Chapter-2
Critical Planning Issues

2.0 Introduction

The current chapter analyzes the existing development pattern of the project area. It includes such issues as residential, commercial and industrial development patterns, services facilities, and description about non-urbanized areas, infrastructure facilities and population growth.

2.1 Existing Development Pattern

2.1.1 General

Location-2 is a part of western suburb of core Dhaka. It is a crescent shaped area just outside the Dhaka City boundary mostly inhabited by low income people. It is outside the Dhaka flood embankment. However, after construction of bridge over the Buriganga River and construction of physical infrastructure including road in the area, rapid spatial development is observed including population densification. **Map- 2.1** shows spatial development pattern in the planning area.

The main characteristics of spatial growth in the project area are:

i. The spatial growth usually follows major roads.
ii. Development takes place by raising land level.
iii. Development is takes place in an unplanned way.
iv. Most buildings do not have approval from RAJUK, the development controlling authority of the area.
v. The buildings that have approval, violation of approved plan is rampant.

2.1.2 Socio-economic Profile

a. Family Size

The number of sampled household selected for survey in Location-2 area was 310. Household composition by size of family members has been presented in **Table- 2.1**.

Table- 2.1: Distribution of Household Size

Family Member	Number	Percentage	Cumulative %
Upto 3	26	8.40%	8.40%
4 – 5	103	33.20%	41.60%
6 – 7	101	32.60%	74.20%
8 – 9	62	20.00%	94.20%
10 – above	18	5.80%	100.0%
Total	**310**	**100.00%**	**-**

Source: *Field Survey, 2000.*

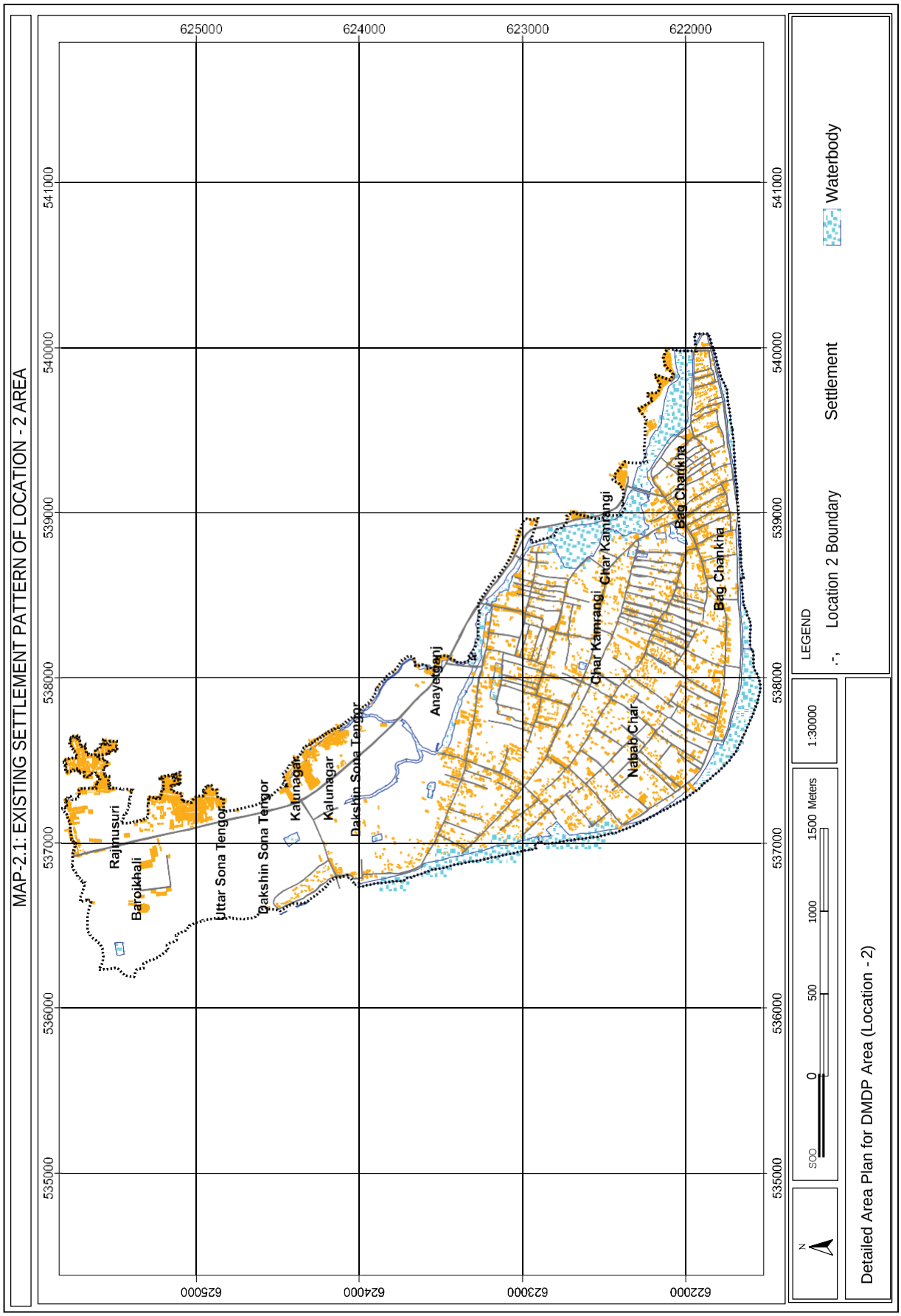
Table- 2.1 shows that over one-third of the families have 4-5 members and a similar number have 6-7 members. Two-thirds of the families have 6 to 7 members. Minimum family size was found to be one, on the other hand maximum was found to be 13. Median family size in the area is 6 persons, which is higher than the city average of 5.2 persons. This means that Kamrangir Char people maintain relatively large family size.

b. Age and Sex Structure

Sex ratio (M/F) in Location-2 was 1.12 in 1991 that is 112 males for every 100 female that increased to 1.15 in 2001.

c. Educational Status

About 85% of male population have some level of education, while 78% of females have some level of education.


MAP-2.1: EXISTING SETTLEMENT PATTERN OF LOCATION - 2 AREA
625000
624000
623000
622000
541000
540000
539000
538000
537000
536000
535000
Rajnusuri
Barojkhali
Uttar Sona Tengor
Dakshin Sona Tengor
Kalunagar
Kalunagar
Dakshin Sona Tengor
Anayetganj
Char Kamrangi
Char Kamrangi
Nabab Char
Bag Chankha
Bag Chankha
LEGEND
Location 2 Boundary
Settlement
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N
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Detailed Area Plan for DMDP Area (Location - 2)

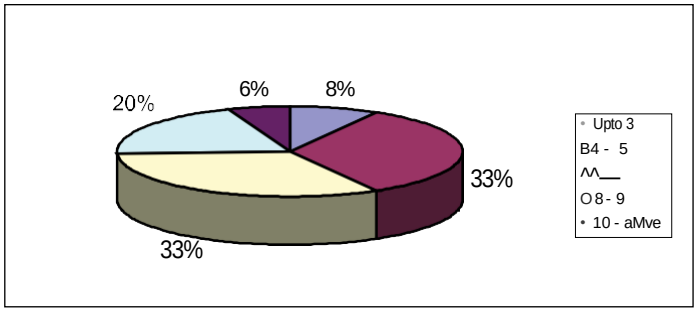

Figure-2.1: Percentage of Family with different Sizes Member.

d. Occupation Pattern

Occupational pattern of population of the planning area is mainly urban based that include salary earning jobs and business. About 15% are either underaged or students and about 23% are involved in household works. About 54% are engaged in some sort of income earning activities and 8% are unemployed. About 7% work in government/private/autonomous organizations, 30% are involved in business, 5% belonging to day labouring activities and 1% are land owner farmers. The remaining 11% are involved in other activities like, industrial worly, skilled/unskilled professions.

e. Income and Expenditure Levels

Monthly household income and expenditure indicate socio-economic status of the people of the area. These also allow examining the household saving rate. Here, income means income of a household for a month from all sources such as production, property, salary and business, and expenditure means amount of money that a household spends for all types of consumptions.

f. Migration

It appears from the survey that employment and attraction of urban facilities are the troo major reasons for migrating into the city. There are a significant percentage of households in the area living by birth. The household socio-economic survey reveals that about 45.01% of the households are local residents and about 54.99% migrated from different parts of the country.

2.1.3 Land Use

Location-2 is situated very close to the DCC area and it is urbanizing very rapidly. It has been ascertained that major land use goes to residential with an area of 883.92 acres of land which is 59.18% of the total planning area. Vacant land is also dominant criterion of the project area which covers about 17% of total land uses. Another major land use is agriculture occupying about 11.35 % of the area. Besides these, there are about 6.31 water bodies; otherwise about 2.94% of lands are being used for transport and communication purposes. Land use under commercial activity purposes and, recreational area, religious, industrial activity, service activity etc are insignificant in this planning area. Details have been presented in **Table-2.2.**

Table-2.2: Existing Landuse Distribution of Location-2

Name of Landuse	Area in Acres	Percentage (%) of Total Area
Residential	883.92	59.18
Vacant Land	253.92	17.00
Agriculture	169.57	11.35
Water body	94.27	6.31
Transport & Communication	43.84	2.94
Education & Research	37.33	2.50
Mixed Use	3.24	0.22
Community Service	2.70	0.18
Service Activity	1.91	0.13
Recreational Area	1.25	0.08
Commercial Activity	1.21	0.08
Manufacturing and Processing Activity	0.34	0.02
Total	**1493.50**	**100.00**

Soorce: *Physical Feature Survey,* 2006

Amenities and Services

It is ascertained from the study that there is serious shortage of play field and parks for local level active and passive recreation. Absence of open space particularly affects children and the adolescent classes in terms of growth of their body and mind. Adolescent devoid of playing areas are often found to get involved in drug addiction and anti social activities. A variety of uses like, health facilities, power sub station, treatment plants, engineering workshops, hotel, restaurant, police, fire brigade and like are included in this category of land use.

2.1.4 Infrastructure

a. Rood Network

The project area is bounded by embankment cum road on the west side with a length of 7.12 km. Most of the roads of location-2 area have been developed spontaneously and through community initiative. A good proportion of roads in Location-2 area are semi-pucca (73.39%), and over 17 percent of the project area roads have been found pucca. The most important problem of roads is that they are very narrow and tortuous that makes movement of vehicles difficult.

2.2 Expected Development

2.2.1 Population

Demographic Transformation

It is evident from consecutive population census reports that population of Location-2 area has been rising substantially over the years with rapid urbanization. During 10 years between 1991 to 2001 the population of Location-2 increased by about 1,12,907 persons, which means every year over eleven thousand people were added to the area. From 1991 to 2001 the population growth rate of Location-2 was 6.94%. With the increase in population the density of population has also ascended from 27,947 persons per sq. km in 1991 to 39,209 persons per sq. km in 2001. The increase of literacy was, however, was minor. The literacy among 7+years of population increased from about 42.5% (average) in 1991 that reached to over 42.84% (average) in 2001. Table- 2.3 shows changes in different demographic variables that took place in Location-2 over 1991-2001. Demographic changes from 1990s to 2001s clearly indicate rapid urbanization trend in the planning area. Trend indicates high density clusters in particular locations like, Bag Chad Khan, Char Kamrangir and Rasulpur area where spontaneous high density settlements are imminent. It is observed that all the said areas are developing as sprawls outside dcc area. As a result, they are devoid of many basic urban services, like, piped water supply, drainage, waste management, adequate and standard road network. Urbanization without proper management has potential dangers of environmental degradation, like, drainage congestion, pollution by solid waste, loss of livability caused by haphazard development and traffic management problems. There was no attempt in the past to prepare and execute a land use plan to streamline systematic development of land uses in the area.

Table- 2.3: Changes in Demographic Variables in location-2 from 1991 to 2001

Variable	Year	
	1991	**2001**
Density of Population	27947 persons per sq. km	39209 persons per sq. km.
Literacy Rate (7 years+)	42.5%	42.84%
Urban Population	-%	100.00 %

Source: *National Population Census Report 1991, 2001: Community Series, Zila: Dhaka, BBS.*

Density of Population

The density of population in Location-2 was 27947 persons in 1991 that changed to 39209 persons per sq. km. in 2001. Over a period of 10 years the population increased by over 11 thousand persons. In Dhaka City Corporation area average density of population stands at 18,055 persons per sq. km (2004). It means that Location-2 has very little room to accommodate more population in future. According to 2001 population statistics the density of population per acre in the planning area was 95 persons. Current population of 2010 is 263061 and projected population of 2015 is 368784 in Location-2 area.

There has been extremely high growth of population in the project area during last two decades. Such a growth resulted from overspill of activities from the core city where space for new establishment is fast diminishing leading to soaring land pieces. Usually low income people find their accommodation here because of cheap house rent resulting from low land value with lesser municipal services. Following is the population forecast of the project area based on population growth rate of 6.99%.

The details have been presented in the **Table-2.4.**

Table- 2.4: Project Area Population Growth (Projected)

Name of the Mouza	Census Population		Projected Population (r = 6.99%)	
	1991	**2001**	**2010**	**2015**
Bag Chand Khan	5894	12936	23762	33312
Char Kamrangir	45128	87664	161031	225749
Dakuria	1648	2128	3909	5480
Hashlai	7412	12580	23108	32396
Jangalbari	7571	9750	17910	25108
Jaulhati	0	381	700	981
Nawab Char	5183	17769	32640	45758
Total	**72836**	**143208**	**263061**	**368784**

Source: *Bangladesh Population Census 1991 and 2001 and compiled by consultants.*

2.2.2 Economic Activities

The current socio-economic survey shows a significant number of people either jobless or has no contribution to GDP (involved in household work), 11.5% people are service holders in Government and private companies. More than 50 % people are engaged in some sort of business or entrepreneurship. So economic activates are very low within the project area. More employment opportunities are immediate needs for the project area. In the built up parts of the planning area retail shops are coming up along major roads, workshops for furniture making, knitwear manufacturing. These activities are creating new job opportunities. As a developing fringe regular employments are being created in the construction sector, as new buildings are coming up in vacant plots. Real estate developers have already penetrated into this mixed income area as land for development is gradually shrinking in the city core areas leading to soaring prices.

2.3 Development Problems

Substantial part of the project area is devoid of infrastructure required to serve this rapidly growing suburb of mega Dhaka. The area is particularly deficient in physical infrastructure, like, standard road and road network, piped water supply, drainage and waste management. Following is a brief description of available social and physical facilities in the area.

2.3.1 Hydrology (Drainage and Flooding)

Although the area is situated very close to the core of the city, accessibility to the site is very poor. The area is surrounded on all sides by the river Burhiganga or canals. Road links to mainland Dhaka City are via two bridges- the older bailey bridge (known as the Hakkul Abad Bridge) on the main road in Jangal Bari mauza and a new reinforced concrete bridge further west in Kamrangir Char mauza. Both bridges are too narrow (13'-3" and 14' respectively) to accommodate more than two lanes of carriageway. Both the bridges are in the southern part of the area. The northern part may be approached through some culverts along the embankment. In spite of its proximity to the main city, the area has large vacant plots because of poor communication. In the past regular flooding inundated the area annually. The Dhaka Flood Protection Embankment which protects the western part of the city leaves Kamrangir Char area outside the flood protection zone. Construction of a wider access road from Gabtoli on the flood protection embankment was under progress at the time of survey. The Bangladesh Water Development Board was the executing authority of the project. The project has been completed and it has cased access to the site from the north and enables settlers/residents to commute to Dhaka for income earning.

Driving Forces behind Urbanization

The project area shows a rapid increase of population with increase of net population density. The factor acting behind is the scarcity of land in the core city. Especially, low income people find accommodation here at cheaper rent and close vicinity to their work places. Land price is still lower here compared to core city due to flood risk and unavailability of municipal services. As a consequence lower and lower middle income people can afford small plots and rent hones here.

2.3.2 Geological Fault

There is no geological fault line in Location-2 area.

2.3.3 Spontaneous Development

Some major land filling projects have been undertaken within the project area. Haphazard land filling increasing the frictional surface and further reduce the velocity of flow. As a consequence, this is creating the problem of drainage congestion especially during the rainy season. Land grabbers are sometime filling the natural drainage channels and khals not keeping in mind about the drainage congestion. This illegal land filling is aggravating the flood risk situation.

Development control function is very poor in the project area. With present capacity RAJUK cannot oversee or pro-act to guide and steer development in desired areas of urban expansion. This resulted in:

- Un-necessary invasion of agricultural land by urbanization.
- Non-conforming uses are found every where.
- Residential areas are being invaded by industries.

2.3.4 Transportation

a. Road:

No entire area lacks systematic and planned road network. No road network plan was ever drawn up for this high intensity development area. As a result narrow and unplanned meandering roads have been developed spontaneously the community efforts. If this trend continues then there will be no scope for future intervention. Due to high demand for land by a fast growing economy, rapid development is taking place in the area without considering the suitability of road network and quality. Since the investors have little or no option, they are forced to choose lands on narrow and low standard roads. Many existing roads have been found to be too narrow and meandering that poses impediments in smooth movement of vehicular traffic.

b. Transportation Problem versus Urban Land Use

No plan would be successful if there is no balance between land use and transport planning. Many of the transportation problems is emanating from the conflict in the land use. It is found that congestions are created due to the land use along the side of the major roads. More over, linear development along the major road substantially reduces the efficiency of a road. Roads are also constructed with complete disregard to the projected generation of trips. Conflicting land uses also result in unnecessary congestion which could be otherwise avoided.

2.3.5 Utility Services

In the study area of Location-2, limited utility services are available. Utility services such as water, gas, and sewerage and garbage disposal are available only in the areas belonging to the eastern part of the embankment. The western part of the embankment is deprived of most of the utility services.

a. Electricity

From the survey, it was found that 4% of households do not have any electricity. 96% households have electricity, but the service is not good. Only 2% households reported to have good service, whereas majority (85%) reported the service to be of medium quality followed by 9% who vales the service as bad.

b. Water Supply

Only a small part of the planning area has tap water supply, the rest depend on hand tube-wells. Water scarcity severely affects the area particularly during the dry season. From the survey, it was found that 93% households termed the water supply service as poor, followed by 7% who consider the service as of medium quality.

c. Gas Supply

Only a small part of the study area has gas connection. Very recently gas pipes have been laid to bring the middle part (Char Kamrangi and Bagh Chand Kha mauzas) of the area under gas coverage. The non-existence of the service in the area has been revealed by our survey where 93.5% households have no gas, followed by 5% who regarded the service as good and 1.6% who considered the service as medium quality.

d. Sanitation

Shortage of sanitation facilities is another major problem of the area. From household survey, it is found that 16% households have pucca sanitary arrangements followed by 40.3% who have kutcha sanitary facilities and the rest 43% have none, which is a possible source of health hazard.

e. Drainage

In the study area, drainage is a serious problem because there is no kid of planned drainage system. From household survey, it is gathered that only 11% households have some drainage facility and the rest 89% have no such facility. Of those having the drainage facility, only 2.6% have pucca drains.

f. Solid Waste Disposal

According to the survey results, the waste management facility in the project area is not encouraging. No organised waste management facilities have been found even in the DCC part. About 85% of the households dump their household wastes just outside the house and 10.88% households dump in dustbin nearby. Only 5.12% household's use community based collection facilities.

2.3.6 Amenities and Services

a. Active and Passive Recreation

Active Recreation

Active recreational facilities furnish opportunities for the physical growth of human body by actively engaging muscles in various games. Playground, playing fields are the facilities that offer such recreation. The demand for playgrounds in recent time has greatly increased due to the rapid development of organized athletic games. The planning area seriously lacks public recreational open spaces particularly playfields. Absence of open space particularly affects children and the adolescent classes in terms of growth of their body and mind. Adolescent devoid of playing areas are often found to get involved in drug addiction and anti social activities. Specific problems of active recreational facilities are summarized below:

i. Absence of open space.
ii. Play fields are rare

Passive Recreation

Passive recreational facilities are provided to meet with needs of fresh air and enjoyment of the unspoiled nature. In congestion city areas, it is not possible for the inhabitants to secure this type of recreation and therefore, the parks

should invariably be provided for the benefit of such people. Thus the open spaces in the form of parks furnish the passive type of recreational open space. The provision of open space is also lacking in the area. Specific problems of active recreational facilities are summarized below:

i. No central auditorium with modern facilities.
ii. No city level community center.
iii. Inadequacy of Cinema hall.
iv. No park available.

b. Educational Facilities

i. No public or private university
ii. No medical college
iii. No national level school/college

c. Market Facilities

No hat and bazaar has been found in the study area formally provided by authority. Only few small daily kitchen markets have been found.

d. Community Facilities

There exist several religious facilities in the Location-2 area but there is great dearth of community facilities like Hospital/Clinic, fire service station, post office, police station, power plant, and refueling station, etc. are also not available in the study area. Problems of community facilities are summarized below:

i. Graveyards and cremation grounds are inadequate.
ii. At places religious facilities do not cater to the growing needs of the community.
iii. Shortage of community centre facility.
iv. Street light facilities should cover entire urban areas and rural settlement areas as well.
v. Hospital Facility in both public and private sector is inadequate.
vi. There is no specific location for waste disposal.

2.3.7 Environmental Concern

a. Flood Flow and Waterbodies

There are plenty of water bodies like pond, ditch, marshy land and khal in study area. With urbanization and industrialization through this project, many ponds and ditches will be lost for land filling by the owners for increasing land value due to human pressure, settlement and development.

b. Pollutions

As the area is still at developing stage and there are not too many industries in the area, pollution is yet to emerge as an environmental problem.

c. Loss of Bio-diversity

Urbanization like roads, infrastructure development, housing, commercial places, industrialization will replace the existing green natural environment to man made environment. Trees will be cut down, water bodies will be filled up and polluted; birds and fishes will lose their habitats and as a result a big loss of biodiversity will happen for urbanization process in the project area.

d. Potential Hazards

Groundwater is replenished or recharged through surface water seeping from lands surface, streams or lakes into the ground or through precipitation percolating into the ground. For the groundwater table to stay at the same level, the amount of recharge must equal the amount of discharge. It is reprehensible that vested quarters or groups all over the planning area make offence by diminishing the arable lands, grabbing lands by filling low lying areas, encroaching rivers, lakes, khals, etc. It is worth mentioning that urbanization poses a threat to our groundwater supply. Indiscriminate urban development increases the amount of impervious (nonporous) surface in a watershed.

Impervious surface inhibits groundwater recharge because precipitation cannot penetrate the surface. As a result, groundwater is being gradually depleted.

f. Controlling Instruments

There are several laws and regulations by which the respective authorities could play vital role in controlling the unplanned development in the planning area. They are as follow:

i. Town Improvement Act, 1953
ii. Dhaka Master Plan, 1959
iii. Dhaka Metropolitan Development Plan, 1995-2015
iv. Bangladesh National Building Code, 2006
v. Dhaka Mahanagar Imarat Nirman Bidhimala, 2008
vi. Besarkari Abashik Prokolper Bhumi Unnayan Bidhimala, 2004
vii. Jaladhar Sangrakkhan Ain, 2000

But due to absence or inadequate of application, these acts and rules have become ineffective and plan violation has become a common practice.

2.3.7 Shelter and Settlement

Owing to ineffective development control measure, indiscriminate and unplanned growth of settlements has become a common phenomenon. It has been found that new areas are brought under settlements without adequate provision of infrastructure and services. On the other hand, it has become very difficult to provide secured shelter to the urban poor at their affordable prices. The majority of the people of the project area are grouped in the middle and low income range and they are unable to buy land in the established urban areas. As a result, they are finding shelters in remote areas without basic services including access facilities. This is resulting in conversion to remote agricultural land into settlement where living environment provides little or no basic services causing in urban deprivation.

2.3.8 Lack of Co-ordination among Agencies

There is lack of coordination among different public sector agencies about development management and service provision in the planning area covering following areas.

a. Duplication of Effort

Some agencies are performing same tasks without any intervention by the government. For building plan approval East Bengal Building Construction Act 1952 empowers Urban Development Agencies of divisional cities. But in many cities both, paurashava and urban development agencies approve building plans, because local government ordinance empowerss paurashavas for approval of building plan within the paurashava jurisdiction area. These create serious problems as paurashavas in most cases take a liberal attitude towards following building construction rules while giving construction approvals. Both Water Development Board and LGED undertake drainage and flood control schemes, sometimes without any coordination among them.

b. Disregard of Abiding Plans by Line Agencies/Authorities

According to Building Construction Rules any construction by anyone must be preceded by approval from the authority. But most public sector agencies do not seek permission either from RAJUK or from local paurashava. This is sheer violation of law by public sector agencies. Besides, most individual and real estate developers violate their approved plans during construction in order to add additional space to their structures.

2.4 Current Public Sector Investment Program

There is no current public sector investment program in the Location-2 area.