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**Thesis**

**Evaluation of Government Improvement Schemes in Dhaka city: An  
assessment from redistribution perspective of land value increment**

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## Evaluation of Government Improvement Schemes in Dhaka city: An assessment from redistribution perspective of land value increment

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## Summary

Government involvement in land market is crucial in land value capture paradigm from redistribution perspective as well as channelling growth and development to desired direction. The rationale behind the appreciation of value increment by government is that the benefit of collective effort must be distributed for the common goods and interest with the focus to the disadvantaged group. Large urban project is one of the ways of achieving this goal which has been practiced in Bangladesh through improvement schemes in Dhaka city. This study intended to assess these schemes from this perspective in a situation where housing and infrastructure shortage is a major problem. Therefore the major concern of the study is to investigate if the combination of mixed land use, early land acquisition and different land leasing mechanism is well enough to cross subsidize within project to ensure access to housing for the low income group.

For this research, single embedded case study has been chosen as the main research strategy using office documents (both GIS data and oracle database) as the main data source. Three different phases named as 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> phase of Uttara residential area of Dhaka city have been selected as cases for unit of analysis. The analytical methods used here are based on empirical data on land value increment and detailed statistical analysis of cost and revenue data. In theory, revenue should be at least equal to cost to ensure project's viability. Calculation of current market value of land and comparison with cost price helps to reveal the real increment in land value. Interview of two sub groups: government officials and individual experts were conducted for in depth study about the existing practice as well as triangulation of information. These large urban projects were designed and executed in different time period. As a result, time value of money of the cost and revenue components were calculated and adjusted at the price level of 2014 to make them comparable.

The important aspect of improvement schemes is the redistribution of value through cross subsidy that is profit from the auction of commercial land to subsidize flat premium of residential plots for enabling access to housing provision. This allows keeping the premium of residential plots lower than the market price but enough to subsidize within the scheme.

It was evident from the data analysis and findings that, the combination of adequate mixture of land use and different rates of premium has positive impact on cost recovery with possibilities of making large urban projects profitable. Early acquisition at current use value is also an important determinant for the cost effectiveness of the project. All these elements were evident in Uttara 3rd phase where revenue was 7.5 times as much as the actual cost. But the plot distribution process did not follow the target group of low income people as was evident from the plot allotment policy and subsequently failed to provide public goods part of value capture regime. The case study reveals how a potential package of land value capture instruments can be obliterated by non transparent policy and lack of political will.

At the end, it may be difficult to generalize the outcome of the study due to difference in socio- economic as well as cultural context. But compared to other world practices it is equally important that, the package of land value capture instruments used in Bangladesh model will open up new ideas for formulating large urban projects with cost effective solution for public goods provision through redistribution within project. At the same time, the study reveals the importance of setting development objectives to be achieved through direct government intervention in the land market.

## **Keywords**

Land value capture, Large urban projects, Improvement schemes, Redistribution, Mixed use planning

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## Abbreviations

CLAC	Central Land Acquisition Committee
DC	District Commissioner
DIT	Dacca Improvement Trust
DoE	Department of Environment
ECNEC	Executive Committee of National Economic Council
FAR	Floor Area Ratio
MIS	Management Information System
MOHPW	Ministry of Housing and Public Works
NOC	No-Objection Certificate
PWD	Public Works Department
RAJUK	<i>Rajdhani Unnayan Kartripakkha</i> (Capital Development Authority)
REHAB	Real Estate and Housing Association of Bangladesh
TIA, 1953	Town Improvement Act, 1953
TPS	Town Planning Scheme
UDD	Urban Development Directorate

## Abbreviations used in mathematical formula

Ca	Cost of land acquisition
Cd	Cost of development and others
Pfr	Fixed flat Premium
Pau	Premium from auction
V <sub>r</sub>	Market value of residential land
V <sub>c</sub>	Market value of commercial land

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# Chapter 1: Introduction

## 1.1 Introduction

This chapter gives an overview of the background of the study along with statement of the problem which the study intends to look through. This is further elaborated and explained in the objectives and scope of the study. The specific research question and consequent sub questions are based on this motivation.

### 1.1.2 Background

Rapid urbanization in Bangladesh reflects the economic concentration in the major cities along with its enormous paucity of basic needs such as housing and infrastructure. Although the larger share of GDP comes from urban economy, it brings major challenges with negative externalities (World Bank, 2007). Amid rapid urban transformation throughout the country, the highest rate of urbanization is evident in Dhaka with 34% of national urban population (Mohit, 2012). Dhaka, being the capital city of Bangladesh is the centre of all economic activities which is manifested in its character as the primate city of the country (World Bank, 2007). As a result, it pools large number of migrants every year. This has turned the city into ninth largest mega city in the world with very high population density (United Nations, 2011).

After the independence, Dhaka started to grow in both size and population with large number of rural migrants every year. The consequence is huge growth pressure on land, higher land speculation as well as very high land value compared to other part of the country. Scarcity of developable land along with high population density has created heavy demand on developable land (World Bank, 2007). The situation is even worse for those who belong to the disadvantaged group. The informal development of the past and in the peri-urban areas is a growing debate in the city management which was ignored earlier. In addition to that, they are also subject to regular eviction which reveals the spatial manifestation of social segregation in Dhaka. Control of further expansion of low income settlements and provision of affordable land to the urban poor are the major challenges as National Housing Policy envisioned housing for all with special emphasis for low income group (MOHPW, 1993).

In Dhaka city, the Capital Development Authority (*Rajdhani Unnayan Kartripakkha*, RAJUK)<sup>1</sup> is responsible for planning, development and development control. The jurisdiction area of RAJUK is 1528 square kilometre with five municipalities within its boundary. It was established in 1956 under the provision of the Town Improvement Act (TIA), 1953 with supreme power of planning and development control (RAJUK, 2014). Initially it was governed by a nine member trustee board which was replaced by a six member governing board appointed by the government in an amendment of TIA in 1987. Chairman is the executive head of the authority (RAJUK, 014). Major functions of RAJUK include planning and development control within its jurisdiction area with some additional development activities. Kabir and Parolin (2011) also described area development as one of the major functions of the authority. RAJUK undertakes schemes according to the TIA, 1953 which provides the legal framework for undertaking improvement and re-housings schemes with elaborations of aim, purpose, conditions and procedures (GOB, 1953). With this provision in

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<sup>1</sup> Formerly known as Dacca Improvement Trust (DIT)

law, RAJUK has executed a number of projects including two satellite towns. For simplification these improvement and re-housing schemes are termed as ‘improvement schemes’ in this research.

The major purpose of these schemes as are mentioned in law, are for developing or improving an area, housing accommodation, creating or improving transport and infrastructure facilities and open space etc. (GOB, 1953). Table 1 is a summary of major improvement schemes that were undertaken by RAJUK at a glance:

**Table 1 Major Improvement Schemes of RAJUK**

<b>Major schemes of RAJUK</b>	<b>Year of Inception</b>	<b>Total Number of Residential Plots</b>	<b>Total Number of Commercial Plots</b>
Gulshan	1961	1341	-
Banani Model Town	1964	1239	-
Baridhara	1962 (originally initiated in 1972)	505	-
Uttara Model Town (1 <sup>st</sup> phase)	1966 (originally initiated in 1972)	5890	40
Uttara Model Town (2 <sup>nd</sup> phase)	1988	4819	17
Purbachal New Town	1995	24697	
Jhilmil	1997	1740	21
Uttara Model Town (3 <sup>rd</sup> phase)	2002	8688	200

Source: RAJUK, 2014

According to law, RAJUK can acquire land, prepare layout for development to undertake schemes (GOB, 1953). In practice, RAJUK expropriates lands and leases serviced plot through site and services scheme under a detailed layout design and planning. These areas constitute major formal planned areas of the city. There are also similar practices by the private land developers as freehold and leasehold land ownership coexists in the formal land market in Dhaka whereas freehold private ownership is predominant throughout the country.

In order to intervene in the land market and address the acute housing demand, the large urban projects undertaken by RAJUK utilizes a number of land instruments. A master plan is prepared for each scheme under the broad zoning regulation. Mixed land use planning was introduced in the later schemes. For realization of these large urban projects, the government can expropriate land for public interest with payment of compensation. After provision of infrastructure and facilities, the serviced plots are delivered through leasing.

Referring back to the tools and mechanism used in government improvement schemes, it can be said that the tools used may have different but significant impact on land and housing market in different contexts. For instance, among the tools used in the improvement scheme, land leasing has been practiced throughout the world for more than hundred years with different goals and rules according to context (Hong and Bourassa, 2003). Many developed countries have successful examples of this land value capture tool. But the context is different for developing countries where housing and infrastructure shortage goes hand in hand. Here comes the rationale of government intervention in land development for public goods

provision (Bertaud, 2010). Land market intervention through leasing serviced land to individuals has been practiced in Dhaka city for more than 40 years without any evaluation of its outcome. Actually the history of such projects dates back to the British colonial period as the first one was in Wari, one of the oldest planned housing schemes during the British rule. Government leases residential plot for 99 years at a predetermined nominal rate which is far lesser than the market price presumably. But this has not been fully explored whether they ensure the access to the low income section of the society in the land market that is from public goods perspective. There is no official classification of different income group in government census or even in National Housing Policy, 1993 (MOHPW, 1993). As a result, an assessment to the whole large urban projects in Dhaka city is important for policy formulation. Figure 1 is a schematic diagram showing the major land instruments used in the government schemes:



**Figure 1 : Land value captures tools as the major components of Improvement Scheme**

### **1.1.3 Problem Statement**

Dhaka City is overburdened with its huge population and lacks adequate infrastructure and housing. Various problems regarding land related issues like very high land value with higher rate of increasing values, very high growth pressure and land speculation is very common in the urban areas of the city. The situation is aggravated by regular influx of rural migrants who are compelled to live in informal slums and squatter settlements because of limited income. Moreover, 37.5% of city's population lives in the informal settlements in only 5.1% urban land (Mohit, 2012). World Bank (2007) also identified inefficient land management and its flood plain topography as the major cause of this land market situation. The emerging private housing market serves mainly the upper and upper-middle income households (IMF, 2013). In effect, the low income group remains outside the formal land market. Hence, this calls for strong government intervention in the land market in order to enable access to housing for the low income group due to the tendency of speculation by formal land market (Gattoni, 2009).

In case of Dhaka city, government apparently overlooks this issue as the impact is hardly visible in the land market in terms of access to land. Government expropriates land to undertake site and services scheme and allocates land at lower price through land leasing which were targeted to meet housing demand with special emphasis to the low income segment. In effect, the extent of government intervention is insignificant in the land market as the supply constitutes only 1-2% of the demand (World Bank, 2007). Adding to that, in reality the serviced land goes to the higher income group with the consequence of further escalating land value. As a result residential Land value in prime location areas of Dhaka is one of the highest among the developing countries (World Bank, 2004).

In this regard, the root cause identified by Acioly (2008) is that in a private property regime most of the land stocks are kept vacant for speculation resulting in scarcity of serviced land in

many Asian cities which is also true for Dhaka city. As a result, insufficient land available for development is a major cause of price escalation and distorted market. He also identified that city government is missing the opportunity to retrieve the value increment and provide adequate shelter for all in this region because of the absence of effective tools. Whereas, the role of government intervention in land development is usually central even in the developed part of Asia in spite of having strong market economy such as in Japan, Singapore or South Korea (Bertaud, 2010).

On the whole, the current practice of Dhaka city shows some sort of direct government intervention in the land market of Dhaka city through the execution of improvement schemes by the Capital Development Authority (RAJUK). The significance of this government intervention in the land market of the city is the matter discourse within resource constraint for public goods provision. This calls for a separate but comprehensive analysis of these large urban projects for better understanding of their role in the urban land market of Dhaka city as well as ensuring access to urban land for all from the public goods perspective.

#### **1.1.4 Research Objectives**

The objective of this study was to investigate the role of government improvement schemes as a mechanism for redistributing value increments for providing serviced land for all specially for those who need government support to have access to land market. The research objectives includes the study of how effectively the components of improvement schemes are utilized such as mixed use plan and land acquisition criteria along with different land delivery system. It also include an assessment of their impact in cost recovery through cross subsidization within project and their impact on the land market of Dhaka City. The overall objective will be to assess the success or failure of improvement schemes to utilize the opportunity that was targeted while implementing to capture windfall gains and enabling access to housing in the land market of Dhaka city. The objectives may be stated as follows:

- to assess the impact of mixed use planning in the improvement schemes for cross subsidization within project;
- to identify the impact of land acquisition and other cost components on the schemes in terms of financial aspects of cost recovery;
- to assess the effectiveness of different land leasing mechanism in redistributing income from land value increments of improvement schemes;
- to identify the significance of government intervention in the land market of Dhaka city in terms of serviced land provision through improvement schemes;
- to investigate the current practice of improvement schemes in comparison with legal provisions and targeted goal of the projects.

#### **1.1.5 Research Question(s)**

The research question is formulated as follows:

**To what extent the combination of instruments (mixed use planning, expropriation and land leasing) of improvement schemes are redistributing land value to enable access to serviced land for housing in Dhaka city?**

In order to reach the answer of the research question, necessary sub-questions to be answered are mentioned below:

1. What are the impacts of land use mixture in cross subsidization of land value increment in improvement schemes?
2. What are the impacts of land acquisition criteria in cost minimization of improvement schemes compared to other cost components?
3. To what extent different rates of leasing premium of different land uses help cross subsidization and cost recovery in improvement scheme?
4. How significant is the provision of serviced land from improvement schemes for ensuring access to land for all?
5. How effective are the institutional framework and policies for the provision of serviced land to ensure access to all?

### **1.1.6 Significance of the Study**

Government is executing improvement schemes in Dhaka city which dates back to the history from the British period but with different forms and design criteria. After the formation of Dhaka improvement trust (DIT, later renamed as *Rajdhani Unnayan Kartripakkha*, RAJUK in 1987), such schemes were executed by the authority (Islam, 1987). Since this has been practiced intensively from sixties, the design parameter also went on some changes from time to time. The initial housing schemes were only designed for specific land uses such as residential or industrial etc. Mixed land use design concept was introduced later.

This study of comparison of different level of mixed use development, land acquisition and different rates of leasing premium (the detail definitions of the concepts are discussed in chapter 2 of the thesis) of different projects will help to formulate policy for redistribution of revenue and the design parameters for the projects and allocation of prices of different land uses. An effective evaluation of policy implication of the past improvement schemes will facilitate future modification in the schemes. In addition to that, the value capture notion of government improvement scheme has some impact on the whole process from public goods perspective. An evaluation of the projects will shed light on how much government is capturing the value increment from the execution of the projects and find the gap if there exists any. The implications will be the future policy formulation in a better way to redistribute the collective achievements to a larger segment of the society, especially the disadvantaged group.

### **1.1.7 Scope and Limitations**

The scope of the study confines in a comparative assessment of utilization of different components of improvement schemes in Dhaka city and assess the effectiveness of those components for redistribution of land value increments as these projects were based on no profit no loss goals. On the other hand, the study will not assess each of the particular value capture tools but a package of instruments and their cumulative effect on the land market in terms of accessibility.

It is important to be noted that, access to housing is assessed here in terms of supply of serviced land. This issue has not been addressed from the social housing perspective or detailed aspects of low income housing provision by the improvement schemes. Rather the

land delivery mechanism in terms of public goods perspective of improvement schemes of Dhaka city has been explored. The scope of the study is limited in the assessment of significance of supply component of land at subsidized price as a means to ensure access to housing. Detailed investigation of housing for low income group and affordability is beyond the scope of this study due to the vastness of the topic.

Correspondingly, it is not possible to cover all the schemes in Dhaka city because of time and resource constraints. It is also difficult to compare three projects as each site is unique in character which is also mentioned by Fainstein (2012). In order to overcome this limitation, the three cases selected for this study have similar location and socio-economic characteristics. In fact, they are the three phases of a township project which aimed to solve the housing problem of low and middle income groups of the city.

## **1.2 Thesis Structure**

The thesis includes five chapters. The first chapter starts with a brief introduction of the background of the study and statement of the problem that is intended to be addressed. As already described, it also includes the main research question and consequent sub questions. It also has an overview of the scope and limitations of the study with special reference to the significance of the study.

The second chapter of the thesis explores the body of knowledge that already exists in the area of large urban projects from the perspective of land value capture paradigm and practices around the world. It also consists of a critical review of the land value capture tools used in different large urban projects across the world with special emphasis on mechanism of planning, acquiring of land and land delivery. At the end, a conceptual framework of the thesis is presented based on that theoretical background. The conceptual framework includes both visual representation and mathematical formula.

The third chapter of the thesis elaborates the single embedded case study as a research strategy selected for this study with justification. A detailed description of the methodology and data sources which are mainly GIS database and oracle database collected from different departments of RAJUK are described here. Another source of primary data is interview of the key informants which will also help to validate and triangulate data from office records. Various methods of data analysis and software such as Excel, ArcView and Atlas-ti 7 will be described here with special attention to maintain validity and reliability of the research. The operationalization matrix of table 2 will give an overview of this chapter.

The fourth chapter will reveal the findings of the study based on the field work and methodology described in chapter three. The descriptive statistics are based on the intended variables those are land use mixture, means of land acquisition and serviced land delivery system analyzed from the redistribution of value capture paradigm. Cost and revenue scenario of each studied scheme along with its supply component of housing are illustrated in this chapter.

The fifth and last chapter concludes with the general findings with a detailed discussion on opportunity for redistribution of the improvement schemes in Dhaka city and aspects of social housing provision. It also indicates recommendations for further study such as in the particular area of determining level of affordability, compensation criteria gentrification if any etc.



## **Chapter 2: Literature review**

The two main goals of government intervention in land market includes capturing land value increment produced by collective efforts and redistribution of the value captured for ensuring equity and public goods. The level and approach of intervention is the issue of debate around academic and practical arena and also the issue of this intended research.

For this purpose, this chapter of the thesis deals with a critical review of existing theories and debates around land value capture and government intervention through large projects like government improvement schemes in the value capture paradigm. The level of government intervention varies in different countries from highest level of provision to the lowest level of facilitator of the market. The existing practice of government improvement schemes in Dhaka city that was introduced in chapter one, is viewed from the context of high growth pressure on land. In relation to that, the impacts of individual land value capture instruments; for instance the methods of planning and acquiring land to allocate them for redistribution perspective while implementing large urban projects are explored critically.

### **2.1 Paradigm of land value capture**

Public investment on infrastructure and services, change in land use regulation and population and economic growth are some of the main elements of land value increment according to many scholars (Hong and Brubaker, 2010; Smolka, 2013; Fainstein, 2012). But there is a growing debate around this paradigm, especially if there is any real value increment by population as well as economic growth caused by government intervention. At the same time, there are arguments as if that should be captured fully or partially by government or not (Ingram and Hong, 2012).

It is important to mention here that, it is difficult to determine exact cause and amount of value increment by government action (Ingram and Hong, 2012). There are also problems regarding valuation of land and ambiguity of objective for value capture in some cases (Booth, 2012). But fiscal crisis brings the urge for finding revenue sources where land value capture regained its importance (Ingram and Hong, 2012) which are revealed in the foregoing sections.

#### **2.1.1 Public land value capture versus private property right**

The paradigm of public land value capture versus private property right has been under contention for a long time in the academic and practical arena. The importance of it is now well established from public goods perspective. Land value capture is defined by Smolka and Amborski (2000) as the process of recouping full or part of land value increase caused by public action through fiscal or regulatory policy. Ingram and Hong (2012) found a direct link between value capture and concept of property right. They explained that the institutional framework and socio-political philosophy determines the norms and extent of value capture by government. Now- a day's, many countries in the world have adopted the idea of social obligation through land use regulation and real property tax (Alterman, 2012). She has used the term "Windfall capture" to explain this.

Simultaneously, Hong and Bourassa (2003) emphasized that the unearned value increment of an individual private property should be recaptured by government because collective investment raises land value not only locational advantages.

Besides that, Ingram and Hong (2012) have identified that developing countries struggle around financing basic services because of their growing population with high demand for urban land which brings the requirement for land value capture by government. The public good perspective solves the paradigm of land value capture to a degree. Bertaud (2010) identified public good perspective as the reason behind government's role as de facto developer. This infrastructure and affordable housing otherwise would be difficult to provide privately.

### **2.1.2 Land value redistribution through in social housing: importance from public goods perspective**

The rationale for government intervention for social housing provision is based on the public good nature of it and its impact on human and living environment. Turk and Altes (2010) explained the background as the world is characterized by unequal distribution of wealth and inadequate supply of affordable housing. High land price is one of the crucial elements for access to housing. They also highlighted in different issues regarding public housing provision.

In this regard, Fainstein (2012) has argued that land value increment should not only used for collective purposes but also should be directed to the disadvantaged portion of the society where exists the issue of justice and equity. According to her, the whole process of value gains should be distributed in such a way that it does not cause displacement of the low income group. Again, Government's failure to capture value increments in land may redirect the social goal of housing for the poorest section to speculative land market (Bonilla and Galeano, 2000).

On the other side, Hong (2003) argued that it is difficult to achieve the two goals of revenue generation and affordable housing provision at the same time. Smolka (2013) found it even more challenging when value capture strategy is used for self financing the provision of serviced land for low income housing. As a result, different level and extent of government intervention is crucial in this case.

## **2.2 Public intervention and large projects in the value capture horizon**

Large scale urban development projects involve re-zoning and urban infrastructure and service provision in the form of new town schemes and re-development projects. In order to recover the costs of public infrastructure, various instruments were used but future valorisations are not reflected in the recaptured value (Smolka, 2013). Van der Krabben et al. (2011) considered that large government improvement schemes or projects have the opportunity of recouping all the investment for infrastructure provision. On the other hand, Smolka (2013) identified that the success of these projects depends on the decisions of the policy makers to a degree. In spite of that, in the context of high rate of urbanization, dual housing market (both legal and illegal) and unequal distribution of wealth - government intervention is crucial for social housing provision (Turk and Altes, 2010).

There are different ways of state intervention like financing (subsidy), provision of serviced land- freehold/ leasehold, expropriation, private developers' share as a part of provision by regulation or market demand, non-market strategies, cross subsidization- selling of commercial lots etc. that are practiced in different countries (Turk and Altes, 2010). There are also different approaches such as land readjustment, financing from surplus infrastructure, sell of cost equivalent plot, multi-unit housing design etc. (Turk and Altes, 2010).

As an illustration, government schemes are practiced in developed welfare countries in the form of public land development projects among which prominent examples are the Netherlands and some other European countries as France, Sweden etc. (van der Krabben et al., 2011). This is also evident in many Asian cities in different formats such as in Singapore, South Korea, India, Japan and Hong Kong (Roland and Doling, 2010; Bertaud, 2010) as well as in Latin American cities especially in peripheral or vacant land (Smolka, 2013).

A comparative study of those different models for government intervention in the land market through large urban projects will help to understand the background empirical evidences and debate around academic arena. Case studies from different countries place the arguments on these issues and in the academic debate. The different combination or package of instruments is judged individually from the value capture perspective in the later part of this section.

### **2.2.1 Origin of large development projects**

Large urban projects through direct government intervention in many developing countries of Asia and Africa inherit their origin from British colonial planning though in different names and forms. But throughout the world, it has been practiced as a way of self financing the projects for the provision of infrastructure and social housing. During later half of the twentieth century, many projects were implemented by government agencies for housing provision of low income group using sites and services scheme in Asia and Africa (Jenkins, et al., 2007) as well as in Latin America (Smolka, 2013).

Large government projects of different names and forms as well as composition of package of land value capture tools in different context are discussed in the foregoing sections.

### **2.2.2 Levels of government intervention in large projects**

Large urban projects involve different form and level of government intervention in the land market. It starts from the role of direct intervention as housing provider to the role of government as facilitator to enabler (Smolka, 2013). This large or macro projects also have the mixed land use components as are mentioned by Gattoni (2009).

#### **2.2.2.1 Direct government intervention through large projects**

##### **2.2.2.1.1 Public housing: Singapore model**

In the case of Singapore, government is the direct provider of housing instead of serviced land for development. Roland and Doling (2010) mentioned the Singapore model as 'asset based welfare' and explained how home ownership of Singapore is integrated with social security system. They use a combination of compulsory savings for the residents and house selling by government. This extreme state intervention resulted in about 80 percent houses

are owner occupied that are provided by public housing authority and this success was possible through direct intervention in land and housing market (Fainstein, 2012).

In the Singaporean model, government is the owner of most of the lands of Singapore. They capture value increments through selling only improvements on land in the form of housing unit which are further invested in another projects (Roland and Doling, 2010). Figure 2 gives an outline of Singapore public housing model.



**Figure 2 Schematic diagram of public housing model of Singapore**

Land banking was the policy of Singapore during early 60’s which helped planned development as well as strong control over land market. The Singapore model is unique as is mentioned by Feinstein (2012). This model reveals an equity based asset formation. Strong control over resale of housing unit and restraint in land value along with the use of Central Provident Fund only for housing purchase brings equilibrium of demand and supply (Fainstein, 2012; Roland and Doling, 2010).

**2.2.2.1.2 Public land development model of the Netherlands**

One of the most dominant and pro-active role of government is evident in Dutch planning practice through public land development (Needham, 2014). This model of the Netherlands has the combination of expropriation (eminent domain and pre-emption), service provision and supply through selling or leasing to the commercial and non-commercial (social housing) developers having the advantage of recouping all the investment for infrastructure provision (Needham, 2014; van der Krabben et al., 2011). Gains from this value capture increment are used to subsidize other projects in many municipalities of the Netherlands from centuries and land price for social housing was determined by national government until 1995 (Needham, 2014). The public land development model of the Netherlands is the example of highest level of government intervention through direct provision of serviced land (van der Krabben and Jacobs, 2013). Figure 3 is an illustration of Dutch public land development model:



**Figure 3 Schematic diagram of the public land development model of the Netherlands**

Again, in the critical analysis of the model, van der Krabben et al (2011) found that the arguments for this pro-active planning model are manifold. These include the benefit of direct development control, financial benefit through revenue generation and use of profits for cross subsidization of social housing and creation of public space. The reasons behind the successful implementation of this model in Netherlands as are mentioned by them are municipalities did not have monopoly but they have some privilege as use of expropriation tool backed by law. Compensation was based on real market value but they were just above the agricultural value. Besides that they sold the serviced land at cost price leaving room for the developers for making profit.

On the contrary to that, the public land development model also has the criticism of having ‘two-hats dilemma’ from the perspective of planning versus profit making as municipality being acted as both statutory planning authority and land developer (Needham, 2014). It also involves a financial risk which is also a cause of lesser government involvement in the recent three other models especially after mid 90’s as was indicated by him.

### 2.2.2.1.3 Land leasing in Hong Kong model

The large scale housing development projects of Hong Kong are based on land leasing. In Hong Kong government is the owner of most of the lands and land is delivered through public leasehold system with fiscal consideration in focus (Hong, 2003). Hong (2003) has described the process as government having plan for delivering a piece of land, prepares a Condition of sale with all the requirement and restrictions and thus manages urban growth. This is based on the outline zoning plan and land is auctioned to obtain maximum revenue. Private developer is responsible for the provision of all the infrastructure and facilities within the project.



**Figure 4 Schematic diagram of large housing development projects of Hong Kong**

Again, in order to address the housing issue of low income group, lands are provided at lower premium which are set by negotiation with non profit or quasi-public agency.

### 2.2.2.2 Medium level government intervention in large projects

#### 2.2.2.2.1 The town planning schemes (TPS) of India

The town planning schemes (TPS) of India shows a more market driven approach with less government intervention therefore falls in medium intervention level. But certain degree of planning is necessary to implement this (Sanyal and Deuskar, 2012). This has been used in India since 1915 but suited in 1990 which also uses a package of land value capture instruments which are illustrated by Sanyal and Deuskar (2012). The scheme uses the concept

of land readjustment to some extent along with betterment charge and selling of land through auction for land value capture and provision for low income housing. The scheme follows a number of pre conditions such as compulsory participation by the land owners. The integration of original owners and informal settlers poses the opportunity to provide access to housing for the low income group. It also has the advantage of creating suburban infrastructure (Bertaud, 2010).



**Figure 5 Schematic diagram of town planning scheme of India**

In effect, there exist some difficulties from planning to actual practice in the scheme according to Sanyal and Deuskar (2012). These include valuation of land both before and after development and landowners being speculators or rich people in many instances. Market efficiency is hindered by long implementation period due to bureaucratic procedure. Moreover, Bertaud (2010) also observed that the schemes sometimes fails to cover cost of infrastructure and hence requires subsidy. But the government can recover cost through charging a betterment tax usually paid in instalments by the landowners over a period of time (Sanyal and Deuskar, 2012). On the whole, the project can provide land for low income group through inclusionary housing and keep the project cost lower because it uses land readjustment instead of expropriation.

#### **2.2.2.2.2 Macro Projects of Colombia**

Several macro projects have been introduced in Colombia to share land value increments with private sectors in order to provide infrastructure and social housing as are addressed by Smolka (2013). The Colombian case of ‘urban macro projects’ used specific management approach with private involvement in the projects as were evident in case of Desepaz project and Usme projects (Bonilla and Galeano, 2000; Smolka, 2013). Among them, self financing through land value increment to provide serviced land to the low income group was used as the main idea of Usme project as are described by Smolka (2013) and Maldonado and Smolka (2003). It included a series of mechanisms such as placing opportunity for the land owners to participating in the project through contribution in land or to be expropriated at the value before announcement of the project, use of partial plan to readjust the area for service provision and share of increased land value to cross—subsidize within project (Maldonado and Smolka, 2003). The major components are shown in the figure 5:



**Figure 6 Schematic diagram of Usme project of Colombia**

The Usme project used the land management tools to meet two important goals such as to confront with the issue of illegal land sub division and providing infrastructure and social housing to ensure access of the low income segment. The separation of building right and property right was also an important aspect of the project (Maldonado and Smolka, 2003).

### 2.2.2.3 Government’s role as a facilitator in housing provision

The examples of lowest level of government intervention are found in the case of Chilean model

#### 2.2.2.3.1 Chilean model

The Chilean model of upfront subsidy is the example of lowest level government intervention where government mobilize finance through subsidy and accumulated savings of the low income group. The model is based on increase of effective demand by subsidy to the poor families from government and supply side is provided by private sector (Gilbert, 2004). He also found that the model was appreciated by World Bank and other UN organizations for lower government intervention and higher market dependency. But he criticized the policy on the ground that it is pushing price instead of increasing ability to pay.



Figure 7 Chilean model of upfront subsidy

### 2.2.3 Critical observation for government intervention in land market

Government intervention in land market is viewed from both positive and perspective by the academicians and professionals. This happens usually when the market is dominated by public land ownership with some degree of monopoly. Acioly (2008) has criticized government land banking for creating scarcity of land and encourage informal subdivision. According to Needham (2014) when government uses both the power to develop and regulate at the same time there is chance of misuse of that combination of powers. He also identified the financial risk involved in the large projects and questioned if the return is sufficient enough for financing infrastructure. Bertaud (2010) argued that government ownership of land limits supply because of underutilization of land. Gattoni (2009) addressed lack of follow up, corruption in plot allotment policy, lack of political will etc., as the major causes of failure of these macro projects.

On the other hand, Bertaud (2010) also admitted that public intervention in land development is important for the supply of public goods and infrastructure. Fainstein (2012) believes that only public ownership of land cannot ensure equity to development unless there are political will but it creates the opportunity of putting greater control over land. She advocates for strong government intervention in the land market through public ownership of land which may work even in a capitalist environment. Similarly, according to Hong (2003) public ownership reduces land cost for providing public housing for the poor which helps to

make the projects viable. In brief, the success depends on administrative and political priorities, institutional arrangements whereas other unanticipated obstacles may also influence the successful implementation of the projects (Smolka, 2013).

#### **2.2.4 Effective land instruments for large urban projects**

The previous discussion on several large urban projects based on different level of government intervention reveals that, different combination of land value capture instruments are used in different contexts aiming at cost effective provision of public good. Among the package of instruments used in government schemes, some of the main value capture instruments are discussed here with their potential alternatives. These include mixed use planning, expropriation and land leasing for the provision of affordable housing through sites and services provision. The subsequent sections analyze the different instruments and arguments around implication of those tools.

##### **2.2.4.1 Mixed use development plan versus segregated land use**

Among the individual instruments, mixed land use planning is the planning of land use mixture for different uses for a specific area consisting of residential use, commercial use etc. (Song and Knapp, 2002). Land use planning has been viewed as defining desirable land use by Needham (2014) which may be passive or pro-active. He considers that direct involvement in land ownership by government facilitates the process of pro-active planning when large scale change is required.

On the other hand, Song and Knapp (2002) mentioned that there was a general tendency of segregated development of residential neighbourhood in 60's which was a major cause of urban sprawl. They also showed that a mixture of residential and commercial land uses have positive impact on property value. From this point of view optimum mixture of land use is crucial.

It is observed that, the initial stage of any government scheme requires a plan which was evident in the case of the Netherlands, India, and Colombia. It is the pre requisite of all the schemes discussed earlier of different level of government intervention. The arguments around the plan are whether they are efficient enough for cross subsidization of projects and how participatory they are (Sanyal and Deuskar, 2012). New urbanism concept also supported the mixed use concept (Song and Knapp, 2002). But the optimum level of land use mixture has not been addressed properly from the perspective of project's viability or cross subsidization within project.

##### **2.2.4.2 Expropriation versus negotiation**

Expropriation or acquisition is the tool that allows government to acquire private property, without the owner's consent for public interest and with the payment of compensation (Azuela and Herrera, 2009). Expropriation has the advantage of both direct and indirect planned development according to zoning through infrastructure and service provision. At the same time, it doesn't completely deny the owner's rights as they are compensated (Azuela and Herrera, 2009).

Again, accumulation of land in the large urban project is an important criterion for project viability due to its major cost involvement (Smolka, 2013). Expropriation is important when negotiations break down or when land resources are not fully utilized (Needham, 2003). The



cost of expropriation may be increased by negotiation as announcement also affects the land price through creating expectations (Smolka, 2013).

On the other hand, according to Needham (2014) negotiation for payment of compensation may slightly increase the payment of compensation but may not always reflect the market value of land as one party may be advantaged by the property market. On the other hand, a number of complexities are also associated with expropriation: firstly, government needs sufficient funds to cover the compensation, secondly there are also complication in setting compensation as there is always a debate around defining 'fair' compensation and defining 'public interest' (Ambaye, 2009; Azuela and Herrera, 2009). It is difficult to judge mere planning as 'public interest' for expropriation unless the development right is excluded from property right and only decided by development plan as was indicated by Azuela and Herrera (2009). Nevertheless, in spite of having all these complexities involved in the expropriation process, it does not actually have an alternative in terms of collective interest (Azuela and Herrera, 2009).

#### **2.2.4.3. Leasing versus selling of land**

From the previous discussion of different models of large urban projects, both selling and leasing of land were evident in different models. It is possible to sell or lease land at market price which is the maximum residual value (Needham, 2014). In public land leasing, government collects premium or ground rent through leasing land for specific time period (Hong, 2003) whereas buildable plots are sold to developers in the Dutch case (Needham, 2014).

The logic behind government leasehold is that government can retain the ownership of land to generate revenue and control land use and growth at desired direction (Needham, 2003). Hong (2003) supported this with the example of Hong Kong as a successful example especially in terms of the first objective of fiscal consideration. Another advantage of leasing as was mentioned by him is that, government has the opportunity to take the land back after the expiree of lease which is not possible in case of selling land.

Refereeing back to the precondition of land leasing, it needs state ownership of land with possibilities of private use. It has wide range of options and flexibility. It also offers scope for attracting foreign investment, serves as primarily the interests of the community and provides revenue when the land is not ripe for development (Hong and Bourassa, 2003).

It is important to mention here that the main sources of revenue in land leasing are premium and ground rent. Here, premium is the up-front amount paid at the beginning by the lessee and ground rent is the annual payment. Different leasing mechanism can be adopted such as negotiation, auction, listing, bidding etc. to determine lease payment and the rate of premium for different land use category. From all these discussion of different methods of land leasing, Hong (2003) in his paper has also shown that premium obtained from first auction is the major source of revenue in case of Hong Kong.

Simultaneously, the weakness of leasing includes identification of suitable collective and operational rules (lease term, payment, renewal etc.) for specific context as well as conflict between maximum revenue gains in relation to affordability also argued (Hong and Bourassa, 2003). Anderson (2012) also argues that the two goals of obtaining lease revenue and provision of affordable housing are not possible to achieve at the same time because high premium from auction may push house price up. He considers land selling as more efficient than land leasing to capture value. On the contrary to that, Hong (2003) found that Hong

Kong has solved this problem of leasing through regular supply of land for housing to the quasi-public authority at subsidized price.

Again, in terms of public control over land, leasehold is the better way with greater flexibility as are mentioned by Hong (2003) and Fainstein (2012). Moreover, Hong (2003) found that there is a scope of reinvesting the money for public housing that is recouped from land leasing. On the whole, a trade off is required to balance in setting of goals by government (Hong and Bourassa, 2003).

### **2.2.5. Large urban project as a means of access to land and housing**

Government intervention aiming at ensuring access to housing means access to the elements of housing process such as land, law, credit or building material etc. apart from direct provision of housing units (Nientied and Linden, 1985; Choguill, 2007, Gattoni, 2009). Among those elements, Gattoni (2009) has observed that, land is crucial for its complex nature and political influence of the vested interest group and failure to manage urban land results in wasteful consumption and price escalation. Bertaud (2010) also considers failure in the provision of urban land is a major cause of higher housing cost and creation of slums. Hence, access to cheap land is an important determinant in the provision of affordable housing which is reflected in many sites and services projects along with other methods. The idea behind these sites and services projects was to supply urban land with basic services by government to let the low income group build their own houses (Choguill, 2007). Cost effectiveness was always a consideration in those projects as well as incremental self-help housing (Gattoni, 2009).

As a matter of fact, large urban projects using sites and services schemes was initially promoted by World Bank and other donor agencies because of no requirement of subsidy for the provision of affordable land during 70's (Gattoni, 2009; Bertaud, 2010). Application of market principles for cost recovery and self-help housing of John F. Turner acted behind this principle (Jenkins, et al., 2007, Gattoni, 2009). This policy was later withdrawn by World Bank during 80's because of less effectiveness on cost recovery (Gilbert, 2004). On the other hand, Gattoni (2009) felt that, proper evaluation was not documented of those later sites and services schemes which are still relevant for the rapidly growing cities of developing countries. He also observed that, these sites and services projects have the potentiality to design mixed use development if location and standard address the need of the target group. Whatever be the land delivery mechanism, Bertaud (2010) observed the need for developing an analytical mechanism to assess the projects in practice in terms of development objectives

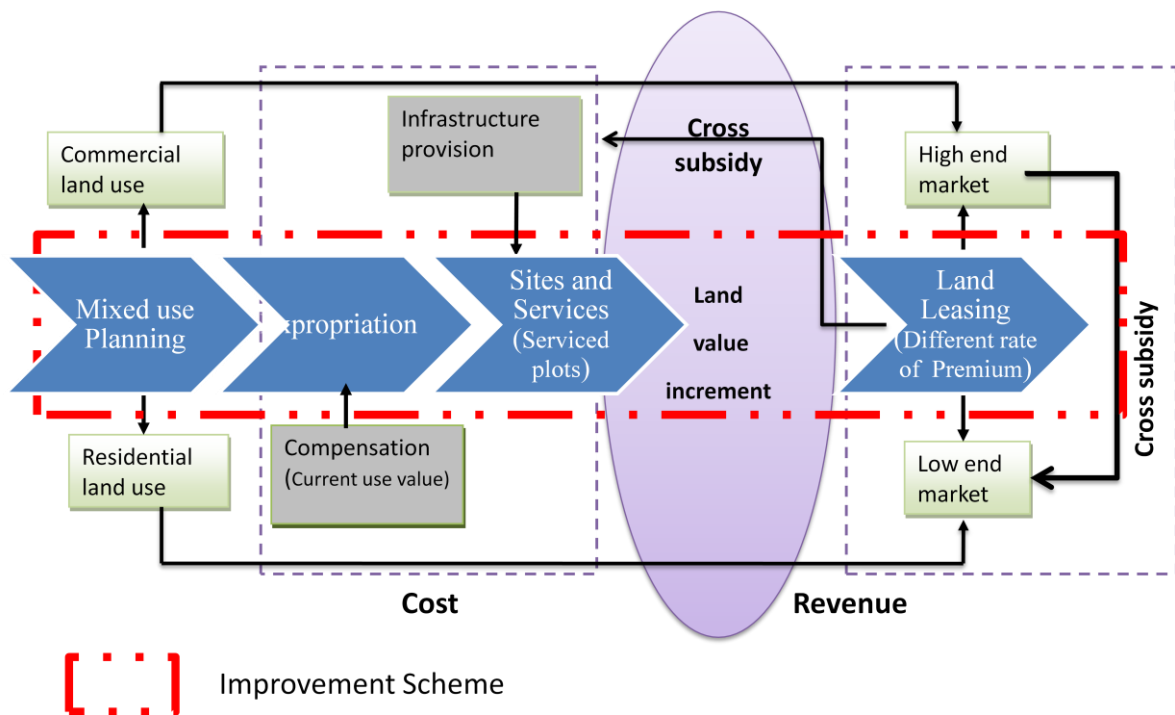
## **2.3 Conceptual Framework**

The conceptual framework for studying improvement scheme is formulated on the basis of literature review to explore the theories and practices of different level of government intervention in large urban projects. The theories show a greater inclination to direct government intervention with successful outcome in different countries. The context of this study also has the elements of direct government intervention through improvement schemes which is also a cause of selecting this model. Figure 8 visualizes the sequential use of land value capture instruments in improvement scheme:



**Figure 8 Schematic diagram of Improvement schemes with major instruments**

In theory, a government improvement scheme has the prospect to capture land value through mixture of land use and different rate of premium. It can utilize the revenue to finance serviced land provision for housing through cross subsidy even within projects. The conceptual framework for this study is developed on the basis of literature review that helped to set the line of arguments for a successful large urban project. Figure 9 shows the conceptual framework formulated for this research:



**Figure 9 Conceptual framework**

**Mathematical formula:**

The project will be viable through cross subsidy within project if,  
 Total revenue,  $(Pfr+Pau) \geq$  Total cost,  $(Ca+Cd)$  .....(1)

- Here, Premium of plots at fixed flat rate = Pfr;
- Premium of commercial plot from auction = Pau;
- Acquisition Price = Ca = Initial Land Price (before development);

All other Development Cost = Cd ;

In this case, if the land acquisition cost and all other costs such as land development, infrastructure provision and other project related cost is recovered through premium of land the project will be viable. Here, total revenue must be at least equal or greater than the cost for the large urban projects of improvement schemes to be cost effective. On the other hand, if total costs outweigh total revenue, the project will need government subsidy from outside.

In this connection, Government subsidy will be required for residential plots if,  $V_r > P_{fr}$  .....(2)

where  $V_r$ , is the Market Price of Residential Land;

This implies that if the per unit real market price of residential plots are higher than the flat rate of premium, government is subsidizing the residential plots for keeping price affordable. In this case government is not capturing the land value increment from the provision of infrastructure.

Again in case of the policy for commercial plots,

Government captures land value increment from commercial plots if,  $V_c = P_{au}$ ; .....(3)

Here,  $V_c$ , is the Market Price of Commercial Land

As the commercial plots are auctioned, according to theory they must accrue the real market price and hence should be equal to the rate of premium.

## 2.4 Conclusion

Countries around the world have developed different apparatus to capture land value increments generated from large urban projects for the redistribution in public purpose (Smolka, 2013). For this purpose the level of government intervention varies in different context from the pro-active role to facilitator using different instruments. However, the advantage of direct government intervention is on the more regulating power as land owner and probability of making profit at the same time (Needham, 2014). But the success and failure of these goals depends upon certain criteria and combination of instruments used by the policy makers (Smolka, 2013). To be cost effective, the two important key features of large urban projects are setting of land price for acquisition of land before announcement of the project and adjustment of the plan aiming at self financing of the projects (Smolka, 2013).

For this purpose, the assessments of large urban projects are made on the basis of criteria of large projects as a whole, not in terms of its each instrument. The key features of the major value capture tools are also evident in the theory that helped to make the projects viable. For instance, Hong's (2003) argument for choosing auction in land leasing is that it is the best way of capturing land value as was evident in the case of Hong Kong. Besides that government ownership of land under leasehold system helps to ensure control towards desired growth and development (Hong, 2003; Fainstein, 2012). As a result, leasing instead of selling can also be effective for growth management. Again, government as direct provider of serviced land has the advantage of keeping land price lower to ensure access to housing. But both Singapore and Hong Kong have the advantage of having public land ownership which was not the case of other models.

In this context, the criteria used for this study for assessing each level of government intervention are based on self financing criteria of large urban projects from the ground of:

- mixture of land use for profitability and non-profitability;
- land acquisition at lower price: expropriation or early acquisition;
- delivering land (selling/leasing) at differential price;
- significance of government intervention in terms of access to housing.

Again, individually the value capture instruments such as land leasing can generate revenue (Hong, 2003) and expropriation aims at desired development and provision of goods and services which are public good in nature, for instance, conservation of agricultural land and public space as well as provision of infrastructure and social housing (Ambaye, 2009). In addition to that, planning also helps to create active civic space through place making (Fainstein, 2012). But individually these instruments have certain limitations which are possible to overcome through the use of package of instruments.

Again, there is always a debate around revenue generation versus housing affordability as the two objectives are conflicting (Hong, 2003) but efficient redistribution can be one way to solve the dilemma. Both the Dutch and Hong Kong model uses subsidy across project as a solution of this issue. Here, the state retains the appreciation of land value and subsidize the cost of housing provision (Anderson, 2012). On the contrary, TPS in India or the Colombian model use land readjustment as the main instrument which help them to obtain land for service provision without displacement of the original land owner. But the issue of affordable housing is not fully addressed here.

Although the context of India is similar to Bangladesh which was a part of Indian sub-continent up to the British rule, the large urban projects differ to a degree in these two neighbouring countries. The major value capture tools used in TPS are land readjustment, selling of land and betterment charges whereas in case of improvement schemes mixture of land use and different rates of premium are the key value capture instruments through cross subsidy. The practice of pro-active planning is rather similar to the Dutch practice of public land development as in both the cases raw land is obtained from private individual.

To sum up, the reason behind choosing this model is that it has been practiced in Dhaka city rigorously from the early sixties by the government of Bangladesh. In case of Dhaka city, the objectives are set on the ground of public goods as government aims at housing provision to low and middle income people. These are included in the policy that are based on no profit no loss goals. This is to be noted that, access to housing is assessed here in terms of supply of serviced land. Simultaneously, the important aspect of improvement schemes is the redistribution of value through cross subsidy that is profit from commercial land leasing for enabling access to housing provision. This allows to keep the premium of residential plots lower than the market price but not to subsidize the scheme by government. The improvement scheme has the potential in terms of viability and greater control over land market based on the criteria discussed above. However, the success and failure of these schemes depends on the grounds of government's capability of capturing land value through these large projects. How far this is possible in practice through the improvement schemes with highest government intervention, is the major discourse here which is chosen as the topic of this research in the context of Dhaka city.

## Chapter 3: Research Design and Methods

### 3.1 Overview

This research is mainly explanatory in nature aimed at evaluation of the government improvement schemes. This chapter of the thesis depicts the research methodology of the study in order to answer the research question and sub questions. With repetition of the research sub-questions in some cases, the main concepts are readdressed in the first section of the chapter. This helps to define the variables and sub-subsequent indicators into understandable and measurable units.

On the basis of this operationalization, research design and strategy were prepared which is also mentioned in detail in the later part of the chapter. The detail methodology, data collection and analysis procedure are also discussed step by step as are followed and were planned to follow. Limitations of the study are also pointed at the end.

#### 3.1.1 Research Question(s)

Under the deliberate study of the concepts and literature review of the current knowledge of large urban projects with direct government intervention, the research question is repeated here before detailed operationalization:

**To what extent the combination of instruments (mixed use planning, expropriation and land leasing) of improvement schemes are redistributing land value to enable access to serviced land for housing in Dhaka city?**

The operationalization matrix is based on each research sub questions that are already mentioned in chapter 1.

#### 3.1.2 Operationalization: Variables, Indicators

“Operationalization is the process of translating theoretical concepts into variables that can be observed or measured in everyday life and reality” (Van Thiel, 2007, pp-183). A brief definition of the main concepts helps the operationalization process to convert them into measurable units. The main concepts that are discussed in chapter two of the thesis includes mixed land use plan, different rate of leasing premium, expropriation and compensation, delivery of serviced sites and access to housing. Table 2 shows the operationalization matrix of the concepts into variables, indicators and a summary of possible sources of data and means of triangulation which are based on the research sub questions:

**Table 2 Operationalization: variables and indicators at a glance with research design**

Research Sub-Questions	Variables	Indicators	Type of Data	Unit	Data source	Data collection method	Data Analysis method	Triangulation
<b>1. What are the impacts of land use mixture in cross subsidization of land value increment in improvement schemes?</b>	Level of Land use mixture	Ratio of residential to commercial use	Quantitative	%	Maps and reports of Town planning section, GIS database of MIS department	Quantitative data analysis	Statistical calculation using Excel, GIS data analysis	Interview (Government officials, Individual Experts-professionals and academicians)
		Ratio of profitable and non-profitable land use						
		Area of residential land use		Sq. m.				
		Area of commercial land use	Quantitative					
		Area of institutional plots	Quantitative					
		Area of other land uses	Quantitative					
<b>2. What are the impacts of land acquisition criteria in cost minimization of improvement schemes compared to other cost components?</b>	Compensation for expropriation	Rate of compensation for paid for land acquisition in the schemes	Quantitative	US \$/sq. m.	Office records of Land department	Archival analysis	Statistical calculation using Excel	Interview (Government officials, Experts)
		Total cost of compensation, <b>Ca</b>	Quantitative	US \$		Archival analysis		
	Other costs	Cost of infrastructure and Services, <b>Cd</b>	Quantitative and Qualitative	US \$	Office records of Engineering department, Accounts and Audit dept.	Descriptive interpretation using ATLAS.ti software and statistical calculation	Interview (Government officials)	
			Quantitative and Qualitative	US \$	Office records			
<b>3. To what extent different rates of leasing premium of different land uses helps cross subsidization in improvement scheme?</b>	Different rates of premium for Cross-subsidy	Total revenue from Premium for residential and institutional use, <b>Pfr</b>	Quantitative	US \$/sq. m. US\$	Office records of MIS department	Quantitative data analysis	Descriptive interpretation	Interview (Government officials, Experts)
		Revenue from Premium for commercial use, <b>Pau</b>	Quantitative	US\$	Laws, rules and manuals			Interview (Government officials, Experts)
	Land Value increment	Market value of land after execution of the scheme, <b>Vr and Vc</b>	Quantitative	US \$/sq. m.	Office records, valutors, other studies	Secondary sources	Sales price comparison and statistical calculation	Interview, Formal/Informal valutors

Research Sub-Questions	Variables	Indicators	Type of Data	Unit	Data source	Data collection method	Data Analysis method	Triangulation
<b>4. How significant is the provision of serviced land from improvement schemes for ensuring access to land for all?</b>	Access to land and housing	Number and size of serviced plot	Quantitative	Number, sq. m.	Office records of Land department, Statistical records, other studies	Archival analysis	Statistical calculation using Excel	Interview (Government officials) and experts
		Annual supply of land	Quantitative	sq. m/year				
		No. of annual housing unit provision	Quantitative	Number	MIS department	Assumption from plot size and standard unit size	No. of housing unit calculated from plot size and FAR	
	Annual demand for housing	No. of housing unit required per year	Quantitative	Number	National statistics, other secondary sources	Secondary sources		Interview of housing experts
<b>5. How effective are the institutional framework and policies for the provision of serviced land to ensure access to all?</b>	Institutional framework	Definition of property right in the context of Bangladesh, Land acquisition/expropriation criteria, compensation (current or future use value), public interest	Qualitative	-	Constitution, Secondary law (TIA, 1953, Law for Land acquisition)	Primary and Secondary sources	Descriptive interpretation using ATLAS.ti-7 software	Interview (Government officials, lawyer, )
	Policies and practices	Responsibilities and obligations	Qualitative		Secondary law (TIA, 1953, Law for Land acquisition)			Interview (Government officials and experts)
		Lease terms and conditions	Qualitative		Laws, rules and lease deeds			
		Rules for plot distribution	Qualitative		Plot allotment Rules, 1969 (amended 1986).	Interview, other studies, newspaper articles		
		Goals and target for housing provision, Other intentions and influence	Qualitative		Project documents (project proforma)	Interview (Government officials and experts)		



### **3.1.3 Research Strategy**

The theory of land value capture shows a clear indication that land value increases through direct government intervention which includes provision of infrastructure and services and land use regulation (Ingram and Hong, 2012). The main goal of this research is to investigate whether this value increment is fully captured by government and redistributed through cross-subsidy for housing provision.

A combination of case study and computer based archival analysis has been used as the main research strategy for this research. The case study was designed as single embedded case study as under Dhaka city three improvement schemes are studied as three different cases. Statistical analysis has been used for analyzing the data, collected from archival analysis. In this study, case study helps to establish the operational link between the primary propositions: the assessment of improvement scheme and its role as land value capture tool for housing provision. This helps to reveal the institutional background and the actual practice to understand the context. On the other hand, desk research and archival analysis helps to find correlations from quantitative data analysis such as cost of different components, revenue from different rate of premium, compensation rate etc. Instead of using a single strategy, a combination of quantitative and qualitative data is chosen to support the triangulation and explain the whole concept within the context.

#### **3.1.3.1 Unit of analysis:**

The unit of analysis for this research is the individual scheme having different degree of land use mixture. Three phases of a satellite town named Uttara Model Town has been taken as unit of analysis that are implemented in different times and with different degree of land use mixture. In this case, all the schemes share the similar locational characteristics but implemented in different time period. Comparison of three different schemes have facilitated the understanding how the shift in policy affects the viability of the projects and the overall extent of land value capture by government. Three schemes are compared based on the following criteria:

- the difference of land use mixture;
- land acquisition criteria and other cost involved
- different rate of premium for different land use

This helps to develop comparable cases and hence establish external validity. Examination of each component in relation to each scheme will help to view the whole process within the context.

#### **3.1.3.2 Reason behind choice of strategy:**

The combination of case study and archival analysis as research strategy has the advantage of understanding the whole concept. The dependent variable here is the revenue in each scheme and independent variables include degree of land use mixture, rate of compensation and premium. In this study, archival analysis of secondary data has some support in understanding the context and judge the difference between institutional framework and actual practice has direct impact upon the outcome. Interview and other secondary sources have been used to understand other factors that might influence the residential land delivery at a lower price to ensure access to housing.

### 3.1.4 Data Collection Methods

For conducting case study, a combination of semi structured interview and archival records have been used as major data collection methods. After a preliminary search for previous schemes, a list of projects with plot information was found on the homepage of RAJUK (RAJUK, 2014). So, secondary data was also collected for this study in the form of reports and GIS data.

#### 3.1.4.1 Type of data used

The type of data required for the study is both quantitative and qualitative in nature. The existing data consist of cost and revenue components like cost of acquisition, infrastructure development, land development, provision of utilities and open space etc. as well as revenue generated from each scheme through premium are quantitative data. On the other hand, primary data collected from interview, interpretation of laws and policies and other secondary reports, articles were in the form of qualitative data.

#### 3.1.4.2 Data Sources

The research needs both primary and secondary data sources for evaluation of the government improvement schemes. Laws and rules, office records and interview provide fresh insight as main sources of primary data. On the other hand, web enabled plot based land record system (website) and GIS based geographic data as well as various reports are the major sources of secondary data for this research. Interview helps to understand the context and actual practice and the outcome from secondary data analysis.

Existing database have been used as the main source of data for this research. This was collected from the office records of different departments of RAJUK as planning, estate, land, MIS, engineering and accounts departments as are listed in table 3.

**Table 3 List of data collected from office documents**

List of data	Data source	Contents
GIS database of Uttara area	Management Information System (MIS) department, RAJUK	Plot type, area, land use, plot number, road number etc.
Plot based oracle database	do	plot price with currency, allotment date, file no, use, plot size, building, detailed information of leaseholders with unique ID etc.
Compensation cost	Land department, RAJUK	per unit rate of land, total compensation paid, year etc.
Infrastructure and other costs, project information	Project documents, 1965, 1966, 1988, 1992, 2000, 2006	different cost components with amount of costs, project details
Rate of premium	MIS and Estate department, RAJUK	Flat rate of premium for residential and institutional use in different years, current official price.

Real Estate and Housing Association of Bangladesh (REHAB) was thought to be the formal source of data for current market value of land on the executed projects in the secondary market. But as they did not have any such information it was collected from two real estate firms namely Sheltech (Pvt.) Ltd and Rupayan Housing Estate Ltd. and secondary sources as books and reports. Informal valuers were another source for collecting market value of land. Use of different sources was intended to verify and cross check data.

A number of concerned laws and rules was reviewed which is listed in table 4 to understand the institutional framework and policies regarding improvement schemes. Interview of government officials and experts helped better explanation of the laws.

**Table 4 Lists of laws, rules and policies**

Type	Name
Law	The Constitution of People’s Republic of Bangladesh, (GOB, 1972)
Law	The Town Improvement Act, 1953 (GOB, 1953)
Law	Acquisition and Requisition of Immovable Property Ordinance, 1982 (II of 1982), (GOB, 1982)
Rules	Dhaka Improvement Trust (Allotment of lands) Rules, 1969 (amended in 1986), (MOHPW, 1969)
Policy	Plot allotment policy, 2010

### 3.1.4.3 Selection criteria of data collection method

The data collection method selected for this study is based on the intension of assessing the study from feasibility point of view of each scheme. Here, the quantitative data was the source of cost-benefit analysis from financial perspective. In this case, it was possible to have more control over the data from office records. The data about plot based information in terms of location and number has provided a detail database of the design and plots. Some more detailed information was collected regarding plot size and rate of premium for residential plots in different phases with total cost and revenue data. These quantitative data was used as the main sources of information for assessment of each scheme from the land value capture perspective.

The reason behind using interview as a source of qualitative data was to understand the context and difference between institutional framework and actual practice. These data also facilitated the explanation behind missing links. Knowledge, experience and perception of the key informants will help to comprehend the situation and outcome with better explanation. This was also a source of triangulation of quantitative data analysis.

### 3.1.5 Sample Size

The revenue collected from all the plots through leasing and the cost of acquisition and infrastructure was collected from office documents for the selected schemes. As a result, no sampling was required for the plot based information of the individual schemes.

In this research, purposive quota sampling was used for the sampling of interviewee but snowball sampling was also sought if there exists any. For this study, two sub groups were selected: one from government officials of various concerned departments and the other group includes individual experts who consist of non-government part. Key personnel from all four concerned department as town planning, land, engineering and estate was interviewed. In this case purposive samplings of key informant are based on;

- involvement in the policy making as well as execution of the projects,
- having better knowledge of the situation and context: for instance academicians, practitioners for better explanation of existing practices and gaps between law and practice if there exists any.

The interview guide is given in annexure 1, 2 and 3. Table 5 gives the detailed list of interviewees.

**Table 5 List of interviewee for the research**

<b>Subgroup of the interviewee</b>	<b>Name and Designation</b>	<b>Organization</b>
Government official	Dr. Md. Jahurul Hoque, Former Town Planner	RAJUK (Capital Development authority)
	Nargis Tanjiman Ara Town Architect	do
	Syed Nazrul Islam Director (Land)	do
	Md. Emdadul Islam, Chief Engineer	do
	Abu Kauser Mollik, Director, Audit	do
	Sabina Yeasmin Assistant Director (Estate)	do
Academician and practitioner	Professor Nazrul Islam, Honorary Chairman	Centre for Urban Studies (CUS)
Academician	Dr. Afsana Haque, Associate Professor	Department of Urban and Regional Planning, Bangladesh University of Engineering and Technology (BUET)
Informal valuator	Real Estate Broker	Individual

### **3.1.5 Limitations and challenges**

One major limitation of using qualitative data is that it may not always be representative and may include selection bias. In order to avoid this, key informants involved in policy making as well as execution level were selected cautiously from the concerned department to collect better information. The sample size was kept flexible initially to reach the saturation point to validate the data.

Another major challenge of using interview is that the interview guide needs to be adjusted in certain cases. Member check was done to overcome this situation as well as careful adjustment of the interview guide. For this research, use of qualitative and quantitative data on the assessment of the improvement schemes facilitates triangulation and hence internal validity of the research.

A market survey could have been a better choice for data regarding land value increment. But due to time constraints, it was not possible to conduct that kind of survey. Data from informal and formal valuers supplements this information. The perception of plot allottees is not included in the study as assessment is made about the scheme's success as a whole. It is also beyond the scope of the study. The use of data from office record was the only available and reliable source of cost and revenue data in this case.

### 3.1.6 Validity and Reliability

The three main challenges of conducting case study are to establish both external and internal validity as well as reliability. These are discussed separately in this section.

**Validity:** In this research, the contextual study is important because in planning paradigm there is no fit to all policy (Healey, 2011). But this will not completely outweigh the external validity of the research as the theories show a certain degree of consensus regarding the issue of land value capture. Study of multiple schemes with different level of land use mixture and premium will help generalization and hence establish the external validity to a degree.

The use of primary and secondary data sources along with purposive interview also facilitated internal validity of the research through triangulation of the data. In order to validate the data from primary documents and secondary sources, interview was conducted with the experts of the concerned scheme: of both professionals and government officials.

**Reliability:** Reliability is the measure of accuracy, consistency and replicability of the research according to Van Thiel (2007).

In order to ensure reliability, a coherent sequence was followed. The data was collected from office records which are valid sources of cost and revenue of each scheme as unit of analysis. For land value increment estimation, sales record may not always be a valid source because of the tendency of lower value documentation. In order to validate those data, other sources of formal and informal valuation were used. Interview of concerned people also helped in policy assessment.

A log book was maintained throughout the data collection process.

### 3.1.7 Data Analysis Methods

During the data preparation stage, a simple cash flow analysis was thought to be done initially. But the first two schemes did not have separate account. As a result, it was not possible to conduct detail cash flow analysis. The cost and revenue components were collected separately and the cost-benefit scenario of the schemes was calculated using Microsoft Office Excel. The ratio of residential and commercial plots in terms of share (percentage in comparison to the total project area) was analysed. The qualitative data obtained from interview was organized and interpreted using codes and memos of Atlas-Ti 7 software. The coding was based on the required variables of each sub question. The memos were also made for each sub question to build query for the qualitative data analysis.

The sales comparison valuation technique was used for this research for examining land value increment through government intervention. This helps to assess current market price of leased lands adjusted on the base year, 2014. The recorded value of the land transfer was not used in this case because of validity reason. The recorded value which is the official transfer price fixed by government is much lower than the market price as there is government control over land transfer rate and hence does not reflect the actual transaction price. Land price was compared in different years starting from before announcement of the project, premium or delivery price of serviced land and land value of those plots in the secondary market of the same area.

## Chapter 4: Research Findings

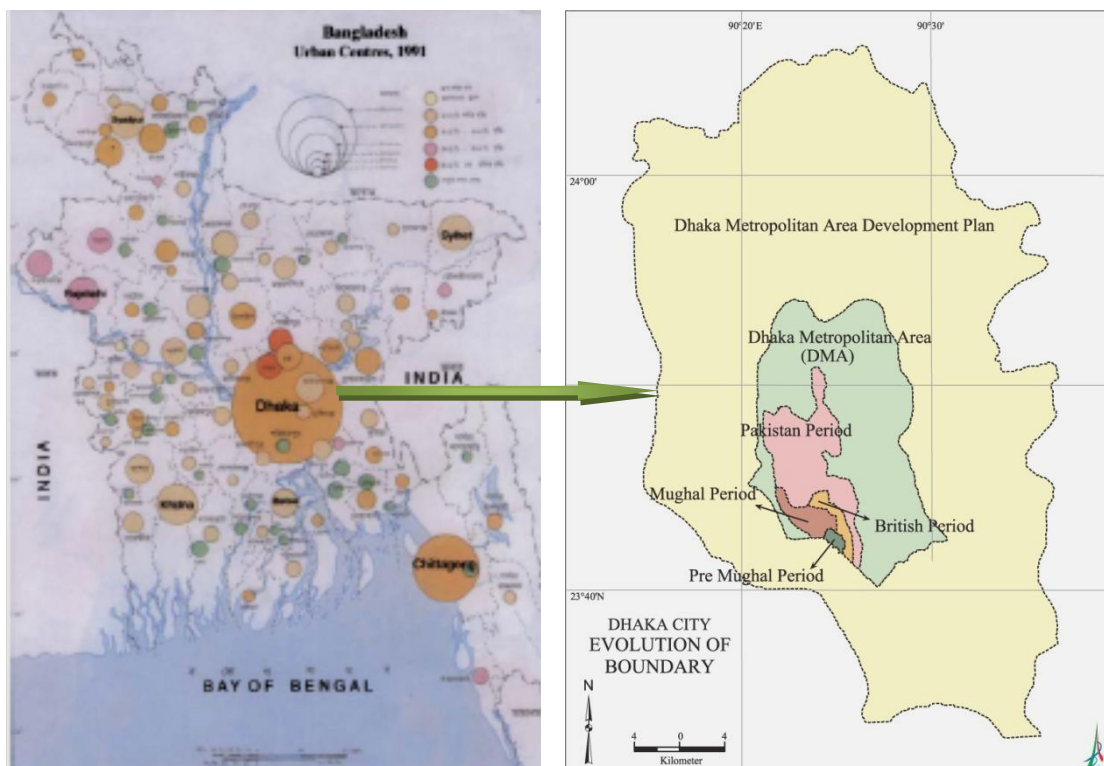
### 4.1 Introduction

This chapter contains the detailed presentation and discussion of research findings in light of theories as are described in chapter two and following the methodology of chapter three.

### 4.2 Description of the Case study area and cases

In this study of assessing government improvement schemes of Dhaka city as large urban projects three phases of a satellite town named Uttara Model town are selected as three different cases. Dhaka being the primate city of the country is unique as its ‘primacy rate’ (32%) is even higher compared to other cities of similar cases (World Bank, 2007). Figure 10 shows the level of urbanization in Dhaka city compared to other cities of Bangladesh and the chronological growth of the city. Post liberation influx of population increased the population of the capital city more than 200 times creating enormous unanticipated problems within the city. The case of Dhaka is unique not only within the country but also in the world because of this particular characteristic (World Bank, 2007). Moreover, the context is different in this case compared to the contexts of large urban projects of other countries in some instances which call for the need of the case study. Besides the use and package of land value capture instruments, there are also significant differences in the use of these instruments in practice in comparison to the theories as are discussed in chapter two. But the study of three cases will help comparing within the city which will assist some sort of generalization.

Figure 10 Map showing location of Dhaka city and its growth over the years



Source: Draft National Urban sector policy, 2011 (left)  
[http://www.banglapedia.org/HT/D\\_0171.htm](http://www.banglapedia.org/HT/D_0171.htm) (right)

The assessment of the improvement schemes in Dhaka city will help to generate new insight from the perspective of mixed land use planning criteria and their implication on land delivery using different leasing premium. The success or failure of these large urban projects will facilitate in further policy formulation of land value redistribution within project to ensure access to housing to the low income group.

Uttara Residential Model Town (initially named as North Satellite Town Dacca) was planned to combat the housing problem and particularly address the low and middle income people. The project site was located 10 kilometres north of the city centre (DIT, 1965a) shown in the map of annex 4. With the gradual northward expansion of the city, later it became part of Dhaka municipality.

#### **4.2.1 Selection of the case study area and cases**

Uttara Residential Model Town has been selected as the case study area for this research and its three phases have been assessed as individual cases. Going back to its background, it was found that this township was planned with the intention of developing as a satellite town of Dhaka city to address the need of low and middle income housing compared to the target of other schemes. The initial goal of the newly designed satellite town as are mentioned in the project documents (DIT, 1965; RAJUK, 1988; RAJUK, 1992 and RAJUK, 2006) were as follows:

- to reduce the existing acute housing problem;
- reduce population pressure in the city centre;
- to meet future housing demand

Among the improvement schemes of RAJUK, this township was principally planned for the lower and middle income segments of the society according to the feasibility report and project documents (DIT, 1965; RAJUK, 2000). This is why the three phases of this township is selected for the case study as it targeted the lower income segment of the city. In brief, this study intends to assess the three phases of the satellite town as three different cases to answer the research question and consequent sub-questions to search for the appropriateness of the value capture tools that were used in this large urban project. The key variables include mixed use planning, expropriation criteria and land leasing mechanism to achieve the goal of housing provision through sites and services schemes.

#### **4.2.2 Legal grounds of the schemes**

According to section 38 of TIA, 1953 a government improvement scheme mentioned as 'Improvement scheme' in the law, can be framed either from redevelopment and conservancy or for the necessity of housing provision for 'public advantage' (GOB, 1953, p-11). The tasks within the scheme may include laying out of land and streets, necessary land development works, provision of building sites, housing accommodation, building for public use, necessary utilities, parks, open space and other community facilities as are required to improve the area. Therefore, the main purpose of these schemes is to provide building sites and area improvement through development according to the law. The general condition for this is to consider growth pattern of the whole city seeking relevance to its surrounding neighbourhood (GOB, 1953, section 39).



### 4.2.3 Description of the particular cases

Three cases have been studied for this particular research which is known as 1<sup>st</sup> phase, 2<sup>nd</sup> phase and 3<sup>rd</sup> phase of Uttara Model Town those were executed in different years by the capital development authority, RAJUK<sup>2</sup>. The initial township was designed for 13.94 square kilometre (1394 ha) on the south of Tongi and about 10 kilometre north from the then city centre (DIT, 1965). But later on, only 3.84 sq. km could be realized for the first phase (RAJUK, 1988). Development work of 2<sup>nd</sup> phase of Uttara started in 1988 and 3<sup>rd</sup> phase in 2000 but the 3<sup>rd</sup> phase is yet to be closed officially (RAJUK, 1992, 2006, 2014).

The most prominent land use in the case study area before development was agriculture according to the feasibility report. The other important land uses include swamp land and few settlements within the project area (DIT, 1965). The general topography of the area had lower elevation revealing the low lying characteristics of the areas before development. Table 6 shows some of the important aspects of the individual schemes at a glance:

**Table 6 Studied cases at a glance**

Schemes	1 <sup>st</sup> phase	2 <sup>nd</sup> phase	3 <sup>rd</sup> phase
Total area	3.84 sq. km (384 ha)	1.77sq. km (177 ha)	8.13 sq.km (813 ha)
Project period	1965 <sup>3</sup> -1990	1988-1998	2000-
Sectors	9 (1 to 9)	5 (10 to14)	3 (15 to17)
Delivered residential plot size (in sq. m.)	200, 335, 502, 670	200, 335	200, 335

Source: DIT, 1965; RAJUK, 1988, 1992, 2000, 2006

There were nine sectors in 1st phase among which sector 2 was allotted to Bangladesh police and sector 8 was reserved for the development of government employee quarter. The rest of the 1<sup>st</sup> phase area was designed as a mixed land use area with little commercial development in sector 6 (Islam, 1987). Chart 1 gives a detailed land use distribution of Uttara 1<sup>st</sup> phase. Detailed information of plots based on land use in shown in annex 5.

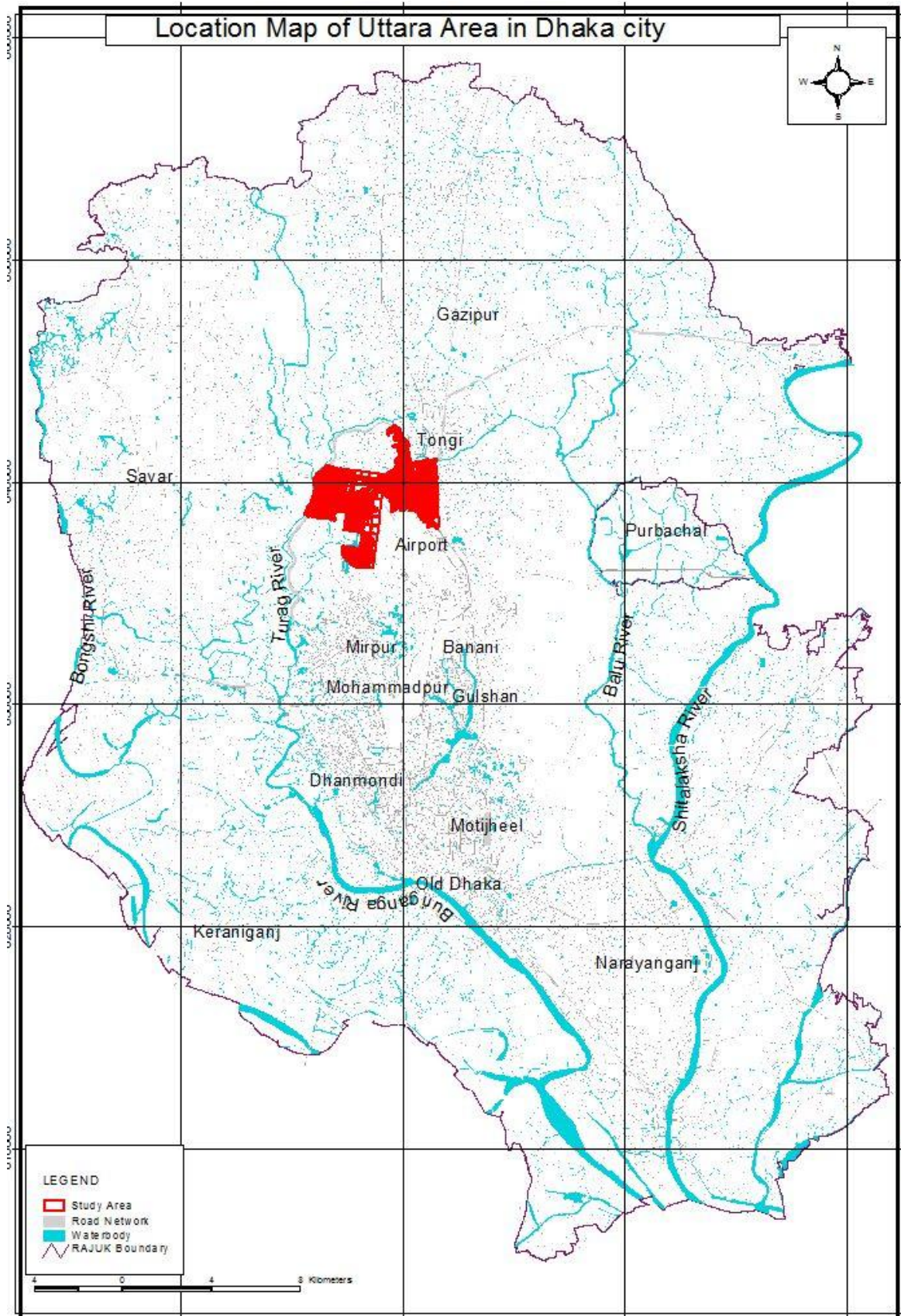
The location of the case study area in the context of Dhaka city and the three schemes are shown in the maps of figure 11 and 12:

<sup>2</sup> the then Dacca Improvement Trust, DIT

<sup>3</sup> implementation started in 1972

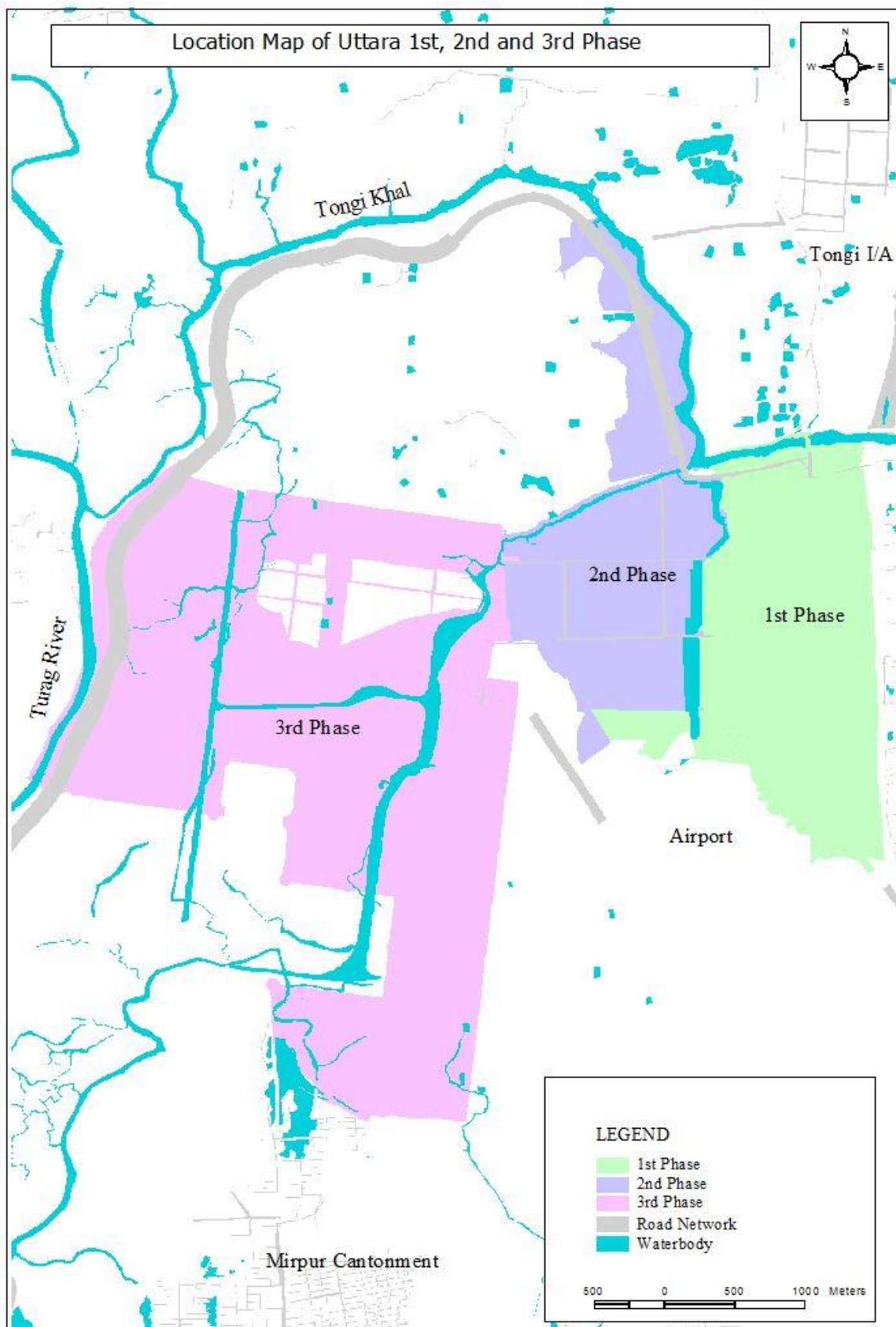


Figure 11 Map showing location of case study area and individual cases



Source: Prepared from GIS database, RAJUK, 2014

Figure 12 Map showing location of three phases of Uttara



Source: Prepared from GIS database, RAJUK, 2014

### **4.3 Findings of the Study**

The findings of the study are divided into two main parts. One of them is the assessment of the three value capture instruments namely, mixed use planning, expropriation and land leasing in redistributing land value increment within the project as the three main variables. The other part includes the assessment of sites and services scheme in the government schemes on the ground of ensuring access to housing from public goods perspective. All these are presented in this section.

#### **4.3.1 Project cost and revenue: a comparative picture**

This study intends to evaluate the government schemes of Dhaka city where financial aspects are important part of the evaluation as well as economic benefit. The possible findings of the analysis may lead to three possible outcomes as are mentioned in chapter two in the discussion of conceptual framework and mathematical formula. In order to reach that objective and answer the sub sequent research sub-questions, each variable has been tested and are discussed separately in the forgoing sections. An overall conclusion is made on this part of project viability later.

##### **4.3.1.1 Role of Mixed use planning on project viability**

###### **4.3.1.1.1 Planning process and approval**

Any improvement scheme and the plan need approval from the central government with project details and budget to be implemented. The project document (Project Proforma) prepared by the authority including cost benefit analysis with recovery schedule, procurement of land, man month etc. needs approval of administrative ministry prior to the central government. Ministry of Housing and Public works (MOHPW) is the concerned ministry here which sends it to the planning commission for final approval. Each scheme needs to be approved by the National Economic Council (ECNEC).

###### **4.3.1.1.2 Land use planning**

After approval from the central government, a detailed layout plan is prepared for each scheme which includes proposals for different land uses. The role of mixed land use planning was an important variable for assessing the possibility of cross subsidization in this case as analysis of plot allotment rules shows the opportunity to increase revenue through designing higher share of commercial land use. This is because; only commercial plots can be auctioned.

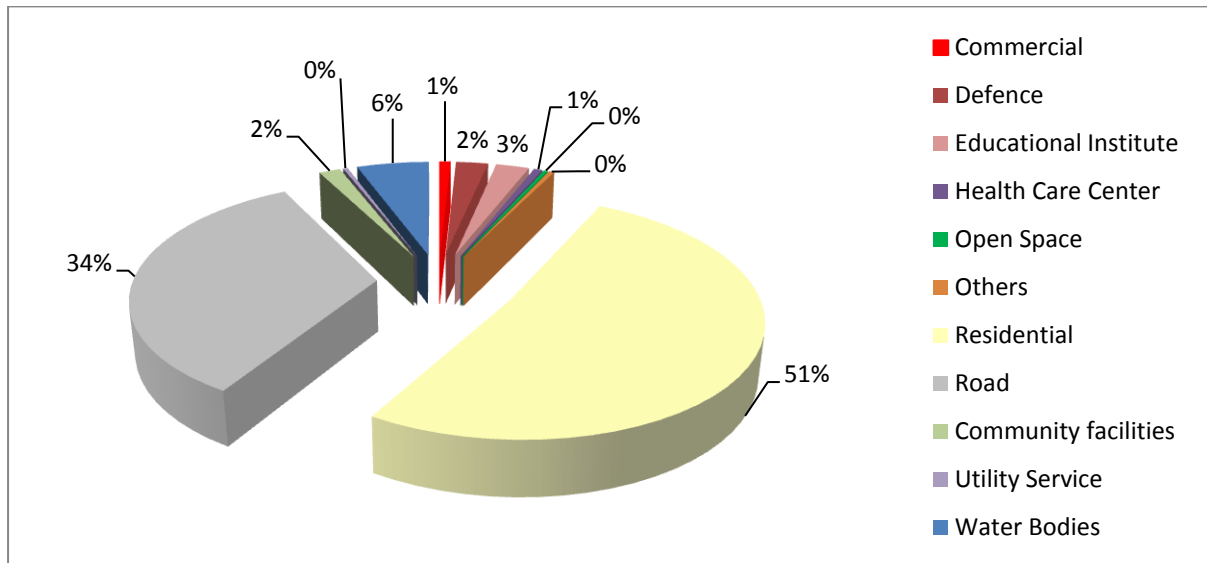
It is important to mention here that, during the interview with town planner and architect who were involved in the design phase, it was revealed that land use mixture was not done intentionally from the perspective of project viability. The designs were based on demand to fulfil the criteria of self sufficient neighbourhoods and the township. Interview with town planner and officials of Estate department reveals that the early designs of first two schemes did not have adequate commercial uses. Later some plots were converted to commercial use to meet the demand of the neighbourhood through payment of conversion fee.

While assessing the layouts for individual schemes, percentage of each land use type was calculated from the GIS data base using ARC View 3.3 software.



The three charts in chart no. 1 to 3 shows the land use distribution of three phases of Uttara Model Town.

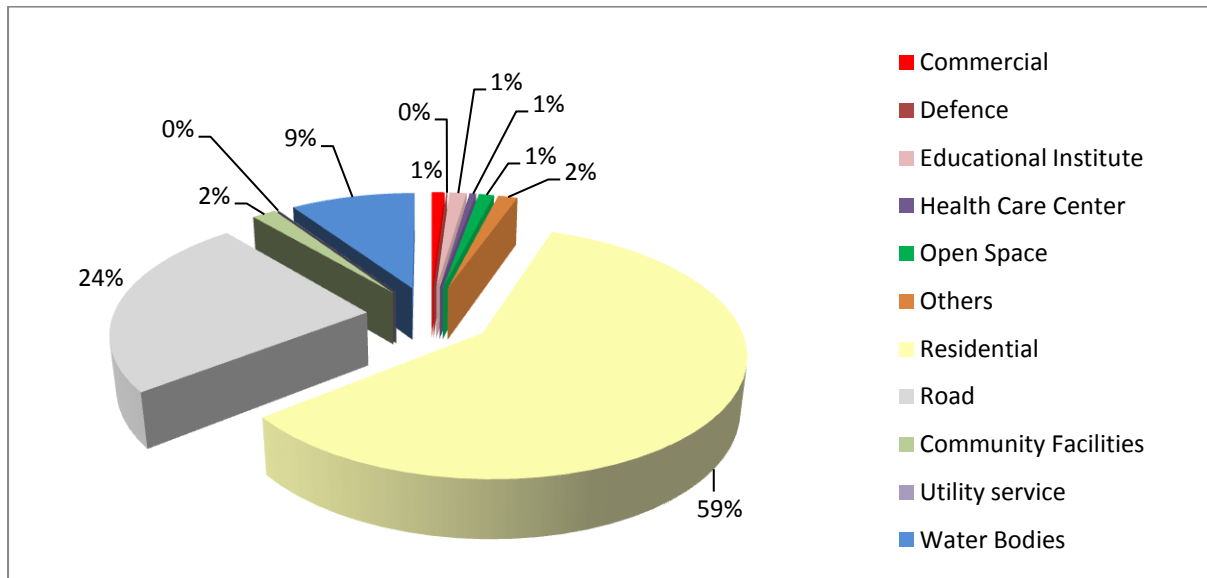
**Chart 1 Land use distribution of Uttara 1st Phase**



Source: Calculated from GIS database of MIS department, RAJUK, 2014

In the first phase, the residential plots cover more than half of the project area leaving inadequate room for other land uses.

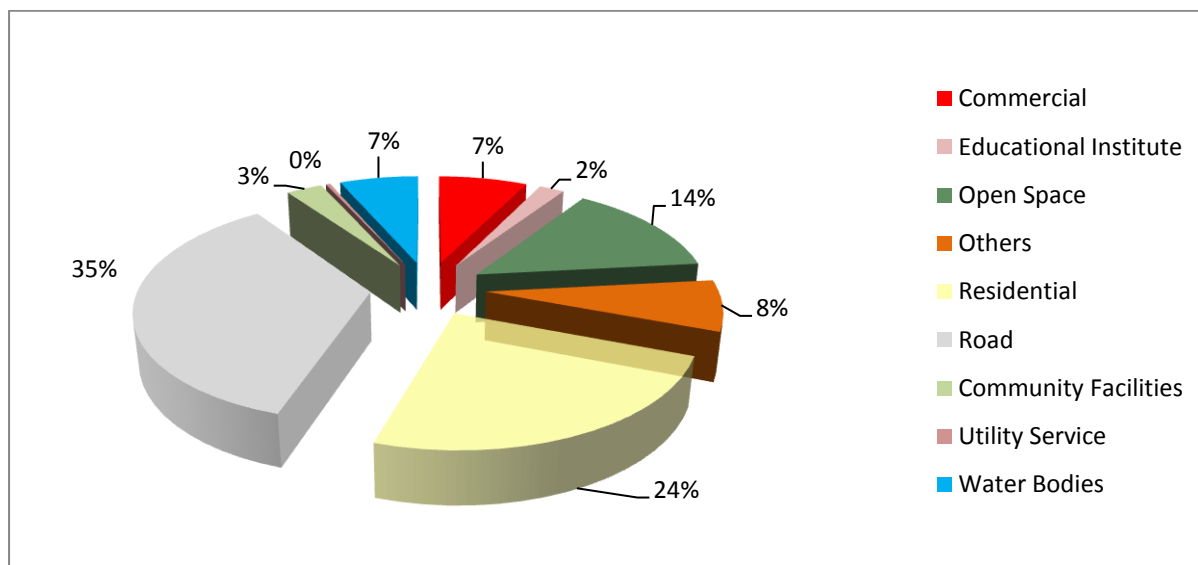
**Chart 2 Land use distribution of Uttara 2nd Phase**



Source: Calculated from GIS database of MIS department, RAJUK, 2014

In the 2<sup>nd</sup> phase the portion of residential plots are even higher (59%) than 1<sup>st</sup> phase but have the same amount of commercial land use (1%). In both the phases open space have same share (2%).

**Chart 3 Land use distribution of Uttara 3rd Phase**



Source: Calculated from GIS database of MIS department, RAJUK, 2014

From the comparative analysis of all the three schemes, it was found that only the third phase has a higher commercial ratio which is 7%. The other two cases have only 1% commercial use. Table 7 is a comparative scenario of different land uses in the three phases of Uttara with their ratio

**Table 7 Comparative major land use distribution in different schemes**

	1 <sup>st</sup> phase	2 <sup>nd</sup> phase	3 <sup>rd</sup> phase
<b>Residential use</b>	51%	59%	24%
<b>Commercial use</b>	1%	1%	7%
<b>Ratio of residential to commercial</b>	51:1	59:1	24:7 = 3.43:1
<b>Ratio of profitable to non-profitable land use</b>	57/43 = 1.33	64/36 = 1.77	36/64 = 0.56

Source: Calculated from GIS database of MIS department, RAJUK, 2014

From the analysis of different land use mixture, it was found that 2<sup>nd</sup> phase has the highest profitable to non-profitable land use ratio and 3<sup>rd</sup> phase has the lowest ratio but this scheme has the greatest share of commercial land use to deliver through auction. Here, those land uses that are leased at certain premium are included in the profitable land uses such as residential, commercial, educational and other community facilities. The rest are non-profitable land use such as road, open space, water body etc.

The assessment of the overall impact of different level of land use mixture in individual schemes is done in the later part of the chapter in comparison to total revenue earned from the projects.

#### **4.3.1.1.3 Problems related to planning**

Several problems have been identified from the interview of the key personnel involved in planning. For instance, each layout plan has to undergo several changes before development and even till to date to adjust numerous issues or at the interest of central government which was revealed during the interview of the government officials. Failure in partial acquisition of the desired site was another cause of adjustment in the plan in Uttara 3<sup>rd</sup> phase as was mentioned by town architect. Sometimes cost was also a consideration for curtailing expensive proposals such as mono rail etc.

#### **4.3.1.2 Expropriation system in Bangladesh**

Next to the task of preparing preliminary master plan of the area is to expropriate land for development. According to the theory, fair compensation that is the market value (current use value vs. future use value) compensation may have direct impact on the viability of the project. This section explores the legal framework and practice of land acquisition in Bangladesh and its impact on the government schemes of Dhaka.

##### **4.3.1.2.1 Expropriation laws and practice**

The mother act for expropriation in Bangladesh is the Acquisition and Requisition of Immovable Property Ordinance, 1982 (GOB, 1982). Hence, Land acquisition procedure and calculation of compensation for government schemes are based on this law. According to this law, the Deputy Commissioner (DC) is entitled to execute the land acquisition process for any 'public purpose' or 'public interest'. Compensation for expropriated land must be paid 1.5 times of the market value of the land. The source of market value of land is the sales price of sub-registry office. According to the law, average of last 12 months' sales price of that area before publication of notice will be considered as market value compensation rate.

Again, Compensation has been referred to in the TIA, 1953 as "a sum equal to the market value of the land or building on the date of the service of the notice" (GOB, 1953, p-21). The original land owners must be paid 'reasonable compensation' for the loss of their rights according to this law.

##### **4.3.1.2.2 Land acquisition process**

All the land acquisition process follows a common procedure in case of Bangladesh which is also described in the concerned law as are mentioned above. It is executed through District Commissioner (DC) office. A demand schedule is required first for specific purpose for all the organization that requires land to be expropriated for specific public interest. A demand schedule consists of maps showing required land with specific cadastre list and plot number are the pre-requisite for this. Now a-days a NOC is also required from Urban Development Directorate (UDD) and Department of Environment (DoE). It was not mandatory while execution of the Uttara schemes.

Necessary documents of expropriation include 7 copies of maps, demand schedule, land schedule, financial capability statement, specific purpose and land required for it. It needs the approval from administrative ministry that is the Ministry of Housing and Public Works for the Capital Development Authority. After administrative approval from the ministry and no objection certificate, NOC taken from UDD and DoE, the project papers are moved to CLAC (Central Land Acquisition Committee) for final approval. If CLAC approves the land acquisition proposal, it is send to the DC office for final acquisition process.

From DC office, it is sent to the concerned sub-registry office for valuation of different classes of land. Land price is determined from the average of last twelve months' sales record. Department of Forestry determines the valuation for vegetation on the site. Public Works Department (PWD) makes the valuation of compensation for existing building on the site. Total valuation for compensation by DC office needs to be paid within 60 days of valuation. RAJUK has to pay the amount for RAJUK's schemes according to the section 7 of Acquisition Ordinance, 1982.

Figure 13 shows the main stakeholders of RAJUK in the implementation process of improvement scheme:

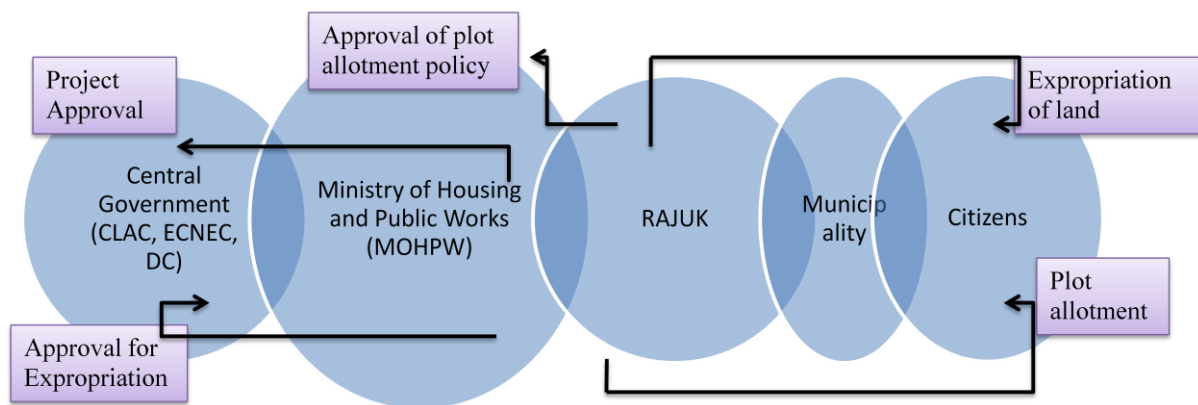


Figure 13 Stakeholder map of RAJUK in the implementation process of improvement scheme

#### 4.3.1.2.3 Acquisition and other cost components of improvement schemes

The major cost components of improvement schemes include payment of compensation (for land, structure and plants), land development and provision of infrastructure and services. No separate account was maintained in RAJUK for the first two phases of Uttara Model Town. Now 3<sup>rd</sup> phase has a separate account but cash flow of every year from the initiation of the project are not available. As a result, a detailed cash flow analysis was not possible for the study which exists as a limitation here.

As a result, cost components are collected separately from different departments of RAJUK. The main source of data for compensation paid in each scheme was the office records of Land department of RAJUK. The other cost components were collected from the respective project documents for each scheme. The advantage of using those documents was that, cost was calculated there at discounted price and in present value. All the costs are converted to USD adjusted at the price of base year 2014 to make them comparable.

#### 4.3.1.2.4 Impact of acquisition and other different cost components on revenue

A comparative analysis of different costs items shows that, 1<sup>st</sup> phase has the highest acquisition cost share. Costs are compared in terms of share not in terms of amount of money. Its impact on the project's financial viability is discussed elaborately in the later part of this

chapter with other variables. Table 8 is a comparative picture of major cost components of each scheme:

**Table 8 Comparative picture of major cost components of the schemes**

Cost components	1 <sup>st</sup> phase	2 <sup>nd</sup> phase	3 <sup>rd</sup> phase
Acquisition cost	26%	17%	17%
Land development cost	12%	55%	20%
Infrastructure development and other costs	62%	28%	63%

Source: Compiled from project documents, 1988, 1992, 2006 and data from Land department, RAJUK, 2014

It is important to notice here that, in the context of Dhaka city, two important factors works behind the low acquisition cost and payment of compensation apart from the provision in law. Firstly, the project location was 10 km away from the then city centre. As a result, the recorded value in the land register did not reflect the future expected urban value as even up to 90's urban growth of Dhaka did not reach to that distance. Secondly, there is a general tendency of recording sales price lower than the actual price to avoid payment of high transfer tax according to the official of land department of RAJUK. All these factors helped to minimize project cost which will be evident while comparing the market price of land at the time of acquisition.

#### **4.3.1.3 Land leasing mechanism used in Improvement schemes**

Public leasehold has been defined in theory “as a system that allows government (as the representative of the public) and private parties to negotiate the delineation and assignment of multiple land rights through contractual arrangements” (Hong and Bourasa, 2003, p-6). In the detailed discussion of the relevant theory of land leasing, it was evident that land leasing mechanism and definition of property rights in particular context is important. The lease period is an important criterion in assessing the tool as a value capture mechanism as were discussed in chapter 2. The land leasing practice of Dhaka city is discussed in the next section from these two grounds: as a value capture tool and definition of property right to assess government's control over land.

##### **4.3.1.3.1 Leasing as defined in the property right arena**

The constitution of People's Republic of Bangladesh allows private ownership of land along with state ownership in principle as are mentioned in article 13 (GOB, 1972).

In the context of Dhaka city as well as in Bangladesh land are leased for 99 years. According to the lease document, the lease holders have the right to use, transfer, gift, mortgage and inherit the land during that time period which is similar to freehold right prior to the approval of the authority. The only difference is that the lessee can transfer the leasehold right through notification and payment of transfer fee instead of selling the land. They do not pay ground rent but instead pay land improvement tax to the central government like other private property owners do.

According to Hong (2003) if the lease period is too long then it becomes difficult to keep control over the land by public authority which is also applicable in the context of Dhaka



city. The leaseholders enjoy all the facilities of freehold in reality in case of Dhaka city. Even after the expiry of leasehold period, the lessee can renew the lease under similar conditions. This was also reflected during the interview with the government officials.

#### **4.3.1.3.2 Land leasing mechanism and practice**

The serviced plots in government schemes in Dhaka city are delivered using land leasing. Government only collects upfront premium from the leases which is meant for 99 years in the case of Bangladesh. Dhaka Improvement Trust (Allotment of lands) Rules, 1969 (amended in 1986) (MOHPW, 1986) gives guideline for delivering plots of different land uses with different premium fixation criteria.

The premiums for residential plots are a flat rate predetermined by the RAJUK board. According to that concerned rule, this should be fixed after plots are ready for delivery and before notification in the newspaper. But in practice sometimes notification for plot allotment are published before land acquisition process as are mentioned by director, land RAJUK.

According to the plot allotment rule, commercial plots must be delivered through public auction. Highest bidder will be considered eligible for lease of that particular plot under the condition that minimum prices for bidding are pre-fixed by the authority.

Again, no guideline is provided for delivering institutional plots in plot allotment rules. Interview from officials of Estate department of RAJUK reveals that, the premiums for institutional plots are also a pre-determined flat rate which is usually higher than the premium of residential plots but lower than the market price.

#### **4.3.1.4. Impact assessment of the variables on cost and revenue scenario**

One of the main objectives of the study was to assess the role of different mechanism and rate of premium for facilitating cross subsidy within the project. In order to reach the result, the total cost and revenue of each scheme was calculated separately. The cost components have already been discussed in the earlier sections. Revenue for each scheme was calculated from the premium paid for each plot both residential and commercial use. The source of data for this calculation was the oracle database collected from MIS department, RAJUK. The database contains detailed information of each plot; their use, intensity of development, allotment year, size of plot etc. as well as detailed particulars of the allottees except their income level. The database needed to perform some sort of cleaning as some plots had multiple entries as they have multiple owners. All the duplicate as well as missing values have been removed from the database.

The aggregate premium of all the plots of each scheme was calculated to BDT using historical rate of exchange of BDT with other currencies as the data also has some premium in USD, Indian Rupee (INR) or in British pound<sup>4</sup>. All cost and revenue data has been

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<sup>4</sup> For historical conversion rate of pound (GBP) to BDT and Rupee (INR) the source used for this study is available at: <http://fxtop.com/en/historical-exchange-rates.php?A=1&C1=USD&C2=INR&YA=1&DD1=&MM1=&YYYY1=1984&B=1&P=&I=1&DD2=01&MM2=08&YYYY2=1984&btnOK=Go!>

The average conversion rate of each year was considered.

adjusted to the current value of 2014. These values were then converted to USD at the current exchange rate<sup>5</sup>. The source of information related to conversion rate and interest rate were mainly the reports and website of central bank of Bangladesh that is Bangladesh Bank (Bangladesh Bank, 2008, 2014). Some historical interest rate was also taken from the website of World Bank (World Bank, 2014).

One important thing to point out that, total revenue here included premium of institutional plots. As this data was not available in the database an assumption was made that the flat rate of premium for institutional plots will be at least double of the residential premium rate. This assumption was based on the premium rate of institutional plots of 3<sup>rd</sup> phase. It was not possible to collect information of institutional plots of the first two phases. Within this limited time span it was not possible to collect that information from individual hard documents of all the institutional plots for the scheme. This may have some impact on the revenue if actual rate was possible to collect but not very significant as they are limited in percentage. Table 9 is a summary of cost and revenue scenario of studied cases:

**Table 9 Comparative cost and revenue scenario of different cases**

	<b>1<sup>st</sup> phase</b>	<b>2<sup>nd</sup> phase</b>	<b>3<sup>rd</sup> phase</b>
Total Cost (Ca+Cd) in million US\$	1,334	1,151.44	1,291
Total Revenue (Pfr+Pau) in million US\$	766	1,075.5	7,516.5
Relation between (Ca+Cd) and (Pfr+Pau)	Total revenue, (Pfr+Pau) < total cost, (Ca+Cd)	Total revenue, (Pfr+Pau) < total cost, (Ca+Cd)	Total revenue, (Pfr+Pau) > total cost, (Ca+Cd)

Source: Compiled from database of MIS department, RAJUK, 2014

From the cost and revenue scenario analysis of the three cases, it is clearly evident that, 3<sup>rd</sup> phase is not only cost effective but also the most profitable one compared to other two projects. The findings on section 4.3.1.1.2 and 4.3.1.2.4 revealed that only 3<sup>rd</sup> phase had higher share of commercial use (7%) and one of the lowest share in acquisition cost (17%). As a result the impact of the three variables; land use mixture in association with different lease premium and low acquisition cost has significant impact on the financial viability of the project. Again, the share of acquisition cost was highest for the 1<sup>st</sup> phase (26%) and hence this was the most income deficient project. To sum up, it can be said that the first mathematical formula is proved to be valid in the cases of Dhaka city (see table 9).

#### **4.3.1.5 Other factors affecting project viability**

There are some other factors that may also affect the financial viability of the project. These include implementation period and some other externalities for instance, corruption which are difficult to measure. Delay is a major cause of increased project cost due to price escalation over the years. But all these variables were not studied here as they were beyond the scope of the research but these may have some impact on the result.

<sup>5</sup> 1 USD = 77.62 BDT

### **4.3.2 Plot allotment mechanism from redistribution perspective**

Plot allotment in government schemes is based on laws, rules as well as policy undertaken by the authority under the guideline of central government. There is a certain difference in plot allotment practice and legal framework.

#### **4.3.2.1 Laws, Rules and policies for plot allotment**

The basic rule for plot allotment of the schemes of RAJUK is named as Dhaka Improvement Trust (Allotment of lands) Rules, 1969 (amended in 1986). According to this rule, applications from people who are affected by the schemes will be kept in a separate register and will get preference in plot allotment (MOHPW, 1969).

On the other hand, according to section 101 of TIA (GOB, 1953), the authority can retain, hire, sell, lease or exchange lands that are acquired by them. Land to be disposed through selling or leasing, the authority will fix the price of disposal. If there is more than one person interested in this case, the person who is willing to pay the highest price (not less than the fixed amount) will receive the land. Hence, the law supports some sort of bidding in this case. But the allotment rule differs in this regard for residential plots. According to the plot allotment rule, unit price of residential plots will be fixed by the authority while commercial plots can be auctioned.

#### **4.3.2.2 Target group of the schemes**

The township of Uttara Model Town was initiated with the commitment to address the need of the lower income segment of the city as are reflected in the first master plan and other project documents. The master plan suggested 50% plots to be reserved for the low income group and only 10% for high income group (DIT, 1966a). The report also recommended the initial development of those high income plots in the early years to ensure fast cost recovery and invest those for the low income plot development. Later the project document adjusted it to keep at least one-third of the plots for low income group (DIT, 1966b). This segment was always highlighted in the later project documents also. But in reality both the government officials and individual experts felt that they were not reflected in the plot allotment procedure.

It is important to note here that, no project documents actually defined what they meant by low income group. There was no classification for income group distribution for different income category. The application forms only include the annual income of the applicant whereas the database does not have this information. The necessary documents for application for plots includes tax certificate which indicates emphasis for formal income group only.

#### **4.3.2.3 Fixation of land premium**

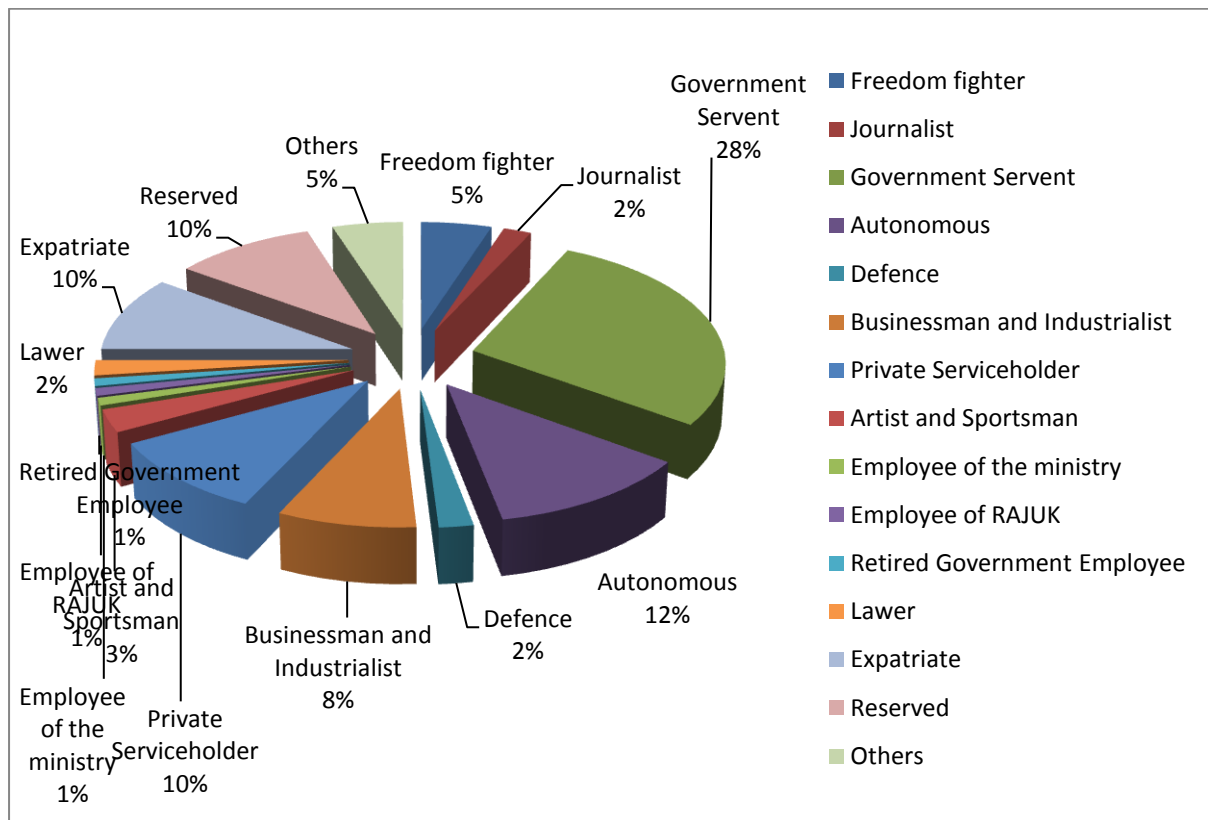
As noted earlier, the unit price of residential land will be fixed by the authority according to plot allotment rules. While interviewing the government officials, they mentioned cost price as the basis of unit price fixation. The procedure is to divide the total cost to determine unit price of land. But this contradicts with actual practice as most of the cases plots are allotted before development completes, sometimes even before the completion of land acquisition process. This is evident from the interview as well as from database that gives the actual allotment date. As a result, no specific criterion was found for fixing residential premium in the study. On the other hand, the premiums of individual commercial plots are fixed by public auction according to the rules which was also reflected in the interviews.

#### 4.3.2.4 Plot allotment and distribution in practice

There are certain guidelines for plot allotment in the law (GOB, 1953) and plot allotment rules (MOHPW, 1986). Apart from those plot allotment rules, separate plot allotment policy has always been prepared for each scheme by the authority and with the approval of administrative ministry that is the Ministry of Housing and public Works (MOHPW). The policy consists of specific quota for each professional group of applicants. The policy is kept as confidential. Besides that, an amendment in the plot allotment rules in 1986 included that government can allot plot to any person if they are considered important (rule 13a, MOHPW, 1986). This rule is one of the potential sources of corruption in the plot allocation process according to one of the government official.

Chart 4 (and annex 6) is the example of last plot allotment policy adopted for Uttara 3<sup>rd</sup> phase. The plot allotment policy reveals that all valid application of member of the parliament, ministers and justice from High court and Supreme Court are considered eligible for getting plot. Director land and Estate also supported this information in their interview. After the allotment of those categories, the rest of the plots were distributed according to the quota of the policy. The distribution of plots to the specified quota among the applicants is done through lottery in some instances but not followed in all the previous cases. There was always allegation of corruption in the plot allotment process as were reported in newspapers (Star report, 1999; Rahman, 2014). This was also reflected in the interview of two respondents.

Chart 4 Policy for plot distribution quota of Uttara 3rd Phase



Source: Estate department, RAJUK, 2014

The quota system shows almost half of the plots have allotted to the government employees (central government, autonomous organization, defence, etc. 45%). A certain percentage of quotas have also been left for businessman, industrialist, expatriates who presumably have access to the market. The quota system did not show any attempt to reach to the low income segment who actually needs government support as are promised in the constitution. Land delivered at much lower price than the actual market price was not actually used for public goods purpose. This was also reflected in the opinion of the key informants. 10% plots were kept reserved but it was not obvious from the policy that they are reserved for whom.

### **4.3.3 Access to housing: comparative analysis of demand and supply**

According to the article 15 of the constitution of People's Republic of Bangladesh (GOB, 1972), the state has mandate to provide the basic necessities of life to its citizens which includes shelter. The state must ensure equality of opportunity, equitable distribution of wealth. But in reality the achievement is far behind from the demand. These are discussed in the following sections.

#### **4.3.3.1 Annual housing demand**

There is no particular study regarding average annual housing demand for Dhaka city with specific reference to income group. The early feasibility report of Uttara 1<sup>st</sup> phase (the then North Satellite Town Dacca) indicated a housing backlog of 34 thousand dwelling unit during that period (DIT, 1965). According to the study of Kamruzzaman and Ogura (2008), the annual housing demand for Dhaka city is now 80 thousand units per year. No official data was available in this regard.

#### **4.3.3.2 Housing supply and price**

The schemes of Uttara was designed in line with the concepts of sites and services scheme that is to supply serviced land in the housing market of Dhaka city at an affordable price and houses to be built by the land owners. From this ground, the impact of the projects were attempted to assess from the supply component compared to the annual housing demand. No earlier scheme provided direct housing through provision of dwelling unit. Rather serviced plots were delivered through sites and services scheme with the intention that people will build their own houses. This was also reflected in one of the key informant's observation who was directly involved in the schemes for almost 30 years. But gradually the concepts changed with the introduction of a vibrant real estate market in 90's.

The plots of first phase of Uttara Model Town was designed as low rise single family unit whereas it was changed to six storied multi family unit in the development of second phase. With the introduction of Floor Area Ratio (FAR) regulation with flexibility of FAR based on road width and plot size in 2006, the density of development even increased with 10 to 12 dwelling units in each plot (RAJUK, 2014).

As a result, the number of housing unit developed in the first two phases are different from the projected number of housing units for 3<sup>rd</sup> phase due to change in FAR. But it was not possible to collect specific data about total no of dwelling units developed in 1<sup>st</sup> and 2<sup>nd</sup> phase within limited time which is a limitation of the study. Again, the 3<sup>rd</sup> phase is still vacant mostly according to the office document. So the calculation of dwelling unit is based on some assumptions. In first phase the FAR was usually 1 to 2, maximum 4 in some instances (Islam, 1987), it is assumed that each plot is designed for 2 dwelling unit. For second phase in during

and after 90's the general trend was to maximize the space with 6 storied building.<sup>6</sup> So, it is assumed that, each plot has 7.5 units (=1.5\*5units). Similarly it is assumed that each plot will have 9 units (=1.5\*6 units) on average. In fact, the assumptions will give an indication about the insignificance of housing supply by government individual schemes compared to demand. Table 10 gives a summary.

**Table 10 Housing supply status of the schemes**

<b>Schemes</b>	<b>1<sup>st</sup> phase</b>	<b>2<sup>nd</sup> phase</b>	<b>3<sup>rd</sup> phase</b>
Project duration	25 years	12 years	14+ years
Total no. of residential plots	5890	4819	8688
Annual supply of plots	236 plots/year	402 plots/year	621 plots/year
Annual supply of land	15.3 ha/year	15 ha/year	58 ha/year
<sup>7</sup> Annual supply of dwelling unit	470 unit/year	3012 unit /year	5500 unit/year

Source: Compiled from GIS database, RAJUK, 2014

The general tendency of housing construction in Dhaka city is through a partnership with land owner and private real estate firms after 1990 when private real estate sector started to grow in Dhaka (Seraj, 2014). Information collected from MIS department shows 5072 number of dwelling unit have already been built through such partnership in 1<sup>st</sup> phase and 3315 numbers in 2<sup>nd</sup> phase of Uttara. Here, the responsibility of building construction lies to the firm.

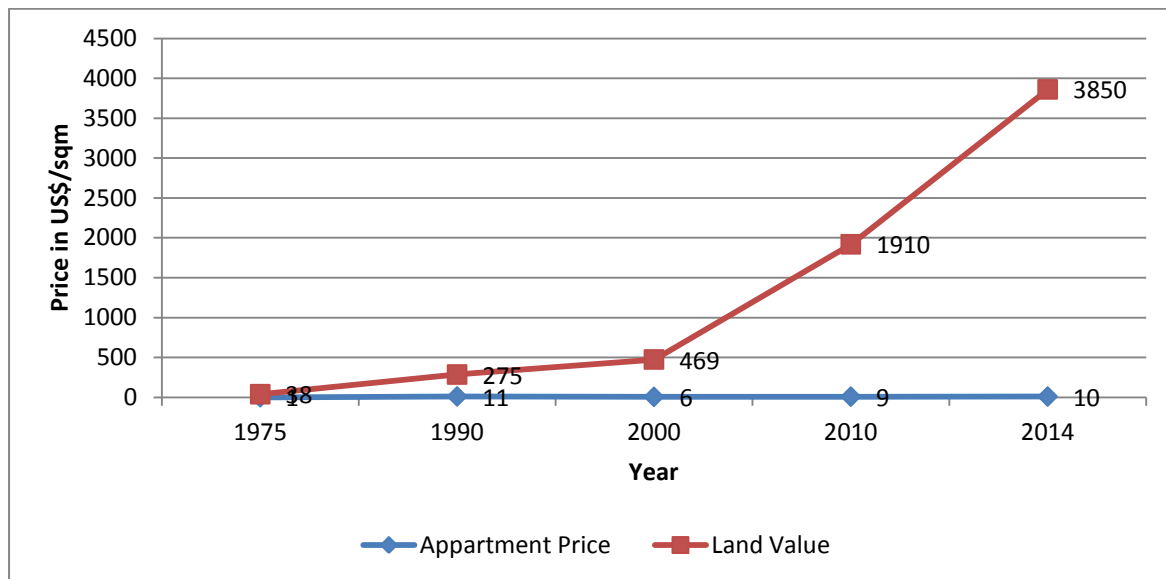
Subsequently, chart 5 shows the year wise increment of land price and house price in Uttara residential area revealing the significant impact of land price in housing provision. The historical data shows a flat increment of house price over the years and the market is actually driven by land price. This implies the significant impact of land price in the supply side of housing. Even with the introduction of private real estate firms in formal private sector housing production the unit price of apartment shows both rise and fall over the years.

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<sup>6</sup> Maximum allowable height 18 meter

<sup>7</sup> Based on assumption from floor area ratio (FAR) in different time period as actual number of dwelling unit was not available

**Chart 5 Trend showing plot and apartment price increment in Uttara adjusted at 2014's price**



Source: Seraj, 2014 and Sheltech (Pvt.) Ltd, 2014

### 4.3.4 Project impact on land market of Dhaka city

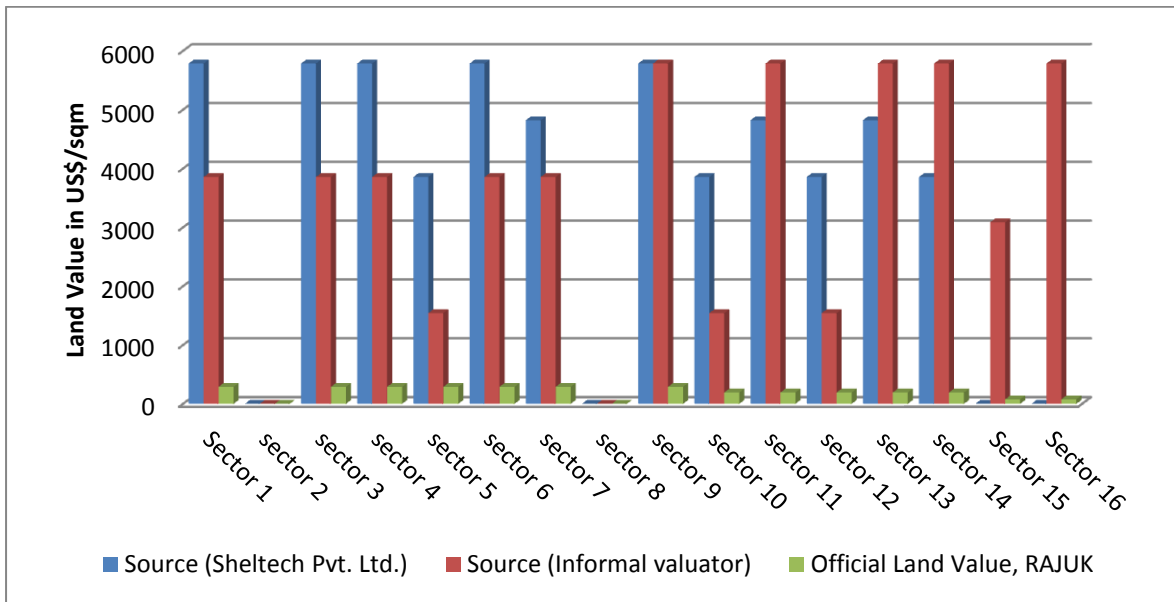
#### 4.3.4.1 Land value change through the government schemes

A study of land market in Uttara shows a significant increase of land price over the years. Market value of land in Uttara varies in different sectors according to plot size, location and adjacent road width according to different sources as were discussed earlier. But government rate is fixed for all the plots irrespective of size or other factors. Chart 6 is an indicator of gap between official land value and market value from formal and informal sectors based on sales price of current year. It is important to notice that, market value from both formal and informal sources shows higher gradient and closer land value. Information from two real estate firms has been used as formal source of market price of land one of which<sup>8</sup> is among the first few real estate developers in Bangladesh and has been operating for more than 26 years in the markets of Dhaka city. The informal source is an individual broker who is directly involved in the secondary market of government lease transfer.

Besides that, chart 6 also shows the graphical presentation of average land value at different sectors of Uttara Model Town that were collected from the informal and formal valuers based on closing sales price. This is also compared with the official land value for the individual sectors of all three phases:

<sup>8</sup> Sheltech (Pvt.) Ltd.

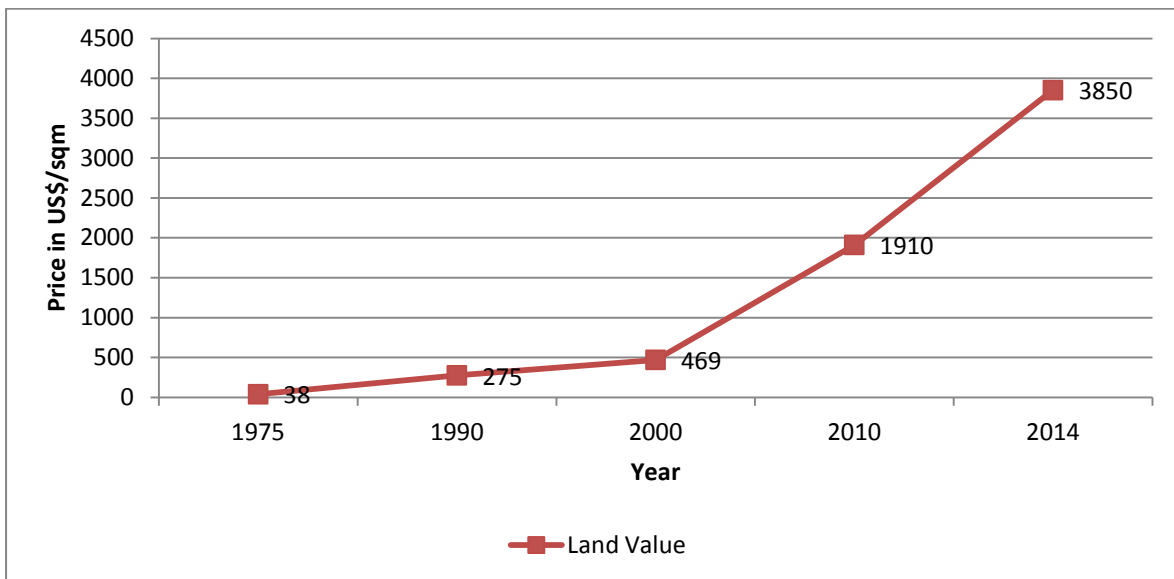
**Chart 6 Comparative market value of land in different sectors of Uttara**



Source: Estate department, RAJUK, formal and informal valuers, 2014

An average value of land in different years shows a steep rise after 2000 when a vibrant real estate market started to grow in Dhaka city. Chart 7 depicts the clear trend of land value increment over the years in Uttara Model Town with quite a sharp increase after 2000.

**Chart 7 Land value increment trend in Uttara Model Town adjusted at base year of 2014**



Source: Seraj, 2014 and formal and informal valuers, 2014

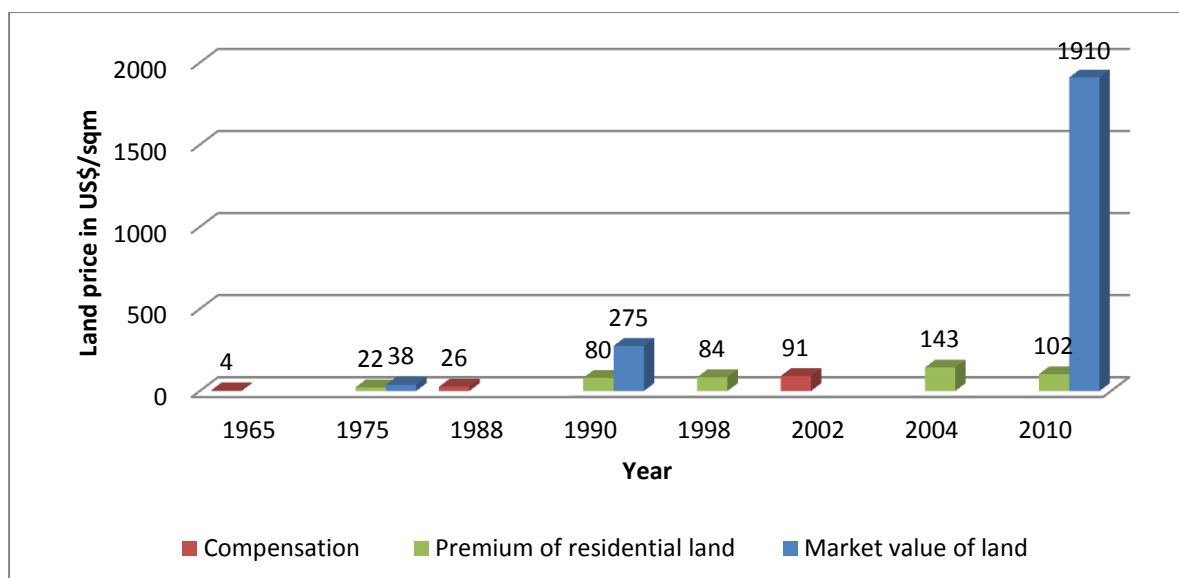
#### 4.3.4.2 Level of land value increment captured by government

The evidence of land value increment in Uttara calls for the demand of judging the situation from the value capture perspective. The land value capture paradigm strongly advocates for the need of this increment to be captured by government and redistribute the income for public good purpose as are discussed in chapter 2. Chart 8 shows the picture of how much value was captured in the context of Dhaka city as the gap widens day by day. This also



depicts the difference between land price before development which is the compensation rate and after development that is the real market price (see annex 7).

**Chart 8 Level of land value increment captured by government for different schemes adjusted at 2014's price**



Source: Seraj, 2014, RAJUK, 2014 and formal and informal valuers, 2014

Refereeing back to the discussion of the impact of acquisition cost the project's financial viability in section 4.3.1.2.4 it is evident that, compensation rate was quite closer to the market value of land in the 1<sup>st</sup> phase which is also reflected in its cost component (acquisition cost 26%). This is further reflected in the higher costs of this phase compared to revenue. Therefore, higher the acquisition cost the lower will be the chance of cost recovery in this model.

**Table 11 Land value increment in different years**

Year	Premium, Pfr (USD/sqm)	Market value of land, Vr (USD/sqm)	Unit price difference between land premium and real market price (Vr-Pfr)	% difference of premium and real market price
1975	22	38	16	71%
1990	80	275	195	245%
2010	102	1910	1808	1773%
<b>2014</b>	<b>193</b>	<b>3850</b>	<b>3657</b>	<b>1900%</b>

Source: Compiled from data of Estate department, 2014 and Seraj, 2014

The table 11 shows the gap between premium and real market price indicating the extent of revenue lost by government from residential plots. The gap widens over the years and has reached to almost 2 thousand percent higher than the official premium or transfer rate in current year.

#### 4.3.4.3 Impact of other factors in land value

There may raise the argument that land value increment in Uttara was not only the outcome of government scheme. It is also true that some other factors like huge growth pressure and demand for land have important effect on the land value increment in Dhaka city. But

analysis of different secondary data (World Bank, 2007; Seraj, 2014) as well as interview of the government officials and individual experts reveals that, these areas have the highest demand and land value compared to other areas of the city. Table 11 may be referred for this discussion which shows areas of higher land value in the city:

**Table 12 Land value at different locations of Dhaka city**

Location	Project status	Year				
		1975	1990	2000	2010	2014
Baridhara	Government	28	250	1129	6480	9625
Gulshan	Government	28	250	497	4320	7700
Banani	Government	28	250	451	3240	5775
Dhanmondi	Government	28	250	497	4320	5775
Lalmatia	Private	22	250	406	3240	3850
Mohammadpur	Government	28	209	271	1512	1925
Uttara	Government	38	275	469	1910	3850
Bashabo	Private	22	125	181	756	963
Mirpur	Government	11	83	158	864	963
Badda	Private	8	83	135	648	1155

Source: Seraj, 2014

#### 4.3.4.4 Reasons behind higher demand and value of land

The reasons behind the higher land values in these areas are manifold. The first and foremost reasons as are agreed by the key informants are these areas being planned with sufficient community facilities and infrastructure. The expectations for sound physical environment in these areas are high. Besides, there is significantly little difference in the definition of property rights of freehold and leasehold land.

Another reason for high demand of land in these areas is that, they are free from any legal and other problems and they are indisputable in terms of ownership. Land owners in these areas are exempted from taking land use clearance as they have already complied the zoning of the city. All these factors made these public residential areas most attractive in the city.

#### 4.4 Summary in brief

In summary it can be said that, high level of land use mixture with higher share of commercial use (7% in case of 3<sup>rd</sup> phase) helps cross subsidization within project. Early expropriation and low acquisition cost (17% in case of 2<sup>nd</sup> and 3<sup>rd</sup> phase) also have positive impacts on project's cost effectiveness. Different rate of premium in land leasing in combination with land use mixture helps cross subsidization which turns the improvement schemes of Dhaka city theoretically a cost effective solution of providing infrastructure and housing to the low income people through large urban projects. This was evident in 3<sup>rd</sup> phase as revenue was 7.5 times the cost. The supply of land is insignificant compared to the annual demand. Again in practice, it failed to achieve the goal of redistributing land value increments as the benefits could not reach to the people in need. These are discussed in chapter 5 in detail.

## Chapter 5: Conclusions and recommendations

### 5.1 Discussion on findings

This study intended to assess two aspects of large urban projects in Dhaka city named as 'Improvement Schemes'. Firstly, to analyze the impacts of different component instruments such as mixed land use plans and land leasing in combination with the criteria of expropriation on the financial viability of the schemes. Secondly, to judge the redistribution opportunity of the outcome through land value increments to ensure access to housing. Referring back to the mathematical formula used in the conceptual framework, it was assumed that financial viability in the improvement schemes depends on cost components; mainly acquisition cost which can be recovered through an appropriate mixture of land use and land leasing mechanism. For this purpose, it was tested that in the schemes of Dhaka city whether total revenue ( $P_{fr}+P_{au}$ ) is sufficient enough to recover total cost ( $C_a+C_d$ ) using land use mixture, different rate of premium and acquisition cost as variables in the first equation of mathematical formula.

It was also investigated that if there is any land value increment through this direct government intervention with the help of information related to real market price ( $V_r, V_c$ ) of the case study area and individual cases. The difference between premium ( $P_{fr}, P_{au}$ ) and market price are the indicators of actual land value change and the level of that land value captured by government. In short, this research aimed at finding if the improvement schemes provide a cost effective redistribution solution of public goods provision through large urban projects and under direct government intervention. The outcomes of the research are discussed in detail in the foregoing sections.

#### 5.1.1 Positive impact of land use mixture

It is evident from the study that, higher share of commercial use and residential-commercial mixture in land use planning and layout design affects the project's financial viability positively (see table 7). Integration of certain degree of commercial land use and lower residential-commercial ratio (3.43:1 in case of Uttara 3<sup>rd</sup> phase) helps cross subsidization within project even with possibility of making profit. Optimum mixture of profitable and non-profitable land use as well as residential to commercial ratio can help to design self sufficient schemes as was the case of Uttara 3<sup>rd</sup> phase. On the other hand, insignificant share of commercial use may result in revenue deficiency and need for subsidy by the government which was the case of first two phases of Uttara. In brief, careful design of the layout plan can enhance not only the property value as was indicated by Song and Knapp (2002) but also the financial viability of the project itself. The land use data used in the study was calculated from the original GIS database of RAJUK which was both reliable and valid source.

#### 5.1.2 Positive impact of early acquisition criteria on cost recovery

It is evident from the study that, early acquisition help to keep project cost lower as it has the advantage of acquiring land at current use value. This was reflected in the schemes of Dhaka city such as in 2<sup>nd</sup> and 3<sup>rd</sup> phase of Uttara (17% of project cost). Use of acquisition cost data from office documents of RAJUK and calculation at real price at the base year of 2014 helped to compare data of the three phases which added validity to the data used in this research. As a result, the findings are also reliable in this regard.

It is important to mention here that, the legal provision of early acquisition at current use value as market price was the major factors behind low expropriation cost in this case. Furthermore, compensation price is based on the recorded value of land before announcement of the project in Bangladesh which is one of the preconditions of keeping cost lower as was mentioned by Smolka (2013). The general tendency of recording low price to avoid capital gain tax by the land owners also helped to keep the acquisition cost at a lower share of the total cost.

### **5.1.3 Redistribution opportunity of land value increment through land leasing**

The land delivery mechanism of improvement scheme shows redistribution possibility even at a subsidized premium through different land leasing methods such as flat premium or premium from auction. In the improvement schemes of Dhaka city, the lease payment for residential land is determined by the authority at a subsidized rate but no specific rules or guidelines are followed for this. It does not take into account any of the leasing mechanism for fixing residential premium as is practiced in different parts of the world mentioned by Hong (2003). But it adopts auction for commercial plots.

The case of Dhaka shows the possibility of redistribution of income within project which may help to undertake large urban project targeting at access to land for low income group. It does not need upfront subsidy even residential plots are delivered at a premium far less than the market price (the case of Uttara 3<sup>rd</sup> phase). The findings are valid in the sense that, the revenue data for each scheme was also calculated from lease premium of each plot provided in the official database and adjusted at present value for comparing. But due to unavailability of institutional premium data, these data for each scheme were calculated on the basis of some assumption for each scheme which are discussed in detail in chapter 4. This may slightly distort the revenue figures if actual data are available but will not affect the overall findings of total revenue scenario as the institutional plots are limited in number.

It is important to mention that, fixation of premium as unit price of serviced land is an important consideration. According to theory, the highest price can be obtained which is the market price and the residual value of land (Needham, 2014). But, it is not logical to fix it at market price if it targets low income segments to keep them affordable. On the other side, if the premium is lower than the unit cost price, there will be need for government subsidy (e.g. the first two phases of Uttara). The design of 3<sup>rd</sup> phase of Uttara shows a possible win-win solution for both the problems. Theoretically and technically, it can be a good example of solving the two dilemmas in one project.

### **5.1.4 Less government control over land market and access to housing**

The research has shown that, land value increments in Dhaka city is not fully captured by government (see chart 8 and table 11). The gap has even reached to 2000% in current year. The data on land value increments were varied from three different sources such as formal and informal valuers and secondary sources to validate them.

The research has shown that, benefits of subsidized plots are captured by the higher income segment in practice. Government neither captures land value increment nor provides affordable housing to disadvantaged group through these schemes. As a matter of fact, the windfall gain was captured by private individuals mainly the high income group who already have access to land which was evident from the plot allotment policy (see chart 4 and annex 6). The problem is that subsidized plots were not distributed to the low income segment not

even they got adequate attention as there was no definition or income group distribution in the project documents.

For this reason, fixing of target group and distribution of land is a crucial element in project design. It is logical to provide land at lower value to make them affordable to the low income segment. But if the project is designed for low income group and hence land value is kept lower than the market value and in practice it cannot reach the target group; the government becomes loser in both ways. Neither it reaches the disadvantaged group nor can government capture the land value increment through the intervention. This was actually the case of Dhaka city where government failed to reach the low income group in spite of having the potentiality to achieve the target of access to housing through redistribution of land value within project.

Moreover the annual supply of land is insignificant compared to the annual demand which is less than 10% in all the cases of Uttara. But there was also insufficiency of available data for housing demand and supply in this case as no official data was available. This area needs further detailed empirical study.

### **5.1.5 Institutional framework: supports and practices**

The legal provisions for improvement schemes are supportive in most of the cases for execution of the process and allow the package of instruments for redistribution of revenue. For instance the acquisition law helped to keep compensation price low. The descriptive analysis of legal setting in the research was also supported by the interviews of the key informants.

At the same time, some missing link was also identified while studying the laws and rules for improvement schemes. It was mentioned about the fixation of premium in TIA, 1953 that even the residential plots will be delivered to the highest bidder (GOB, 1953) which was changed in the allotment rules as fixed premium (MOHPW, 1969). Preference for affected land owners in plot distribution in law (GOB, 1953) was also ignored in previous practice.

Although RAJUK is empowered by law to practice supreme power for planning and development control as an autonomous body, it needs approval of central government in every stage of planning and development work as was revealed in the acquisition and plan approval process. Even the plot allotment policy needs approval from administrative ministry which is also kept confidential. The whole execution process shows a clear top-down approach.

### **5.1.6 Overall discussion on Bangladesh model of improvement schemes**

The theories and practice of different large urban projects throughout the world as was discussed in chapter 2 shows attempts to solve the problem of public goods provision using different package of land value capture instruments in different contexts. But the common goals were to find effective solutions of urban land management for desired development either from supply side (Singapore, Hong Kong and Dutch case) or from demand side (Chilean model). Each model has some advantages and disadvantages. The Bangladesh model of improvement scheme also use certain combination of land value capture tools as was shown in figure 8 of chapter 2. Findings from the research have shown that, adequate degree of residential-commercial land use mixture with different leasing mechanism can produce land value increment not only adequate enough for cross-subsidization but also with

profitable outcome. The legal framework for the execution of the projects also aided this through setting land acquisition criteria.

On the contrary to that, the research has also shown that, how practice in reality can deviate the original goal of the project when misused by power structure, lack of transparency and accountability. The improvement schemes in Dhaka city could not serve as a success for a completely different perspective: it did not reach to the low income segment to meet the demand of housing as a public good due to the faulty plot distribution practice. Lack of necessary background studies, wrong policy and lack of political will apparently ruined the potential value capture instruments. Careful consideration of all these issues is needed in future policy formulation.

On the other hand, government should have the highest control over land because of the land ownership in the improvement schemes in theory (Fainstein, 2012), in reality it was not found in practice. One reasons behind this the definition of property right as leaseholders also enjoy the similar rights as the private property owners. Another reason is the longer lease period as was indicated by Hong (2003) which is 99 years in this case.

At the same time, the implementation process of improvement schemes are also associated with some other implementation problems. Lower compensation received by the displaced land owners compared to original market price (see chart 8) often brings rising protest against these government projects. This makes implementation process longer and difficult in some instances. The provision in law for preference to the affected people in plot allotment was hardly realized. Again, if government had to compensate at real market price, it would obviously results in higher costs and higher premium of serviced plot. All these contradiction needs more detailed research on this. To overcome all these problems of displacement of original land owners, both India and Colombia uses some sort of land readjustment (Sanyal and Deuskar, 2012; Smolka, 2013) whose feasibility can also be tested in the policy making process for Dhaka city.

Again, it is difficult to justify the projects from ‘public interest’ or ‘public purpose’ as the final plot allotment does not reflect ease of access to land market for the low income group. When it ends up in the hands of high income group it is difficult to justify the expropriation only from the planning perspective and ignore the social cost for financial reason as was also observed by Azuela and Herrera (2009).

## **5.2 Limitations and scope of further research**

This study also opens up a number of issues that needs more detailed investigation and research. For example the research outcome has shown that, the fixed flat rates of premium of residential plots in the schemes of Dhaka city are lower than the original market price of land in that area. But a detailed study is required to assess if they are actually within the affordable limit of the low income group of Dhaka city. Otherwise, it will be impossible to prevent gentrification in the social housing projects. This is important from the design perspective also. The neighbourhood standard and plot size should be based on affordability to reach the target group as was indicated by Bertaud (2010) which needs more detailed study in this aspect.

A study to learn the perception of user group both previous and affected land owner and first hand allottees will help to understand the situation from the bottom. It will also be interesting

to know if those plot sizes and standards were affordable to the low income segments. Their view will help to design the projects more close to the desired standard of the user group.

Simultaneously, it needs a detailed estimation of exactly what share of serviced land was allotted to the low income group and whether they could retain those plots or there is any gentrification also. Other factors affecting the project viability such as delay in implementation process, level and extent of corruption can also be investigated separately to get the whole picture which was not possible to assess within the limited time of this study.

Again, this study found some instances of conflict during the implementation stage of land acquisition process. The findings show the increasing gap between compensation and market value of land from the early schemes to the most recent one. As this was beyond the scope of the research within limited time frame; this issue can be explored further particularly in the context of Dhaka city where land is scarce. The reasons of discontent can be explored further whether these are the outcome of low rate of compensation or displacement of the original settlers.

### **5.3 Conclusion and recommendations**

The theories of large urban projects shows significant difference in the level of government intervention and use of package of land value capture instruments in different contexts. The common goal is to find a cost efficient solution for public goods provision through capturing land value increment resulted from government intervention. Government Improvement schemes in Dhaka are an example of direct government intervention. This has some resemblance with the Dutch case as both the cases used early acquisition that is the current use value of agricultural land and leasing as land delivery mechanism. But the main goal of Dutch case (Needham, 2014) or the land leasing mechanism of Hong Kong was to raise revenue (Hong, 2003) base and later subsidize different social housing projects. Whereas the case of Dhaka shows how the redistribution is possible within projects to provide social housing.

Government improvement schemes as large urban projects consist of package of land value capture instruments the research shows this package of instrument can help redistribution of land value within project. It includes mixed use planning, expropriation, sites and services and land leasing in case of Dhaka city. The mechanism used in these large government projects are based on design of mixed land use area for facilitation of cross subsidy across different land uses and leasing land for project realization through collection of premium. An optimum mixture of land use is the key to viability and self sufficiency of the projects. In addition to that, early acquisition based on compensation at current use value before announcement of the project is another pre condition for successful large urban projects as are mentioned by Smolka (2013) which is also evident in this case. The whole ideas behind the projects were to enable access to housing which is implicit in the goals as to increase supply of serviced land for housing of low and middle income group at cost price.

To sum up, it is important to note that, large urban projects through direct government intervention needs careful consideration of project design with adequate mixture of profitable and non-profitable land use, design standard based on target group of the project. Finding on optimum level needs support from data based on housing demand, income –affordability scenario and a transparent land allocation system. Government needs to fix a clear goal whether they want to generate revenue from large urban projects or provide cost effective

social housing. The two targets is even possible to achieve in the same project; at least to design a self sufficient social housing project which is reflected in the cost effectiveness of the Uttara 3<sup>rd</sup> phase project. But in reality, it failed to achieve the second goal not for the faulty design of the project rather due to a non efficient and non transparent plot allotment process.

All these issues need to be considered in future policy making process. Although the case study was based on the context of Bangladesh, the research findings have some particular influence on concerned issues of land value capture paradigm especially in the case of large urban projects through direct government intervention. This will add some degree of external validity to the research.



## Bibliography

Acioly, C., 2008. Housing strategies in the Asia-Pacific region: learning from the past and addressing present and future challenges. Nairobi: UN-Habitat.

Alterman, R., 2012. Land-use regulations and property values: the “windfalls capture” idea revisited. In: N. Brooks, K. Donaghy, K. and G. Knaap, eds. 2012. The Oxford handbook for urban economics and planning. New York: Oxford University Press. Ch. 33, pp. 755-786.

Ambaye, D. W., 2009. Land valuation for expropriation in Ethiopia: valuation methods and adequacy of compensation, 7<sup>th</sup> FIG conference: Spatial data serving people: Land governance and the environment- building the capacity. Hanoi, Vietnam, 19-22 October, 2007, pp-38

Anderson, J., 2012. Collecting land value through public land leasing. In: G. Ingram and Y-H Hong, eds., 2012. Value capture and land policies. Cambridge: Lincoln Institute of Land Policy. Ch. 6, pp. 123-148.

Azuela, A. and Herrera, C., 2009. Taking land around the world: International trends in the expropriation for urban and infrastructure projects. In: S. Lall et al., eds., 2009. Urban land markets: Improving land management for successful urbanization. Dordrecht: Springer. Ch. 13, pp. 337-362

Bangladesh Bank, 2008. Rationalizing interest rate spread in the banking sector: some policy suggestions [Online] Available at: <http://www.bangladesh-bank.org/pub/research/policypaper/pp0804.pdf> [Accessed 11 August, 2014].

Bangladesh Bank, 2014. Bangladesh Bank home page [Online] Available at: <http://www.bangladesh-bank.org/> [Accessed 10 July, 2014].

Bertaud, A., 2010. Land markets, government interventions, and housing affordability. Washington, DC: Wolferson Centre for Development. Working paper 18.

Booth, P. A., 2012. The unearned increment: property and the capture of betterment value in Britain and France. In: G. Ingram and Y-H Hong, eds., 2012. Value capture and land policies. Cambridge, MA: Lincoln Institute of Land Policy. Ch. 4, pp. 74-93.

Bonilla, L. and Galeano, J., 2000. Application of new land value capture instruments in Colombia: Desepaz case study, Cali. Cambridge: Lincoln Institute of Land Policy, working paper.

Choguill, C. L., 2007. The search for policies to support sustainable housing. *Habitat International*. 31 (2007) pp. 143-149. [Online] Available at: <http://sustainabledevelopmentnetwork.com/pdf1/52783912-The-Search-for-Policies-to-Support-Sustainable-Housing.pdf> [Accessed 19, August 2014].

Fainstein, S., 2012. Land value capture and justice. In: G. Ingram and Y-H Hong, eds., 2012. Value capture and land policies. Cambridge: Lincoln Institute of Land Policy. Ch. 2, pp. 21-40.

Gattoni, G., 2009. A case for the incremental housing process in sites-and-services programs and comments on a new initiative in Guyana. Inter-American Development Bank. pp. 1-18 [Online] Available at: [http://web.mit.edu/incrementalhousing/articlesPhotographs/pdfs/IDB\\_Guyana\\_SS-Incremental.pdf](http://web.mit.edu/incrementalhousing/articlesPhotographs/pdfs/IDB_Guyana_SS-Incremental.pdf). [Accessed 28th May, 2014].

Gilbert, A., 2004. Helping the poor through housing subsidies: lessons from Chile, Colombia and South Africa. *Habitat International* 28 pp. 13-40

GOB, 1953. The Town Improvement Act, 1953 (East Bengal Act no. XIII of 1953). Dhaka: Available at: [http://bdlaws.minlaw.gov.bd/pdf\\_part.php?id=257](http://bdlaws.minlaw.gov.bd/pdf_part.php?id=257) [Accessed 2 May 2014].

GOB, 1972 The Constitution of the People's Republic of Bangladesh. Dhaka: Available at: [http://bdlaws.minlaw.gov.bd/print\\_sections\\_all.php?id=367](http://bdlaws.minlaw.gov.bd/print_sections_all.php?id=367) [Accessed 25 June, 2014].

GOB, 1982. Acquisition and Requisition of Immovable Property Ordinance, 1982 (II of 1982). Dhaka: Available at: [http://bdlaws.minlaw.gov.bd/pdf\\_part.php?id=619](http://bdlaws.minlaw.gov.bd/pdf_part.php?id=619) [Accessed 2 May, 2014].

Healey, P., 2011. The universal and the contingent: some reflections on the transnational flow of planning ideas and practices. *Planning Theory*, 11(2). pp. 188–207. Available at: <http://plt.sagepub.com/cgi/content/long/11/2/188> [Accessed 4 October, 2012].

Hong, Y-H. and Bourassa, S. 2003. Why public leasehold. In: S. Bourassa and Hong Y-H., eds. 2003. Leasing public land: Policy debates and international experiences, issues and concepts. Cambridge: Lincoln Institute of Land Policy, pp. 3-36

Hong, Y-H., 2003. Policy dilemma of capturing land value under the Hong Kong public leasing system. In S.C. Bourassa and Y. Hong, eds., 2003. Leasing public land: Policy debates and international experiences. Cambridge : Lincoln Institute of Land Policy, pp. 151-176.

Hong, Y-H. and Brubaker, D. 2010. Integrating the proposed property tax with the public leasehold system. In: J. Y. Man and Y-H. Hong, ed., 2010. China's local public finance in transition. Cambridge: Lincoln Institute of Land Policy.

IMF, 2013. Bangladesh Poverty reduction strategy paper [Online] Available at: [http://books.google.nl/books?id=LmqM8I\\_8nH0C&pg=RA1-PA228&lpg=RA1-PA228&dq=national+housing+policy++bangladesh+source=bl&ots=itoqGIHuW-&sig=SRSk2FTOit4dsqLYAfn0EKzn6UU&hl=en&sa=X&ei=JWEYU6vQFobctAbV1IGYBg&ved=0CFkQ6AEwCTgK#v=onepage&q=national%20housing%20policy%20%20bangladesh&f=false](http://books.google.nl/books?id=LmqM8I_8nH0C&pg=RA1-PA228&lpg=RA1-PA228&dq=national+housing+policy++bangladesh+source=bl&ots=itoqGIHuW-&sig=SRSk2FTOit4dsqLYAfn0EKzn6UU&hl=en&sa=X&ei=JWEYU6vQFobctAbV1IGYBg&ved=0CFkQ6AEwCTgK#v=onepage&q=national%20housing%20policy%20%20bangladesh&f=false). [Accessed 6 March, 2014]

Ingram, G.K. and Hong, Y-H., 2012. Land value capture: types and outcomes. In: Ingram, G.K. and Hong, Y. (eds.) 2012. Value Capture and Land Policies. Cambridge: Lincoln institute of land policy. Ch. 1, pp. 3-18.

Islam, M. E., 1987. Problems in new settlements in Dhaka with special reference to Uttara satellite town. MPhil. in School of Architecture. Newcastle: University of Newcastle upon Tyne.

Jenkins, P., Smith, H. and Wang, Y. P., 2007. Colonial and neo-colonial planning and housing. In: Planning and housing in the rapidly urbanizing world. New York: Routledge. Ch. 5, pp. 103-128.

Kabir, A. and Parolin, B., 2012. Planning and development of Dhaka – a story of 400 years. Sao Paulo, July 2012, paper presented in 15<sup>th</sup> International planning history society conference. [Online] Available at:

[http://www.fau.usp.br/iphs/abstractsandpapersfiles/sessions/09/kabir\\_parolin.pdf](http://www.fau.usp.br/iphs/abstractsandpapersfiles/sessions/09/kabir_parolin.pdf) [ Accessed 22 February, 2014].

Kamruzzaman, M. and Ogura, N., 2008. Urbanization and Housing Crisis in Dhaka City, Paper Presented at [Conference on Homelessness: a Global Perspective]. Newcastle, 9-13 January, 2006, Newcastle: University of Newcastle upon Tyne.

Krabben, E. van der, Ploegmakers, H. and Samsura, A., 2011. The Netherlands: the public development of land. In: M. Tira, E. van der Krabben and B. Zanon, B. eds., 2011. Land management for urban dynamics: Innovative methods and practices in a changing Europe. Ch. 2.16, pp. 269-280.

Krabben, E. van der, and Jacobs, H. M., 2013. Public land development as a strategic tool for redevelopment: Reflections on the Dutch experience. *Land use Policy*, 30 (1), pp. 774-783. Available at: <http://www.sciencedirect.com/science/article/pii/S026483771200107X> [Accessed 24 April 2014].

Maldonado, C. M. M. and Smolka, M. O., 2003. Using value capture to benefit the poor: the Usme project in Colombia. *Land Lines*, 15 (3). pp. 15-17. [Online] Available at: [http://www.lincolninst.edu/pubs/833\\_Using-Value-Capture-to-Benefit-the-Poor](http://www.lincolninst.edu/pubs/833_Using-Value-Capture-to-Benefit-the-Poor). [Accessed 19 August, 2014].

Mohit, M. A., 2012. Bastee settlements of Dhaka city, Bangladesh: a review of policy approaches and challenges ahead. *Social and Behavioural Sciences*, 36 (2012), pp. 611-612 [online] Available at: <http://www.sciencedirect.com/science/article/pii/S1877042812005344> [Accessed 16 March 2014]

MOHPW, 1969. Dhaka Improvement Trust (Allotment of lands) Rules, 1969 (amended in 1986). Available at: [http://www.rajukdhaka.gov.bd/rajuk/page/web/devcontrol/dhaka\\_improvement\\_trust\\_rules\\_1969.pdf](http://www.rajukdhaka.gov.bd/rajuk/page/web/devcontrol/dhaka_improvement_trust_rules_1969.pdf) [Accessed 23 May, 2014].

MOHPW, 1993. National Housing Policy, 1993 (amended in 1999). Ministry of Housing and Public Works, Dhaka

Needham, B., 2003. One hundred years of public land leasing in the Netherlands. In: S. Bourassa and Hong Y-H., eds. 2003. Leasing public land: Policy debates and international experiences, issues and concepts. Cambridge: Lincoln Institute of Land Policy, pp. 61-82.

Needham, B., 2014. Dutch land-use planning the principles and the practice. Surrey: Ashgate Publishing Limited.

Nientied, P. and Linden, J. van der, 1985. Approaches to low-income housing in the third world. In Josef Gugler eds., 1988. The urbanization of the third world. England: Oxford University Press.

RAJUK, 2014. RAJUK home page [Online] Available at: <http://www.rajukdhaka.gov.bd/rajuk/webHome> [Accessed 23 May, 2014].

Ronald, R. & Doling, J., 2010. Shifting East Asian approaches to home ownership and the housing welfare pillar, *International Journal of Housing Policy*, 10(30), pp. 233-254.

Available at <http://www.tandfonline.com/doi/pdf/10.1080/14616718.2010.506740> [Accessed 24 April, 2014]

Sanyal, B. and Deuskar, C., 2012. A better way to grow? Town planning schemes as hybrid land readjustment process in Ahmedabad, India. In: G. Ingram and Y-H Hong, eds., 2012. Value capture and land policies. Cambridge: Lincoln Institute of Land Policy. Ch. 4, pp. 149-186.

Smolka, M. O. and Amborski, D., 2000. Value capture for urban development: An inter-American comparison. Cambridge: Lincoln Institute of Land Policy, working paper, pp. 1-32.

Smolka, M.O., 2013. Implementing value capture in Latin America; policies and tools for urban development. Cambridge: Lincoln Institute of Land Policy.

Song, Y. and Knaap, G., eds., 2002. Are mixed land use marketable: capitalizing mixed land uses into housing values, 10-7-2002. Cambridge: Lincoln Institute of land Policy. pp. 1-26.

Seraj, T. M. 2014., Private sector housing. Dhaka: Pearl Publications.

Turk, S. and Altes, W. K. K., 2010. The planning system and land provision for social housing. *Housing Finance International*, 25 (1), pp. 26-33.

Star Report, 1999. Corruption: massive nepotism in Rajuk's plot allotment. The Daily Star, July 14, 1999. Dhaka: Available at: <https://groups.google.com/forum/#!topic/soc.culture.bangladesh/Sh7GoV8JyWw> [Accessed June 3, 2014].

Rahman, M., 2014. Secretary sued for corruption: ACC files three cases over Rajuk plot. The Daily Star, 23-4-2014. Dhaka: Available at: [http://www.thedailystar.net/print\\_post/secretary-sued-for-corruption-21173](http://www.thedailystar.net/print_post/secretary-sued-for-corruption-21173) [Accessed 23 June, 2014].

United Nations, 2011. World urbanization prospects: the 2011 revision, New York, United Nations [Online] Available at: [http://esa.un.org/unup/pdf/WUP2011\\_Highlights.pdf](http://esa.un.org/unup/pdf/WUP2011_Highlights.pdf) . [Accessed 28 December 2013]

Van Thiel, S. 2007. Research Methods in Public Administration and Public Management. New York: Routledge.

World Bank, 2004. *Housing finance in Bangladesh*, World Bank report, World Bank Office: Dhaka: Available at: <http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1269620455636/6907265-1284569649355/BGDSARHousingFinanceOctober2010.pdf> [Accessed 2 June, 2014]

World Bank, 2007. Bangladesh: strategy for sustained growth, Bangladesh development series, paper no. 18. World Bank Office: Dhaka

World Bank, 2014. World Bank home page [Online] Available at: <http://data.worldbank.org/indicator/FR.INR.DPST/countries?page=2&display=default> [Accessed 30 June, 2014]

### **Project documents:**

DIT, 1965. Feasibility report: North Satellite Town-Dacca. Dhaka: DIT

DIT, 1966a. Final report on master plan for North Satellite Town-Dacca. Dhaka: DIT

DIT, 1966b. Project proforma: North Satellite Town-Dacca. Dhaka: DIT

RAJUK, 1988. Project proforma: Uttara Model Town (revised) phase-1. Dhaka: RAJUK  
RAJUK, 1992. Project summary: Uttara Model Town (in Bengali) phase-2. Dhaka: RAJUK  
RAJUK, 2000. Project proforma: Uttara Residential Model Town (3<sup>rd</sup> phase). Dhaka: RAJUK  
RAJUK, 2006. Revised project proforma: Uttara Residential Model Town (3<sup>rd</sup> phase) project.  
Dhaka: RAJUK

## **Annex 1: Interview guide for government officials**

### Introduction

- How long have you been working in this department?
- Can you explain little bit about your role/involvement in the scheme?
  
- What criteria do you use for preparing land use plans/layout for the schemes?
- What elements are used there for making viable projects?
- Can you tell me how the unit price of land (premium) for residential plots is determined?
- Are there any rules/guidelines for plot allotment?
- Can you describe or provide me with that?
  - flat rate of residential plots of different size
  - bidding criteria and process
- How they are applied in plot distribution?
- Do you face any difficulties and challenges during implementation process?
  - land acquisition process
  - implementation period
  - coordination
- Can you explain further?
  
- Can you please mention who are involved in the formulation of policy for the schemes?
- Do you think the legal framework and policy are sufficiently supportive for the scheme?
- Will you please explain your opinion?
  
- According to your opinion what are the positive aspects of the scheme?
- Can you please mention which area can be improved?
- According to your opinion, what factors have greatest influence on the schemes?
- According to you what impact does it have in the land market of the city?
  
- Do you have anything to add other than this conversation?
- Do you have any additional documents/advice for me to explore in this issue?
- Do you have any suggestions who I can talk to about this issue?
- Can I come again if required in any case?

Thank you.

## **Annex 2: Interview guide for individual experts**

### Introduction

- Can you please express your orientation towards the government schemes?
- Can you please give your opinion about formulation of policy for the schemes?
- Do you think the legal framework and policy are sufficiently supportive for the scheme?
- Will you please explain your opinion?
  
- According to you what criteria should be considered for preparing land use plans/layout for the schemes?
- What elements according to you can be important for making viable projects?
- Can you tell me your opinion about the fixation of unit price of land?
- What rules/guidelines do you think are important in plot allotment?
- How you feel they are reflected in the actual practice for plot distribution?
  
- According to your opinion what are the positive aspects of the scheme?
- Can you please mention which area needs improvement?
- According to your opinion, what factors have greatest influence on the schemes?
  
- According to you what impact does it have in the land market of the city?
- Do you have anything to add other than this conversation?
- Do you have any additional documents/advice for me to explore in this issue?
- Do you have any suggestions who I can talk to about this issue?
- May I come again if required in any case?

Thank you.

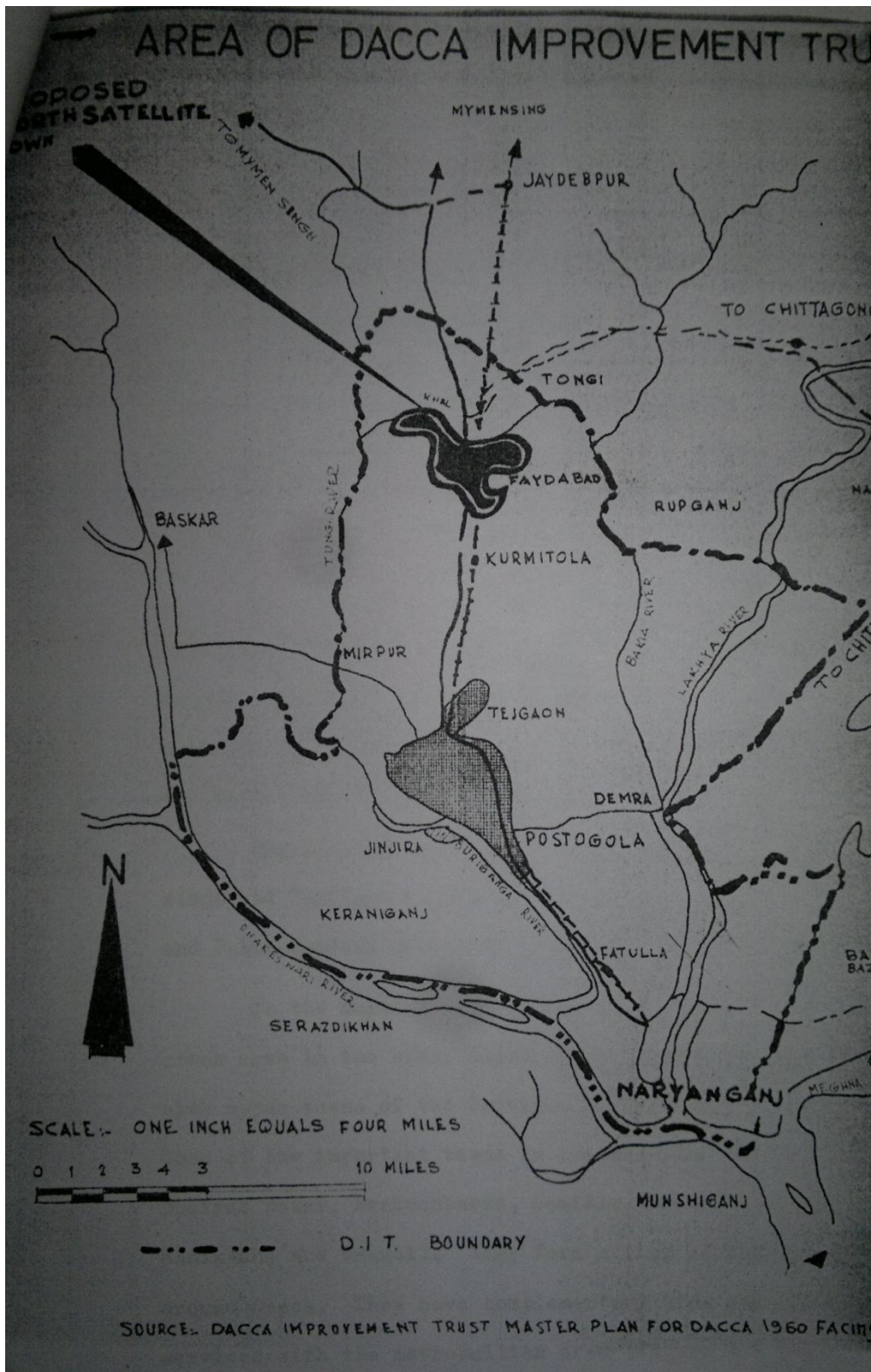
## **Annex 3: Interview guide for valuers**

### Introduction

- Can you please mention about the current selling price of land in Uttara?
- Is there any difference in price according to location?
- Will you please mention where land value is highest and where is lowest?
- What factors affecting these variations in land value?
- Can you tell me the rate of commercial plots?
- Can you provide me with a price list of residential and commercial plots at different sectors of Uttara?
- May I come again if required in any case?

Thank you.

**Annex 4: Location of Uttara (the then North Satellite Town) in respect to DIT area**



**Source: Feasibility Report (DIT, 1965)**

### Annex 5: List of sector wise number of plots of different land uses

Phase	Sector No.	Commercial	Educational	Residential
	1	0	2	259
	2	0	0	0
	3	1	1	714
	4	0	3	950
	5	0	1	713
1st phase	6	4	5	526
	7	24	2	850
	8	0	2	71
	9	0	0	711
	10	11	3	1096
<b>Total</b>		<b>40</b>	<b>19</b>	<b>5890</b>
	11	1	1	1362
	12	11	1	1148
2nd phase	13	1	3	1153
	14	4	1	1156
<b>Total</b>		<b>17</b>	<b>6</b>	<b>4819</b>
	15	86	14	2346
3rd phase	16	63	20	2271
	17	51	20	4071
<b>Total</b>		<b>200</b>	<b>54</b>	<b>8688</b>

### Annex 6: Quota wise distribution of plots according to plot allotment policy, 2009

Profession	Quota in percentage
Freedom fighter	5
Journalist	2
Government Service	28
Autonomous organization	12
Defense	2
Businessman and Industrialist	8
Private Service holder	10
Artist and Sportsman	3
Employee of the Ministry (MOHPW)	1
Employee of RAJUK	1
Retired Government Employee	1
Lawyer	2
Expatriate	10
Reserved	10
Others	5
<b>Total</b>	<b>100</b>



## Annex 7: Percent increase of land value before and after development

	Year	Land Value before development in USD/sqm	Land value after development in USD/sqm	% increase of land value before and after development
	1965	4.28		
1st phase	1975		38	888%
	1988	25.91		
2nd phase	1990		275	1061%
	2002	91		
3rd phase	2010		1910	2097%
	2014		3850	4227%

## Annex 8: Code list used in qualitative data analysis of interview transcripts in Atlas-ti

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ACQUISITION  
 LAND\_MARKET\_IMPACT  
 LAND\_PREMIUM  
 NEGATIVE\_SIDE  
 ORIENTATION  
 PLANNING  
 PLOT\_ALLOTMENT  
 PLOT\_DISTRIBUTION  
 PLOT\_DISTRIBUTION\_lowincome  
 POLICY  
 POSITIVE\_SIDE  
 PROBLEMS  
 PROBLEMS\_acquisition  
 PROBLEMS\_history  
 ROLE  
 ROLE\_acquisition  
 ROLE\_implementation  
 SERVICE\_BACGROUND  
 SUGGESTION\_add

**Annex 9:** Calculation of Market price of land in different years adjusted at 2014 price in Uttara

Year	Land price in BDT/sqm	*Interest rate, r	Price 1985	Price 1990	Price 1995	Price 2000	Price 2005	Price 2010	Standardized Price for Year 2014 in BDT	Standardized Price for Year 2014 in USD
1965	20.45	0.035	40.70	59.80	92.43	116.85	163.89	215.22	284.75	4
1975	298.84	0.035	421.55	619.40	957.40	1210.31	1697.53	2229.14	2949.35	38
1985		0.08								0
1990	4482.67	0.091			6928.84	8759.25	12285.30	16132.64	21344.92	275
1995		0.048								0
2000	14942.23	0.07					20957.26	27520.35	36411.89	469
2005		0.056								0
2010	112066.75	0.0725							148274.33	1910
2014	298844.67	0.0725							298844.67	3850

\*Source: Bangladesh Bank, 2008, 2014 and World Bank, 2014

**Annex 10:** Calculation of Rate of per square meter Compensation and Premium of residential plots in different years adjusted at the price of base year 2014

Year	Land price in BDT/sqm	*Interest rate, r	Price 1985	Price 1988	Price 1990	Price 1995	Price 1998	Price 2000	Price 2002	Price 2004	Price 2005	Price 2010	Price for Y 2014 in BDT	Standardized Price for Y 2014 in USD
1965 (Compensation)	20.45	0.035	40.70	51.27	64.31	99.41	114.42	133.46	152.80	178.89	191.41	251.35	332.56	<b>4.28</b>
1975	149.42	0.035	210.77	265.52	333.06	514.81	592.56	691.16	791.31	926.41	991.26	1301.69	1722.25	<b>22.19</b>
1985		0.08		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
1988 (Compensation)	310.0227	0.12			388.89	601.11	691.89	807.02	923.96	1081.70	1157.42	1519.88	2010.94	<b>25.91</b>
1990	1195.38	0.091				1847.69	2126.73	2480.62	2840.06	3324.93	3557.68	4671.82	6181.24	<b>79.63</b>
1995		0.048					0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
1998	2241.33	0.08						2614.29	2993.10	3504.10	3749.39	4923.57	6514.32	<b>83.93</b>
2000	0.00	0.07							0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
2002 (Compensation)	3248.76	0.082								3803.40	4069.64	5344.12	7070.74	<b>91.09</b>
2004	5976.893	0.07									6395.28	8398.06	11111.38	<b>143.15</b>
2005		0.056										0.00	0.00	<b>0.00</b>
2010	5976.89	0.0725											7907.96	<b>101.88</b>
2014	14942.23	0.0725											14942.23	<b>192.50</b>

