

Apartment Housing in Dhaka City: Past, Present and Characteristic Outlook

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Abstract

This paper contributes to the view that apartment housing in most cities in developing countries are different in nature and extent than that operative in developed countries. It addresses the emergence of multi-storied apartments through transformation in residential areas in Dhaka, one of the most populous cities in the world and largest metropolitan region in Bangladesh, with a particular reference to a study conducted at Dhanmondi Residential Area. It identifies the key forces and processes underlying Dhaka's residential transformation and the advent of multi-storied apartments. Fragmentation of functions and the uses of building stocks in relation to the socio-economic aspects with local conditions were sought in the empirical survey. The increasing housing demand is being fulfilled essentially by multi-storied apartments. Thus multi-storied apartments are steadily transforming the landscape and lifestyle of huge urban dwellers in Dhaka. It reveals from the study that apartment living gain much popularity and dominance of informal apartments over formal apartments are more evident. Apartment living is now well established among the people of Dhaka and Dhanmondi is the best example of the transition of single family dwelling houses to multi-storied apartments within a span of two and half decades.

1. Introduction

1.1 Background and Objective of the Study

Dhaka is the nucleus city of Bangladesh and has come to be known as one of the mega cities of the world. The city in 2001 had over 12 million people for the larger conurbation and 6 million people within the central city area (Islam, 2005). The quick growth of population of Dhaka has been caused by high rate of immigration, territorial expansion and natural growth. As housing cannot keep pace with the population increase, the city has experienced tremendous housing lack since 1970s. Phenomenal growth of the city population is dominantly contributing to the dynamic changes in residential areas. It is a deplorable fact that residential areas have lost much of their residential character in order to cope with rapid urbanization. The traditional urban housing form in Dhaka has undergone many radical transformations over the past few decades. The traditional fabric of the city has either been damaged, remodeled or has disappeared entirely. Architecturally significant buildings that are fifty to hundred years old, representing their time, and located in the older part of the city, have now become obsolete primarily because of economics (Ahmed, 2004). Thus the increasing housing demands are being fulfilled essentially by multi-storied apartments. The dwelling culture has also changed gradually over a short span of time. The traditional dwelling custom has changed in different orders from the native origin. The concept of living in multi-storied apartments is something that is ordinarily not ingrained in the cultural experience of most Bangladeshi's. It is a new experience for many people to live in apartments and maintain their life style, thus changing the urban and social fabric from the classic single storied independent house, to sharing smaller units of space side by side with numerous other families.

Based on this background, the objective of this paper is to make an interim report on an ongoing study to identify the state of transformation in residential areas, the key forces to develop multi-storied apartments, a popular dwelling structure at present, and the adaptive alterations made by the developers in providing housing. This is the broad concern of the paper. In particular, the study examines how, why and when apartments, a western housing model, came to take place to the city of Dhaka, replacing the earlier house

forms during the last two and half decade and remain a popular housing form at present. This will not only fill in a missing gap in the housing history of Dhaka, of which there is a shortage of research, but also provide an opportunity to make a new visual approach to the state of city's dominant housing types and reflect on the residential culture.

1.2 Research Methodology

The characteristic of the residential areas in the city has undergone dynamic changes mainly due to commercialization. Thus, urban lifestyle and house form experiences a series of alteration and adjustment in its planning, organization and hierarchy of space, and façade treatment, that correspond to the changing habits and activities as opposed to traditional behavior. By considering the present situation of Dhanmondi Residential Area (DRA) in the city of Dhaka, the study considers the extent to which residential structures has transformed into apartments including physical characteristics, fragmentation of pattern of usage, informal development, among other factors. The approach was to search the factors that contribute significantly to the emergence of apartment through residential transformation and how it becomes well suited in the local housing market. The time period dealt with in this study ranges from 1980s when the apartments first introduced in the housing history of the city and advanced in the subsequent years. The study was based on the field survey conducted in 2006 in DRA. To conduct the study, a total of 256 multi-storied buildings are considered in the study area. The field survey covers the statistics of present building stocks, height and pattern of use of multi-storied apartments. Published reports, bulletin, journals and newspapers were the sources of secondary data relevant to household income, expenditure, housing cost and affordability. A combination of quantitative and qualitative data analysis was used to grasp a better understanding of the real picture that exists in the study area.

2. The Study Area

Dhanmondi is located 5 km away from the city center (Fig. 1). The administrative boundary of Dhanmondi area is commonly referred as Dhanmondi thana, consists of 3 wards and has an area of about 10 sq. km (BBS, 2001). Dhanmondi thana is bounded by Tejgaon and Mohammadpur thanas on the north, Lalbag thana on the south, Ramna thana on the east, Hazaribagh and Mohammadpur thanas on the west.

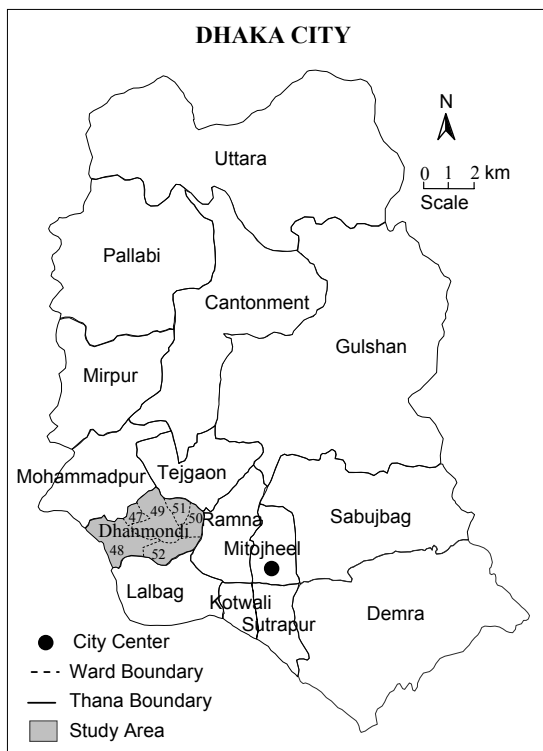


Fig. 1 Dhanmondi Area in Dhaka City

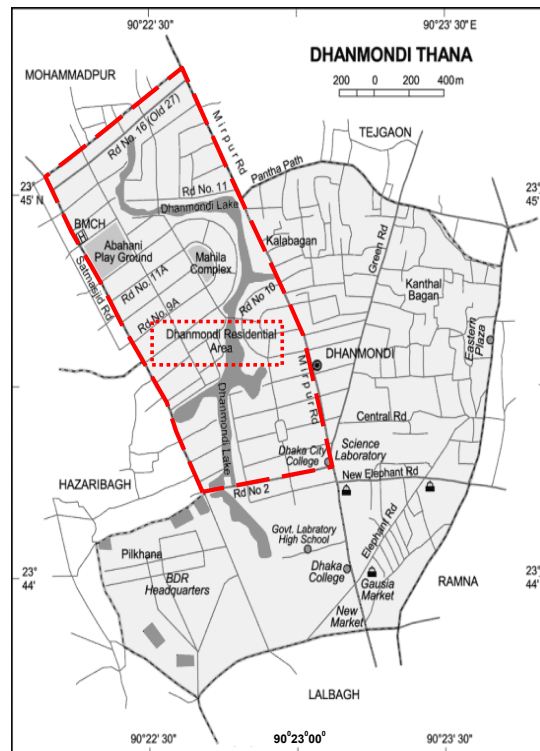


Fig. 2 DRA in Dhanmondi Thana

The population size in Dhanmondi was 202,000 in 1991 and increased to 264,000 in 2001 with different income groups which eventually shape a gross density of 26,400 persons per sq. km (BBS, 2001). Thus, Dhanmondi is now set to become one of the most densely populated up-market residential areas in Dhaka city. The study continues to DRA which belongs to ward number 49 and initially it was designed as a low-density residential area for high and higher-middle income groups at early 1950s. By the next decade it had become the prime and typical residential area in the capital. DRA was one of the first planned residential communities in Dhaka with an area of 1.92 sq. km. Figure 2 shows the extent of DRA with 50 and 51 no. wards in Dhanmondi thana.

Dhanmondi is basically laid out on a gridiron pattern and consists of rectangular plots (Fig. 3). Predominant house form was individual private homes with a front lawn and /or a back garden. It has about 1000 highly serviced plots. Most buildings at that period were owner occupied. Few tenants lived in Dhanmondi at that time which is a complete different phenomena comparing the present one. There was only one school and one mosque within Dhanmondi. Even in the early 80s, Dhanmondi was a picture of perfect residential area with independent homes, lakes and only a few corner shops (Hafiz, 2004). But as Dhaka started expanding rapidly, Dhanmondi had to accommodate the pressures of substantial urbanization. Within the last few years its status is changed to a semi-commercial area. Already the plots around the Mirpur Road, Road no: 27, Satmasjid Road and Road no: 2 (Fig. 2) have been converted into commercial ones. Consequently, residential structures also undergo adaptive alteration. Schools, clinics, fast food shops, banks and other commercial establishments began to crop up all over the place. Urbanization and high demand for housing in elegant locations has made Dhanmondi attractive to the affluent residents of Dhaka. But problems relating to indiscriminate development of high and medium rises are evident in Dhanmondi. The intense development of a low-density, low-rise residential area has given rise to a dense development and proliferation of built structures.

3. The State of Transformation

Dhanmondi was a planned formal residential area with all urban facilities. Gradual invasion of non-residential uses has drastically affected the quality and changed the character of Dhanmondi. It presents a unique case that is in transition having been under many development pressures and internal destruction forces as revealed from the comparison between Fig. 3 and Fig. 4. Such unplanned development has not only destroyed residential character, but has also resulted in unprecedented environmental degradation.

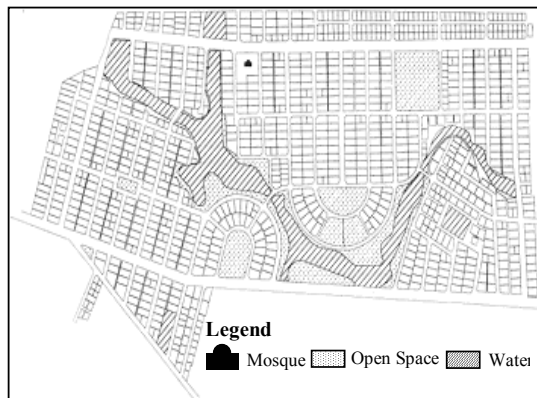


Fig. 3 Original Map of Dhanmondi (1960)

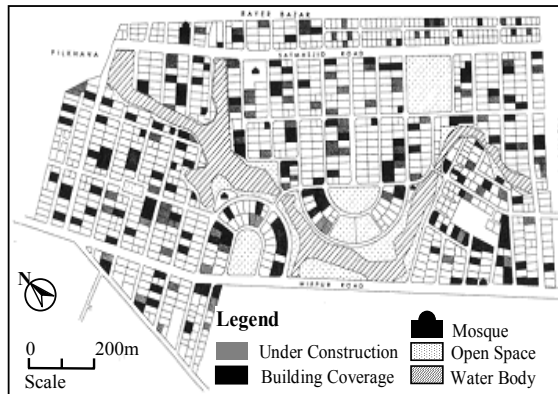


Fig. 4 Dhanmondi Residential Area in 2001

3.1 Building Stock, Changes in Plot Coverage and Height

Besides the commercialization of residential plots, the whole of Dhanmondi area has been virtually surrounded by shopping malls, hospitals, clinics, restaurants and offices. Huge number of non residential building infrastructures is noticeable at Dhanmondi and also presented in Table 1. Most houses built on these plots in early 80s, were low-rise 3 to 4 story's with maximum utilization of floor spaces. Plot sizes at Dhanmondi vary from 350 to 1400m². It was common that most houses are occupied 50% of land keeping rest spaces free for open space like green or garden and also separate garage. But now land coverage varies from 70% to 80% even more in practice. In Dhanmondi, flats were mostly used for rental accommodation as a source of income generation, multiple dwelling and limited floor space with two or three rooms with other

facilities like toilet, kitchen with few provision of parking. Due to lack of concern of authorities, building height restrictions are not honored. Out of the 256 studied buildings, 37 buildings within the area have found constructed in violation of the law which restricts more than six storey (Table 2). High rates of transformation in the building stock are occurring as extensions, modifications, alterations and high-rise (6 to 20 storey) construction are taking place by formal and informal private developers.

Table 1 Building Stocks at Dhanmondi

Structure Type	Number
School	50
NGO Office	100
College & Private University	40
Medical College, Hospital & Clinic	27
Fast food & Chinese Restaurant	17
Shopping Mall	52
Community Center	14

Table 2 Height of the Building Structures

Building Height	Number	Percentage (%)
5 Storey	88	34.38
6 Storey	131	51.17
7 Storey	21	8.20
8 Storey	08	3.13
9 Storey	03	1.17
10 Storey +	05	1.95
Total	256	100

3.2 Factors of Recent Changes

Despite the residential importance of Dhanmondi, recent development pressures have caused many of its transformation process. Lack of proper maintenance has resulted in the deterioration of local building stock and its eventual replacement by new apartments. The lack of flexibility in addressing modern urban needs is also evident. The change in cultural values has resulted in a different perception. Modern functional requirements manifested in the changing needs and new uses have created new forms of spaces, buildings and structures. Social factors such as changes in local lifestyles and household composition have stimulated the transformation process. The most important factor is the absence of responsive workable criteria and plans to guide the growth and developments in the residential area.

3.3 Fragmentation of Functions and Uses

Recent functional changes tend to result in commercial developments. The functions of many buildings along the major streets are changing from residential to commercial, institutional and manufacturing activities. Quaint independent houses have been turned to high rise apartments. Multi-storied apartments are presently used in different functions. Following Table 3 give an outlook of the pattern of use of these multi-storied apartments. Out of the 256 buildings, 30 were found to be used non-residential purpose. Different commercial uses of the buildings are common in the study area and represented in Table 4.

Table 3 Usage of Apartments

Use Types	Number
Residential	216
Commercial	30
Residential cum Commercial	6
Commercial cum Residential	4
Total	256

Table 4 Non Residential Usage

Modes of Use	Number
Education Institution	8
Hospital & Diagnostic Center	13
Shopping center	7
Restaurant	2
Other Commercial	10

3.4 Densification, Intensification and Replacement

Densification takes the form of extensions, additions and alterations to the existing buildings. This attitude varies in its scale, between the addition of a small element to a vertical extension and mainly by the individual property holder or the informal sector (Fig. 5). This has severe physical consequences, as the existing fabric is being progressively destroyed and new problems are created. The active process of demolishing and rebuilding is causing the disappearance of the earlier building stock (Fig. 6). This process is responding to new functional and technical needs (replacement by new apartments with new functions) and morphological requirement aspects. The new high-rise developments by the formal developers represent the major part of this replacement process (Fig. 7). A new skyline of high-rise apartments is rapidly appearing along the main streets, destroying the streetscape. House construction is predominantly a self-help activity in

Dhaka. Thus individual landlords from informal sector to large private developers' contribute to different phases of transformation as a whole.



Fig. 5 Densification by Individual Property Holder



Fig. 6 Demolishing & Rebuilding by Informal Sector



Fig. 7 High-Rise Construction by Formal Private Developer

4. Multi-Storied Apartments

Three decades back the city dwellers were reluctant to live in apartment while ten years back some one would have thought twice before buying an apartment. But in the last couple of years people have shown an increased interest living in apartments either by owning or renting. In recent years it becomes the most popular housing form in Dhaka. Multi-storied apartments seems to be a feasible solution to housing need of an increased pressure of population provided that good housing and urban design are factors to be taken into account.

4.1 Introduction of Apartments in Dhaka

With a rising population and increasing housing demand, apartment culture has grown up in Dhaka sharply. The horizontal expansion of the city is very limited as Dhaka is hemmed by a network of rivers that makes outward expanding difficult and only vertical expansion is possible to accommodate the growing numbers of residents. Apartments were first introduced by the formal private developers in early 80s to the housing history of Dhaka. It first appeared in Dhaka near Eastern Plaza and subsequently Dhaka experienced a boom in apartment development in all residential areas including Paribagh, Maghbazar, Siddeshwari, Shantinagar, Dhanmondi, Mirpur, Banani, Old DOHS, new DOHS, Gulshan and Baridhara, to name just a few. Soon after, small scale developers, individual home owners choose apartments to construct on their own properties demolishing the earlier house form due to high demand of housing as a result of rapid urbanization and population growth. Later building apartments become well accepted to this informal housing provider and spread out all over the city.

Twenty years ago there were fewer than five companies in Bangladesh engaged in developing apartments while today there are more than 250 developers. But there are many other companies/individuals engaged in such development in smaller scale or in informal sector. In most of the cases an individual or real estate company constructs one or more buildings comprising of several apartments, which are later sold to individual purchasers. This has prompted many individual entrepreneurs to develop apartment buildings resulting in an increased number of real estate companies in the city.

4.2 Types of Apartments

Apartment housing in Dhaka has become increasingly popular in recent days and is likely to continue. It may be worthwhile to describe here the types of apartments, which are now being built in Dhaka. Broadly speaking two types of apartment development can be noticed. Firstly, up to G + 5 story walk up apartments, which are usually RCC frame structure. The second types of development are those apartments in high-rise buildings of more than six stories. But the present trend in Dhaka City is 12-20 stories. Besides, there are other apartments provided by the informal private sector mostly for rental use.

4.3 Factors to the Emergence of Apartments

Due to the growth of huge population over a short span of time, the pressure on land for residential use has been very high. As a result, land price as well as construction cost increased significantly. Apartments are found well suited in Dhaka due to scarcity of land resources. Dhaka has experienced an unprecedented increase in land value since the early seventies. The value of land in Dhaka city, mainly in the central area, has increased at a rate much higher than the increase in cost of living in Dhaka. The price of typical residential land has increased 40 times (approx.) during the period 1975-2006. In the absence of any proper land value records it is very difficult to compare the land value over the past decades. But Table 5 will provide some idea regarding the increase in land value between 1975 and 2006.

Table 5 Land Price in Dhaka (US\$/sq.m)

Area	1975	2000	2006
Motijheel	72	900	1,650
Dhanmondi	36	567	1,430
Mohammadpur	36	309	362
Mirpur	14.5	180	385
Goran	6	155	242

Source: Islam (2005) and P. Alo (2006)

There are also other reasons such as reluctance of individuals to spend time and energy in house construction, increased awareness of apartment living and western influence. This is how apartment living is becoming increasingly popular. Moreover the absentee i.e. the wage earners in Middle East and other countries are also a major contributing factor towards the increasing demand for apartments. As a result of increased demand, many apartment builders have appeared in the market in recent years. Some of the other factors that have contributed to development of apartments includes, desire to live within the city, increasing commercial market for apartments, profitability for both owners of land and developers, availability of loans from financial institutions, existence of flexible rules for development and number of reliable developers in real estate. Furthermore fragmentation of ownership of land due to inheritance laws has led primarily the well off families to seek developers to build apartments on their lands that bring not only ownership of a few apartments to co-owners but also ready cash. Personal security has also been a big factor for many residents moving from residential houses to apartments.

5. Informal Development

5.1 Definition and Estimates

According to the definition of UN Habitat (2003), informal housing are the one which begins informally, without a title deed or services, and which the members of the household design, finance and often build with their own hands. Such housing usually belongs to the poor and gradually improves over time. In case of Dhaka, most apartments are built in their own land but construct building violating the development rule. In some cases informal apartments in Dhaka are also both legal and illegal service deficient settlements. For example, informal developers are constructing apartments without honoring the height limit of residential areas and covering 70-80% of the plot which eventually treated as an informal apartment.

In the absence of well-established formal land and housing markets, informal sector has been playing the major role to cater the housing needs of a vast majority of urban population. Small-scale builders and developers, (self-help) owner-builders, slum landlords and their intermediaries, operating in the informal private sector, are the largest suppliers of land and shelters in Dhaka. The dominant role of the informal sector is revealed as it has the 95% share of the total owned properties. In Dhaka, the rental sub-market in informal apartment is the single largest supplier of housing. Informal rental apartments in Dhaka have been estimated to vary between 50% to 55% of the total housing stock in Dhaka. With regard to the types of new housing produced, formal private developers generally serve only the upper and upper middle income groups. The dominance of the informal delivery systems over the formal system is highlighted by a breakdown of the housing stock into sub-categories. The informal sector is estimated to have produced 85 percent of the 1.0 million housing units in the Dhaka city area (Table 6). Among them private informal sector (apartments) accounts for half of the total stock and formal sector represent the only 15 percent of it.

Table 6 Relative Importance of Informal Housing Delivery Sub-Sectors in Dhaka

Housing Sub-sector		Units	Percentage (%)
Formal Sector	Public housing	100,000	10
	Private Housing	48,000	4.8
	Cooperative	2,000	2
	Total Formal Sector	150,000	15
Informal Sector	Private Housing	500,000	50
	Slums	200,000	20
	Squatter Settlements	150,000	15
	Total Informal Sector	850,000	85
Total		1,000,000	100

Source: Estimates from Islam, 2004

5.2 Housing Cost and Affordability

Existing housing supply has been characterized by 'a critical imbalance' between housing cost to household income ratio that has been known to affect homeownership as well as rental housing. According to a survey conducted by the Consumers Association of Bangladesh (CAB), in 2007 house rent in the Dhaka city increased by 250 percent in last 17 years despite presence of rent control laws and courts. Still this sector remains within the range of the urban majority as the rents in formal sector apartments are much higher than the informal sector. Thus the informal rental apartments are affordable source of shelter to the city dwellers and gain its popularity as a new dwelling style.

Residential land values in prime locations of Dhaka range between US\$ 350 and \$1430 per square meter which is too high compared to other cities in developed countries. For example, areas in the US where land prices exceed \$60 per square foot are rare (Hoek-Smit, 1998). These prices make it impossible for the limited income people to purchase land in the open market within the city area. Besides housing remain an additional cost which the upper middle class can barely afford. An average median income household needs nearly 20 years of income to own an apartment unit at current market price.

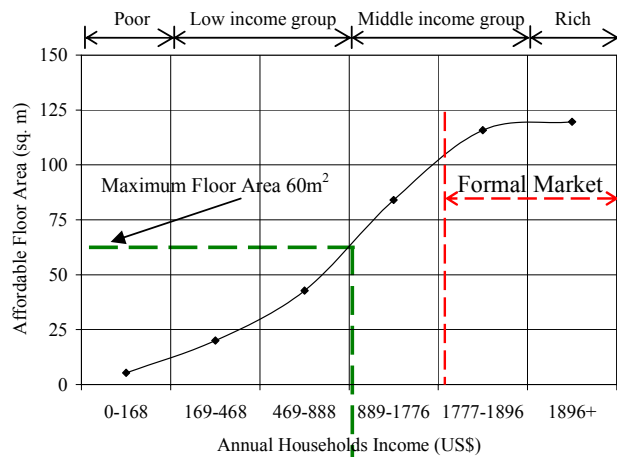


Fig. 8 Households Income and Affordable Floor Area

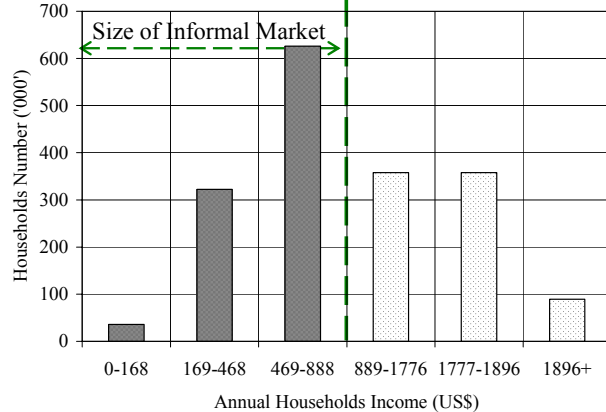


Fig. 9 Households Income Distribution

Fig. 8 and 9 illustrate the extent of housing cost (in terms of floor area) in the formal and informal market in contrast with the household income distribution of the city dwellers of Dhaka. In Fig. 9, the annual income distribution to each income group is shown with household number of individual group. Highest number of households is belongs to lower middle and low income group. Similarly, Fig. 8 represents the floor area (sq. m) that can be affordable to each income group. The projection of Fig. 9 to Fig. 8 exposes the amount of floor area that a particular group of households can afford. At current market price, a floor area of 60m² is not affordable to the majority of the city dwellers in the formal housing market. Thus the vast majority of the city dwellers depend on informal housing that is affordable to their income range. Purchasing an apartment unit is too difficult to this section of city dwellers due to the poor affordability. Hence informal rental

apartment provide them an affordable shelter to abode and thus it remain popular dwelling form in Dhaka. In the formal sector, most of the apartments are built for owner user. As a result, these apartment units are large in size and stylish. Average minimum size of these apartments is 100m². A minute part of the city dwellers can have access to these formal sector apartments.

5.3 Housing Quality

Although the informal apartments are playing an important role in Dhaka, there exists a wide range of differences in the quality of housing provided by the informal sector in comparison with the formal one. Characteristics and the difference in the housing quality by both the providers are figure out in Table 7.

Table 7 Differences in Formal and Informal Apartments

Factors	Formal Private Apartments	Informal Private Apartments
Finance	Housing projects are usually backed by strong financial support i.e. banks, housing financing institutions and mortgage bodies which eventually provides quality housing.	Weak, poor and informal finance like loan from individuals, relatives, selling other assets in rural origin are most common. Thus finance remains the main barrier to provide quality housing.
Construction	Industrialized and costly construction method are practiced generally	Self help activity and low cost construction are common
Material	High quality	Average
Structure	Mid to high rise	low to mid rise, walk up apartment
Dwelling Unit size	Units are over 100 sq. m size is typical	Unit are between 50-70 sq. m
Planning	Fairly good (Planned as owner user)	Poor (Planned as rental use)
Utility and service	Adequate	Inadequate and lack of infrastructure
Environment	Good	Poor neighborhood

6. Discussion & Conclusion

Residential areas in Dhaka have undergone commercial onslaught and their residential character are fading. The rapid deterioration of DRA in Dhaka city, due to huge population growth and rapid urbanization is likely to result in a huge housing lack that needs urgent attention, exacerbating the already critical housing situation. The process DRA developed is a demand driven phenomena. Multi-storied apartments provided by the formal and informal developer are found to be well suited in Dhaka and contributing well to the problem. Formal sector apartments are pricing much due to the high land price and construction cost and it serve the high and higher-middle income groups. More distinctly, informal apartments developed by the small scale developers and individual households provide affordable shelter to the highest segment of city dwellers of middle and lower-middle income groups though they are service deficient. Enabling, facilitating and channeling the potential of the informal sector might be an answer to the problem.

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