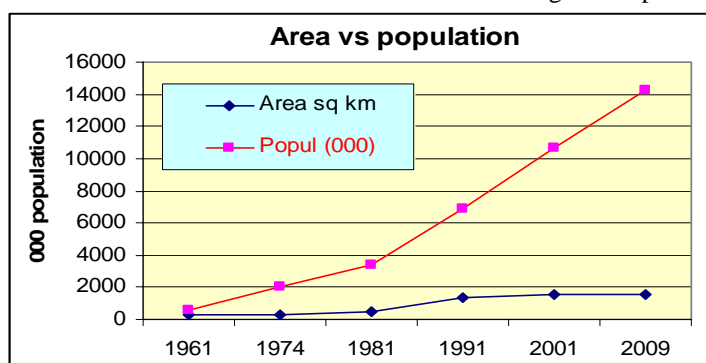


Fig. 4. Area extension and population increase interactions in the Dhaka city

High rise buildings and socio-cultural impacts:

The results show that about 74% percent of the respondent stated high rise apartments as a symbol of prestige. Dwelling in a high rise apartment is a symbol of prestige in our society. Symbolism and prestige had always been associated with high rise buildings and played a vital role in the growth of these buildings.

These buildings are the manifestation of power, prosperity and wealth. This has been expressed as, 'Height has traditionally symbolized power and prestige, tall buildings today speak of national technological progress as well as private economic status.' Today, high rise buildings provide the image of progress, affluence, sophistication and modernization. This is particularly the case in the minds of our urban elite, be they politicians, bureaucrats or businessman. It is perhaps no coincidence that most legislative buildings or seats of Government have a tall tower or dome, which tends to convey the same impression.

Economic impacts of high rise apartment:

The land value of Dhaka city at present is very high specially at important locations the price is tremendously high. The land value of an area per decimal was Tk. 13,000 in 1974, which is now Tk. 52, 00,000 per decimal on an average. The economic impact of the land value enhancement is given in the Table 3.

Table 3. Trend of increase in land value of a typical residential area

Year	Average Land Value (000 Taka per Decimal)
1974	13
1994	400
1998	500
2000	1500
2005	2500
2010	5200

Construction of building is time consuming and expensive. On the other hand investment for construction of house to generate rental income is not viable in every case as the net return on investment is significantly very low after payment of all taxes and service charges. So the view of the most of the apartment dwellers is that they neither want to spend for building a house after buying a land nor want to invest for getting a very low net return through rental value. But they want to live in a good quality house, located in an affordable or suitable locality with all types of services and security. So considering the land value situation and all other aspects, the most suitable solution for such a problem is to buy an apartment. The view of the inhabitants drawn from the field survey is summarized below.

Impacts of environmental factors

The term environment has been used from livability point of view in a broader perspective covering physical environment consisting of sunshine, ventilation, privacy, amenity, psychological and other aspects.

Sunlight and aeration

Unplanned and indiscriminate development of high rise residential buildings has covered considerable part of the city. Because of such unplanned and indiscriminate development many low height buildings adjacent to the high rise apartments are deprived of adequate sunlight. High rise buildings act as barriers for the adjoining buildings from getting adequate airflow. Due to the obstruction of the high rise apartments air can not flow in its usual path. As a result the low height houses to the north of the high rise apartments get almost no air flow during summer. On the other hand during winter the northern part of the higher floors of high rise apartments gets chilly air flowing from the north. The residents of low rise buildings suffer more than the high rise dwellers. The high rise apartment dwellers are generally richer than the neighboring low rise dwellers and can afford to use air conditioners.

Water and electricity supplies: High rise apartments are creating tremendous pressure on water supply system in Dhaka city. Wherever a high rise apartment is constructed it has an adverse effect on the adjoining locality. The demand of water is much more than supply by WASA. The high rises pump out water with heavy pumps and the neighboring households faces crisis for want of water. Because of operation of lifts, pumps, air coolers, geysers, ovens and other electronic equipments, the high rise dwellers generally use high amount of electricity. A good number of housing units are piled up in one apartment complex which creates pressure on the electricity supply on the locality. Of course provision to alternative power supply by generators is one of the attractive features of recently built apartments constructed by private developers.

Privacy – The results found on the privacy aspects of the apartment dwellers and the neighbors are hampered by construction of high rises located very close to each other are given in the Table 4. The results also indicated that the windows or balconies are faced with one another or are very closely located, the privacy situation is hampered.

Table 4. Comments on privacy conditions

Privacy Condition	Satisfied	Not satisfied	Needs Modification
	28%	62%	10%

CONCLUSION

In this research, attempt was made to show how the different government agencies and private developers providing housing facilities to different income group in Dhaka city. According to the opinion of officials, rapid growth of city population, inadequate land for housing and high price of land are the main elements of housing problems constitute 46%, 33% and 21% respectively. According to them discouraging people to migrate to Dhaka city, allotment of serviced plots and increased housing stock are the steps to be taken. Again different government agencies and private developers are catering for the upper and upper middle-income group. But this has nothing to do with the housing problem of lower and middle income groups of people who constitutes about 98% of the city population. Government should create an environment conducive to the development of affordable housing for lower and middle income group. This would include initiatives to develop and produce cheap housing resources like labor, materials, techniques etc. Building materials should be made available at a reasonable cost in the market through necessary changes in the fiscal and import policies. Before developing a high rise apartment Environmental Impact Assessment (EIA) should be done. Adequate infrastructural and urban services have to be made available for smooth integration of high rise building in the existing city system. The architectural design, construction safety requirements etc. of high rise apartments must be implemented by specialized professionals. The socio cultural requirement of the people must be accommodated in their habitation. People of this city by nature are social and maintain very close and strong relation with relatives, friends and neighbors. In the design there must be accommodation of these qualities.

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