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**Report on Research Proposal**

**Prospects and Possibilities of Sustainable Urban Revitalization: Considering and Reviewing  
the Boro Bazaar area with the Context of Khulna city, Bangladesh.**

**Submitted to**

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## **Declaration**

I declare that this study was composed and completed by myself and that the work and study contained therein is my own, except where explicitly stated otherwise in the text.

I declare that this submission has not been submitted for any other academic award.

MD. MUSTAFIZUR RAHMAN

## Abstract

Historically important urban areas are practically a significant entity, a rich reservoir of social and economic milieu and cultural inheritance. Though, it faces many problems due to the rapid growth of population and the steady increase in the new requirements. In addition, developing countries are commonly characterized by the highest density of inhabitants, agglomeration of industrial assets and production, social and technological infrastructure; dynamic informal economic sector under the shadow of its formal concentration. There seems to be immense similarities in the nature of the problems of the commercially important urban areas in general and of South Asian Cities in particular. Therefore, the study depends, to a large extent on accrued knowledge (theoretical) and experience (practical) gained over the passage of time.

Although like its neighboring countries, Bangladesh has witnessed an extraordinary social and economic development after its independents. This was mainly due to balanced socio-economic development dependent on different sectors and the government has continuously strived to draw a balance between several social-economic and environmental factors and the development program which indicates an early courtesy towards sustainability and environmental protection. The pressure towards massive investment in development and economic progress was however higher and determined to a large extent its success in maintaining this equilibrium. As such, one has to address this important issue within the framework of urban sustainability. The essence of this study contribution to knowledge lies around the dissection of the decision making process around urban planning and development in Khulna city and proposed *Boro Bazaar* area (through problem and process analysis) and how it may be directed towards a more sustainable urban future with proposed urban revitalization planning proposals.

Khulna city was developed as an average level industrial city since 1950s for its suitable location and the availability of raw materials. Between 1950s and 1960s, the city got importance as an industrial hub with many industries. In that period Khulna was the backbone of the East Pakistan's main foreign currency by these industries which were established besides river and developed it as a linear city along two big rivers - Rupsha and Bhairab. Previously Khulna was converted to a municipality beginning a formal township in 1884 during British regime and subsequently city was depending highly on river based trade market. Then city and trade market was developed around the river port locally named "*Boro Bazaar*" which means large market where trade activities were mostly distinguished by

wholesale and retail shops. Still now as a city center and main financial hub the trade divisions in *Boro Bazaar* handle a huge amount of financial flow and provide both direct and indirect employment for the urbanites and generates revenue for the local government through income taxes and land taxes and leases the river port areas to export and import goods within the country and to the neighboring India (S.M. Reazul Ahsan, 2011). In addition, the international highway between India and Bangladesh, the divisional highways, railways, inter district water ways crossing over this area and their trade links make it highly potential and important for both national and international trade and commerce. However, because of these financial importance's, different redevelopment actions have been taking place to make it more efficient. But throughout the history this area has been developing in an unplanned way. Owing to its advantageous location, it eventually became the most congested sector in the city and almost impossible to provide better urban services for the existing community.

Therefore, this study is basically concerned with the question of sustainability and revitalization of mixed use commercial environment in order to accommodate the present and future needs of its inhabitants and to preserve and conserve its traditional fabric with its different values. Consequently, different information's and approaches, from international, national and local levels, have been recognized are evaluated as well. Because both the urban sustainability and revitalization approaches have not been properly deployed or experienced in this area before, the study endeavors to develop understanding of urban sustainability and revitalization concepts and emphasizing not only on the development, but contemplates creative use and reuse of this mixed use commercial area and illustrates how these ideas are to accommodate the requirement and need of the contemporary society.

For a comprehensive consideration this present study has progressed a suitable model for integrating and projecting the different factors which playing significant role in the process of sustainable urban revitalization planning, i.e. physical, economics, social, environment, culture and overall networks within the study area. Based on the theories, principles, strategies and the different approaches, which have been employed for the overall city the critical recommendations at policy level, have been listed out, in a comprehensive and a systematic manner, to guide the sustainable urban revitalization planning of the proposed *Boro Bazaar* area, that broadly focus on the following –

- *Physical: Emphasis on conserving the symbolic values of existing built form and market areas, river side areas and activities and to recapture its historical and cultural importance even when they are adapted to new use. In addition, physical*

*revitalization also concerns on those services and necessities that create pollutions and emphasis of green and open spaces as well. Again focus on those services and requirements that will enhance the quality of life for all and also the provision of the features and amenities that would add the desirability for residential and commercial area.*

- *Economics: The economic viability and vitality are important factors in sustainable urban revitalization. This involves the exploration of the economic related opportunities from the existing commercial activities as resource for economic growth which will improve the overall income of inhabitants and facilitate the continuation of the process of revitalization.*
- *Social: Emphasis on the adjustment of the current priorities and requirements of the inhabitants in order to comply with future requirements and to involve the society in the process of sustainable urban revitalization planning agenda.*

Based on these recommendations and to illustrate its vitality, the study concludes with sustainable urban revitalization plans for stimulating economic and commercial positions, physical infrastructures, and social services and recreational activates. All these (principles, strategies, specific recommendations and revitalization plans) would be a ready reference to guide the sustainable urban revitalization planning for Khulna city in general and proposed *Boro Bazaar* area in particular.

Finally, the study has progressed in a sequence of phases: identifying the main proportions of urban sustainability and revitalization planning that are relevant for this study. Then the study sequentially explained drawing out the history of urban development planning, including its main visions, objectives, policies, urban development targets, problems and challenges; carrying out the research using a triangulated methodology approach that consists of: chronological study of four tiers (urban strategy, structure plan, master plan and detail area plan) of city planning systems in Khulna city. These approaches were carried out by semi-structured interviews of expert participants and the assessment of behavior and attitudes of the general public towards sustainability and revitalization planning through the use of questionnaires. Consequently, the *problem analysis* phase produced a list of problems, challenges, difficulties and present situations regarding study area and the *process analysis* phase produced a sustainable urban revitalization model that can be utilized in addressing the progress of urban development process and how it may be enhanced in the future within these areas.

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## **Dedication**

To my mother and late father for their sincere prayers and patience.

To my best friend, my wife (Mosallima) and daughter (Mimia) for their continuous love and support.

To my city, Khulna and Boro Bazaar Area for which I will never be able to pay anything back.

Please accept my love and humble dedication.

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## **Abbreviations**

BB – Boro Bazaar

BIWTC - Bangladesh Internal Water Transport Corporation

BIWTA - Bangladesh Internal Water Transport Authority

BRTA - Bangladesh Road Transport Authority

BR - Bangladesh Railways

BWDB - Bangladesh Water Development Board

CBD - Central Business District

DAP - Detailed Area Plan

DB - Duck Bungalow

DMDP - Dhaka Metropolitan Development Plan

EU – European Union

HBFC - House Building Finance Company Limited

HSD - Housing Development

KCC - Khulna City Corporation

KDA - Khulna Development Authority

KM - Khulna Municipality

KMP – Khulna Metropolitan

NK – Nil Kuthi

SIP - Slum improvement project

SUR - Sustainable Urban Revitalization

# **CHAPTER 01: INTRODUCTION**

## **1.1 Overview**

Although Khulna is, in terms of population, Bangladesh's third largest city, it does not receive the same opportunities for development as higher-ranked Dhaka and Chittagong city in Bangladesh. Historically Khulna was converted to a municipality from a formal township in 1884 during the British colonial regime. During 1950s and 1960s, the city obtained significance as an industrial focal point with many industries like jute mills, newsprint mills, shipyard, match factories, hardboard mill and several industries along with river. However most of these industries are not running well or totally stoop due to several reasons. Still Khulna's local authorities long adhered to the latent belief that it's past all industries will flourish once again.

Since the Indian Independence War Bangladesh divides the western part of India almost completely from the eastern part. India plans to intensify the connection between both parts with a railway line that will run from Kolkata to Agartala. Therefore from the very past this development is declaimed as an opportunity that could enhance Khulna's development as well, as this future railway connection would pass via Jessore city, in close proximity to Khulna. In addition the international highway between India and Bangladesh, the divisional highways, inter district water ways crossing over this area for trade activities and their trade links make it highly potential and important for both national and international trade and commerce. Once again Khulna was declared a municipality in 1884, in 1985 became a railway link, in 1961 district headquarters, and a city corporation in 1984 and during the 1960s industrialization took place.

Being an industrial city in 1960, Khulna city had the potentials to act as an economic hub in the regional economy. To foster economic growth, in 1960 and then 1980 an attempt was made for metropolitan planning in Khulna City by introducing a master plan and then a strategic plan. However after the expiration of that plan in 1980, strategic planning was introduced for Khulna unlike other metropolitan cities of Bangladesh. The plan is called Khulna Master Plan 2001. It is a three tier hierarchical plan contains structure plan, master plan and detailed area plan. The content of that plan was merely land use planning and with no economic and social appraisal, therefore the plan failed to ensure contextualization and coordination between KCC (Khulna City Corporation) and KDA (Khulna Development Authority) and which lead to breakdown of the plan. In its future endeavour towards sustainable urban development, Khulna city should learn from other countries that crossed a

similar path of development and must ensure that the protection of its physical, social, economic, environmental and cultural aspects does not vanish at the expense of economic growth.

In addition Khulna is often referred to as Industrial City, which is considered as one of the important industrial and commercial areas of the country. The city originated as a market town and array of administration. The city's dense commercial heart has a strong longitudinal direction, parallel to the riverfront. The few transversal links therefore receive a large traffic pressure. In addition the CBD (Central Business District) of Khulna city was found beside the bank of the river Bhairab since the first master plan worked out in 1961. Now it has been determined "Duck Bungalow more/node". But in accordance with the spatial growth with expanding roads, integration core has been linearly shifted. The shift has been obvious from water to road and community to government. With Calcutta, trade of various goods like sugarcane and tobacco, was developed based on river route during early days. River based trade and commerce shaped the city economy of Khulna and that is why the city evolved around the river bank locally named "*Boro Bazaar*", the big market place. *Boro Bazaar* has established along the river Bhairab during the British colonial regime to operate and control the local retail and wholesale business. Still today, *Boro Bazaar* is the main economic hub for the city that controls the total retail and wholesale market and plays the most significant role in the economy. The frequent change of the city shaped the area of *Boro Bazaar* as a mixed use zone rather merely commercial or business zone. For last decade, just to meet the demand of rapid urbanization process the area of *Boro Bazaar* faced compact unplanned development along with the river side and in a form of mixed commercial and residential zone relates to those commercial occupants. Because of its suitable location, it eventually became the most congested zone in the city.

As a foremost financial center the trade activities in *Boro Bazaar* produces a huge amount of local exchange each month although without enough facilities. In addition the *Boro Bazaar* area produces revenue for the local government through income taxes and land taxes and BR (Bangladesh Railway) gets yearly revenue through long-term land leasing for general and trade shops and storage facilities. Once again the local government also leases the river port areas (locally called Ghat) to export and import goods within the country and to the neighbouring India and the local and central government earn revenue by long-term leasing policy from these ports (locally called Ghat). But still now *Boro Bazaar* has been developing in a much compact haphazard unplanned way and it is very difficult to provide any good services as required. Khulna City Corporation (KCC) authority has been implemented different

redevelopment actions and planning process to create it easy accessible for business persons and local people and to manage both the national and local returns. Therefore It has become an urban confront to revitalize this area through sustainable design and to make more effective response to the rapid financial development and to ensure better urban environment for the residents and the trade market. Therefore it may be able to feel the profitable activities more efficiently to manage with the city's financial require and future development.

Present study believes that if there is any route to sustainable development in urban planning and development in Khulna city, and maybe elsewhere, that it should start with the government. In Bangladesh, that has always been driven by strategy development which has been productive in terms of actually developing strategies throughout the last forty seven years of urban development. This, unfortunately, has not been matched with adequate implementation and that has been evident throughout this research. The government has spent genuine resources in developing such strategies, but apparently the implementation phase is challenging, and difficult. It doesn't have to be like that if we follow some basic recommendations as illustrated within this research.

Consequently this research proposal can assist to study theoretical framework and important information on urban revitalization process and planning and how it works inside a feeble urban neighbourhood. In addition by this research city authority can come across the crises and possibilities of the study area and how to revitalization process can effort more successful response to the rapid financial development and to ensure better urban environment for the urbanity considering local heritage and present circumstances.

## **1.2 Background and Research Problem**

It is obvious that planning process is changing over time to address the rapid changing nature of problems associated with city structure. The major changes have been observed globally in the post World War II era that called for massive physical and social reconstruction especially in Western Europe (Khan & Swapan, 2013). In response, British town planning legislations became an important model for controlled urban growth and modern town planning (Dear, 1986). During this time, blueprint planning or master plan approach was introduced which essentially based on rational planning (forecasting, analysis and land use allocation), leading to the development of long term physical blueprint plans (Rakodi, 2001). The 1960 Master Plan Khulna city is the reflection of such physical planning tradition. But In this context, the master plan of 1960 for Khulna city failed to achieve the ultimate goal and urged for a new approach of planning. After liberation in 1971 there had been substantial



changes not only in the politics but also in policy and administration, in addition to amid deteriorating quality and skill in the bureaucracy, some new ideas were imported into the urban planning by international experts (Chowdhury, 2005) and strategic planning was introduced to combat the limitation of master plan that ignores future uncertainty, potentials and sustainable urban design issues. Therefore the knowledge available in this regards is not sufficient to enable the researcher or the decision maker in establishing best practices and lessons, as well as gaining knowledge about challenges and barriers during the strategy development or the implementation process.

After stimulating the available literature surrounding urban development in Khulna city, the following understandings are understandable:

1. From blueprint planning to strategic planning approach of urban development in Khulna city was not forecasted satisfactorily.
2. For sustainable urban strategic intervention environmental concern is a prior issue. In the existing Khulna city plan there are some development control mechanism to protect environmental degradation such as pollution control of motorized vehicle and industrial effluent, however this approaches are not in scale and even do not recognizes the major environmental threats.
3. Unlike DMDP (Dhaka Metropolitan Development Plan) Khulna city plan gives lip service to the poor through proposals for slum/low cost housing development, nowhere are such plans spelled out in detail, nor is sufficient land provided for them (Bari, 2009). In Khulna city plan, the proposed infrastructure based policies are causing social fragmentation and environmental degradation.
4. In the preparation of Khulna city plan the involvement of the people was basically passive participation. In the decision making process it was just informing people about different decisions without any consultation. Even the planning process failed to find out the scope of participation as well.
5. The first objective of Khulna city plan was 'The Structure Plan will interpret the urban strategy and development policies to create the context for Khulna City development' (KDA, 2001). But in practice there is no indication, how the plan will be incorporated with national plan (Five Year Economic Development Plan).
6. The issue of recognizing gender and marginalized people's concern in the present structure plan is totally absent.
7. The Khulna city plan is merely a land use plan thus the attempt was to solve complex problem by practicing development control mechanism. The approach was arbitrary

rather than evidence based. The ‘common sense’ and international standard techniques were adopted for policy making without considering the local context and sustainability issues.

8. The knowledge and consideration of the people, manners and approach towards sustainable urban planning and development.

### **1.3 Scope of research**

Keeping in view the intimacy of spaces, which exist in the study area, there are tremendous opportunities and prospects of the revitalization; not merely confining and maintaining the urban fabric and culture, but of introducing a desirable commercial and living environment by providing necessary services that are required. In order to do justice with the above scope, it is necessary to identify different factors and basic elements that play vital role and/or negate the survival of the area. The study makes a beginning in the following direction -

- It considers the businessmen and local peoples as a major factor that should be involved in the process of revitalization by identifying their problems, precedences and aspirations.
- It would find ways to revitalize the area keeping in mind the improvement in the quality of the existing traditional environment.
- It considers the sustainability and revitalization as a comprehensive approach for economics, social, environments, cultures and overall networks, all together.
- The investigation will record information available from the practical and theoretical exercises already carried out by the two major authority in Khulna city- KCC and KDA. This knowledge from this study will deal certainly considering planning and implementation phases within the proposed area.

### **1.4 Thesis Statement**

The research framework is employed to prove the following thesis statement: Sustainable Urban Revitalization in Khulna city and within BB area for future urban planning and development may better be driven by comprehending the history of its urban planning and development over the previous years, with emphasis on ascertaining the decision making process with lessons from Sustainable Urban Revitalization strategies coupled with implementation consequences.

## **1.5 Research Aims and Objectives**

The revitalization is not the wholesome maintenance of everything which is old and archaic, but contemplates creative use and reuse of older structures and areas in order to facilitate their continued use and enhanced of civic services. The main purpose of this present research is to study valuable information on urban sustainability and revitalization process and planning within a feeble urban neighbourhood in order to accommodate the present and future needs of its inhabitants and to revitalize the function of the mixed use and commercial city thereby safeguarding and restoring the traditional urban fabric. This would also entail maintenance of special urban components with its unique traditional values. Priority should be given to the city's overall economic, social, environmental and cultural requirements and needs, the efficiency of all networks and rehabilitation within this area to ensure its use and reuse.

With the above premise a set of objectives has been framed in order to achieve the task. The following objectives have been looked into and it is proposed to be able to provide a decision support for revitalization of proposed area.

### **1.5.1. Research Aim 1: Concept and strategy of sustainable urban revitalization planning**

Aim 1: To understand, examine and assemble information of sustainable urban revitalization planning process.

#### **Objective 1: To develop a comprehensive understanding of urban design and sustainability in the global perspective.**

- *Question 1: How different countries adopted the concept of sustainability as the guiding principle for sustainable urban revitalization development within city centers?*
- *Question 2: What are the challenges, barriers, dimensions and indicators in achieving sustainable urban revitalization development within the city centers?*
- *Question 3: How can the use of sustainable development as a physical, social and economic stimulus for neighborhood revitalization?*
- *Question 4: How the role of the market places can act significantly as an urban revitalization development?*

### **1.5.2. Research Aim 2: History of urban development and planning in Khulna City**

Aim 2: To develop a comprehensive understanding of the history of urban development and planning in Khulna city before and after liberation and to provide insights into strategic initiatives towards sustainability that have been proposed throughout this period.

**Objective 2: Explore and analyse the history of urban development and planning in Khulna city since 1961, and identify key landmarks, visions, trends and policies.**

- *Question 5: What are the major landmarks (strategies, policies) in urban development and planning in Khulna city?*
- *Question 6: Who are the major group of actors throughout the history of urban development and planning in Khulna city?*
- *Question 7: How has the Khulna city Master Plan's strategy and implementation since 1961 guided to current visions and policies?*

### **1.5.3. Research Aim 3: The gap between policy and execution**

Aim 3: To explore the gap between major policies and their execution in the urban development and planning in Khulna City.

**Objective 3: Why and what assessment of major policies and their actual execution.**

**Question 8: What are the challenges and successes in the execution of these strategies?**

### **1.5.4. Research Aim 4: Existing approaches in sustainable urban planning and development within BB Area.**

Aim 4: To develop an understanding of existing approaches in sustainable urban development, together with an understanding of local authorities and neighbourhood's visions and positions towards urban planning and development for sustainable urban revitalization proposals.

**Objective 4: Determine the main factors, problems and challenges that control the sustainable urban growth of the BB area, which is used as a case study.**

*Question 9: What are the main opportunities-possibilities and problems, difficulties, challenge and present situations related with sustainable urban revitalization planning proposals within Boro Bazaar area?*

### **1.5.5. Research Aim 5: Planning and development proposals towards sustainable urban revitalization within *Boro Bazaar* Area.**

Aim 5: To develop planning proposals towards strategy development and implementation, and to provide the local planners and designers associated with the information and assessment tools that will lead towards a sustainable urban revitalization planning scheme within the study Area.

#### **Objective 5: Identify trends, proposals and recommendations that will support to propose sustainable urban revitalization for the study area.**

- *Question 10: What are the processes and how can these processes be enhanced to offer a better sustainable urban prospect within this area?*
- *Question 11: What are the possibilities and recommendations that can be used for better execution of the prospect of sustainable urban revitalization strategies within the study area?*

### **1.6. Contribution to information**

The spirit of this proposal involvement to information lies around the analysis of the decision making process around sustainable urban planning and development in Khulna city during 1961 and main factors, problems, challenges that control the sustainable growth of the *BB* area (which is used as a case study) - how it may be directed towards a sustainable urban future. In addition, the most important contributions made to information in this research are highlighted below:

- Recognition of existing decision making approaches and processes including citizen's attitudes and thoughts towards urban sustainability and urban sustainable revitalization development planning.
- Development of a comprehensive review of the history of urban development and planning in Khulna city between 1961 and present, highlighting the most important strategies, projects, policies and visions.
- Relationship with the theories, concepts of sustainability and urban revitalization planning schemes.
- Investigation of the gap among strategy of revitalization, sustainability, urbanism and completion.
- Conducting a problems and challenges analysis review of current situation in *Boro Bazaar* area.

- Development of a framework of sustainable urban revitalization considering current problems and situations that could be used as an agenda for setting up future sustainable revitalization strategies and their execution.
- Development of proper proposals that will support in an enhanced approach towards sustainable urban revitalization in the future.

## **1.7. Research Methodology and Process**

### **1.7.1 Overview**

Following the explanation of a general overview of the research background and research problem, scope, aims, objectives, questions and the theoretical background concerning the main research concepts and themes, it is then necessary to illustrate the methodologies employed and the logic of the research strategy and design. The aims of this section are to provide a methodological approach to find logical answers to the main research questions and to describe the research design and methodology on which this study is built. It provides a detailed description of the research flow, data collection methods, the measurement tool of variables and the data analysis procedures used in this research. The research methodology undertaken provides a structured and systematic way of conducting these tasks, to gain a better understanding of the philosophical and conceptual basis of the research. The following presents some definitions of important related terms that are used in this section and in the study in common:

### **1.7.2 Research methodology**

Dawson (2007, p.15) identified methodology as the philosophy or the general principle which will guide the research, it is the overall approach to studying the specific topic and includes issues, such as the constraints, dilemmas and ethical choices within research that need to be thought about. IOER (2005, p.11) identified methodology as a body of procedures, principles, methods and techniques used – for example, to conduct research – in a coherent, consistent, accountable and repeatable manner for a specific programme, project or activity. According to Creswell (2009, p.11) the (1) qualitative, (2) quantitative, and (3) mixed methods are strategies of inquiry that provide specific direction for procedures in a research design and considered as types of research methodologies.

**1. Qualitative research methodology:** As mentioned by Creswell (2007, p.249) qualitative research is an inquiry process of understanding based on a distinct methodological tradition

of inquiry that explores a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of information, and conducts the study in a natural setting. The approaches of inquiry in qualitative research those are synonymous with research design are: narrative research, phenomenology studies, ground theory studies, ethnographies, and case study, Creswell (2007, p.81). According to Harwell (2011, p.149) and based on Creswell (2003), there are six phases embedded in each research design (1) philosophical or theoretical perspectives; (2) introduction to a study, which includes the purpose and research questions; (3) data collection; (4) data analysis; (5) report writing; and (6) standards of quality and verification.

**2. Quantitative research methodology:** According to Dawson (2002, p.15), quantitative research generates statistics through the use of large-scale survey research using methods such as questionnaires or structured interviews, and this type of research reaches many more people. Bryman (1989, p.116) mentioned that quantitative methodologies test theory deductively from existing knowledge, through developing hypothesized relationships and proposed outcomes for study, while qualitative research is guided by certain ideas, perspectives or hunches regarding the subject being investigated. Following table (1.1) shows the differences between quantitative and qualitative research. As cited by (Harwell, 2011, p.150) a quantitative research design involves phases that are ostensibly similar to qualitative research, but are quite different in purpose and execution: (1) introduction that includes the purpose and research questions; (2) theoretical perspectives; (3) methodology that encompasses sampling (evaluation of external validity), instrumentation (evaluation of construct validity), experimental (evaluation of internal validity), data collection and analysis that includes an evaluation of statistical conclusion validity; (4) reporting the results; and (5) conclusions and implications.

**Table 1.1: Fundamental differences between quantitative and qualitative research strategies. Source: Bryman (2008, p.22).**

	<b>Quantitative</b>	<b>Qualitative</b>
Principal orientation of the role of theory in relation to research	Deductive: testing of theory	Inductive: generation of theory
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

**3. Mixed methods research:** Mixed methods research is a study designed to use quantitative and qualitative methods, both of which are needed to address the research questions of interest (Yin, 2011, p.10). As mentioned by Harwell (2011, p.151) the mixed methods research is an expansive and creative form of research, not a limiting form of research, it is inclusive, pluralistic, and complementary, and it requires that researchers take a broad approach to method selection and the conception and conduct of research.

**1.7.3. Research methods**

It means a mode of procedural way of doing something, especially in accordance with a particular theory as associated with a particular person (IOER, 2005, p.11). According to Dawson (2007, p.15) the research methodology is different from the research methods—these are the tools used to gather data such as questionnaires or interviews, methods of sampling and data analysis. The specific research methods represent the third major element in the framework that involves the forms of data collection, analysis, and interpretation that are proposed by researchers. Creswell (2009, p.15) mentioned that it is useful to consider the full range of possibilities of data collection and to organize these methods, for example, by their degree of predetermined nature, their use of closed-ended versus open-ended questioning and their focus on numeric versus nonnumeric data analysis as shown in Table (1.2).

**Table 1.2: Quantitative, mixed and qualitative methods. Source: Creswell (2009, p.15)**

<b>Quantitative Methods</b>	<b>Mixed Methods</b>	<b>Qualitative Methods</b>
<ul style="list-style-type: none"> <li>• Pre-determined</li> <li>• Instrument based questions</li> <li>• Performance data , attitude data , observational data , and census data</li> <li>• Statistical analysis</li> <li>• Statistical interpretation</li> </ul>	<ul style="list-style-type: none"> <li>• Both pre-determined and emerging methods</li> <li>• Both open- and closed – ended questions</li> <li>• Multiple forms of data drawing on all possibilities</li> <li>• Statistical and text analysis</li> <li>• Across databases interpretation</li> </ul>	<ul style="list-style-type: none"> <li>• Emerging methods</li> <li>• Open-ended questions</li> <li>• Interview data , observation data, document data , and audio-visual data</li> <li>• Text and image analysis</li> <li>• Themes, patterns interpretation</li> </ul>



#### **1.7.4. The Progress of the Research Process**

This section provides insight into the structure of this research and its research framework. In addition this section introduces an action plan for the research, identifies an appropriate strategy for conducting the study, explains the focus period of the study, and the levels of investigation. Based on the research context, the current study attempts to develop a set of field of criteria and planning issues to evaluate the sustainability of urban revitalization planning proposals initiatives for the study area. Although urban development and planning approach is not new for Khulna city, but neither 'sustainable urban design nor sustainable urban revitalization' nor any 'comprehensive planning approach' has been deployed or experienced in this commercial city. The actions up to now have been limited to the mere planning, vision and target of an area or of relatively small sectors. It is under this present scenario that the present research endeavours to develop an understanding of 'revitalization concepts' as a 'special form of planning' and emphasizes both aspects the comprehensiveness of different approaches' for dealing with the existing environments, and its accommodation for change and continuity of use' in contemporary society.

The process of formation of the planning strategy for the revitalization schemes in the study area will be through two main steps; initially, a comprehensive literature review has carried out with related concepts dealing with sustainability and urban revitalization within global scale. Secondly, structured questionnaires survey has performed with experts in relevant fields to evaluate the status of city development and planning context, to reach the definition of sustainable state criteria, to come up with a refined evaluation strategy and finally to recommend for the consistency of the developed strategy. The outcome of this process will be a strategy model, consisting of criteria and evaluation process that draw a sustainable urban revitalization approach for the local context. This strategy aims to form the basic knowledge for what constitutes sustainable urban revitalization and presents the national sustainable state that was hypothesized in the conceptual framework. Consequently, the methodology of the present research has been divided into four stages (table 1.3), according to the development of research process, these stages are as follows:

1. The research design which summarizes the key steps to be followed
2. Process of data collection
3. Techniques of data analysis
4. Executions and analysis process approved in the evaluation strategy

**Table 1.3: Development of present research process, stages and methods**

Stages		Processes	Methods
Hypothetical and Theoretical Outline	Preliminary stage	<ol style="list-style-type: none"> <li>1. Identification of the main research themes: <ul style="list-style-type: none"> <li>- Sustainable development</li> <li>- Urban revitalization and its theoretical foundation</li> <li>- Linking the main concepts with sustainable urban revitalization</li> </ul> </li> <li>2. Identification of the underlying factors in the relationship between sustainable development and urban revitalization: <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- Indicators</li> <li>- Challenges and Barriers</li> </ul> </li> <li>3. Recognition of the significance of selected sustainability principles with regard to urban revitalization planning.</li> </ol>	<ul style="list-style-type: none"> <li>- Literature review</li> <li>- Case studies</li> <li>- Global and Local perspectives</li> </ul>
	Research design and Conception	Development stage	<ol style="list-style-type: none"> <li>1. Examining the existing development, knowledge and strategies</li> <li>2. Advance to sustainable urban revitalization planning strategy: <ul style="list-style-type: none"> <li>- Recognition of related sustainable urban revitalization planning area and its consequent field of criteria</li> <li>- Advance and proposed a model for implementing the planning proposals</li> </ul> </li> <li>3. Formulating and selecting of sustainable urban revitalization scheme by proposing planning issues, process and diagram.</li> </ol>

<b>Executions and Analysis</b>	<b>Planning process and Evaluating stage</b>	<ol style="list-style-type: none"> <li>1. Representing history, background, morphological change, factors of growth, etc. of Khulna city.</li> <li>2. Investigating the present urban planning strategy, challenges and gap of implication of urban planning processes in Khulna city. <ul style="list-style-type: none"> <li>- Analysing the proposed study area with field and questionnaire survey.</li> </ul> </li> <li>3. Applying the proposed evaluation plan on the study area.</li> <li>4. Evaluation the satisfaction level and present planning proposals of sustainable urban revitalization scheme at the local level, by assembling the evaluation results from the local people and experts.</li> </ol>	<ul style="list-style-type: none"> <li>- Literature review</li> <li>- Analysis of reports, maps, technical reports and photos</li> <li>- Field observation</li> <li>-Questioners survey</li> </ul>
<b>Conclusion and Future</b>	<b>Studies</b>	<ol style="list-style-type: none"> <li>1. Finalize the planning proposals <ul style="list-style-type: none"> <li>- Proposed a model for sustainable urban revitalization planning within the study area</li> <li>- Assembling the possibilities and Recommendations</li> </ul> </li> <li>2. Answering the research questions and suggested further studies and possible project areas</li> <li>3. Conclusion</li> </ol>	<ul style="list-style-type: none"> <li>-Literature review</li> <li>-Questioners survey</li> </ul>

### 1.7.5. Research Design

According to Monette et al. (2002) research design is a detailed plan outlining the critical stages in a research to be followed by a researcher when conducting the study to show how all the major parts of the research are designed to address the central research questions. As mentioned by Hancock and Algozzine (2006, p.86) the research design introduces the key stages of the study, outlines briefly their content and identifies the relationships between these elements in the research concepts, which support the preview of the research development from theoretical concept to conclusion. It provides a basis for the recognition of an appropriate research strategy as ‘the elements used to structure the research. As noted by Kothari (2004, p.31) the research design must, at least, contain: (a) a clear statement of the research problem and objectives; (b) procedures and techniques to be used for gathering information; (c) selecting the case(s) to be studied; and (d) methods to be used in processing and analysing data, and finally reporting the finding. According to Creswell (2009, p.12) the

researcher not only selects a qualitative, quantitative, or mixed method study to conduct the inquiry but also decides on a type of study within these three choices, table (1.4) shows the alternative strategies of inquiry.

**Table 1.4: Alternative strategies of Inquiry. Source: Creswell (2009, p.12).**

<b>Quantitative</b>	<b>Qualitative</b>	<b>Mixed Methods</b>
<ul style="list-style-type: none"> <li>• Experimental designs</li> <li>• Non-experimental design , such as surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Narrative research</li> <li>• Phenomenology</li> <li>• Ethnographies</li> <li>• Grounded theory studies</li> <li>• Case study</li> </ul>	<ul style="list-style-type: none"> <li>• Sequential</li> <li>• Concurrent</li> <li>• Transformative</li> </ul>

Lee (2008, p.105) highlighted various types of research designs such as cross-sectional design, experimental design, longitudinal design and case studies, and each of them has its own features and inherent limitations. To choose the appropriate type for a study, it is important to determine which one has the most potential to achieve the study goals, provide convincing evidence to answer the research questions and produce the results that can be generalized at the national level.

The composition of the current research is survey based, field observation, questionnaire results analysis and evaluative. It investigates concepts for future urban revitalization, sustainability and the driving forces influencing the sustainable urban revitalization process in the study area. This is supported by the evaluative strategy for these schemes and initiatives. Therefore from the various possible research strategies, both quantitative and qualitative approach was employed to conduct this research. After illustrating the research approach, it is clear that the research methods comprised an initial literature review, analysis the theories of global and local perspectives and case study analysis, which were followed by the local people and experts structured questionnaires survey. Following the elaboration of the theoretical research framework, two different questionnaires survey – (1) Local people (satisfaction level) and (2) expert participants (evaluation of planning proposals) were selected after a comprehensively reconsider of urban development planning across the Khulna city. Following figure (1.1) represents an illustrative diagram of the current research methodology:

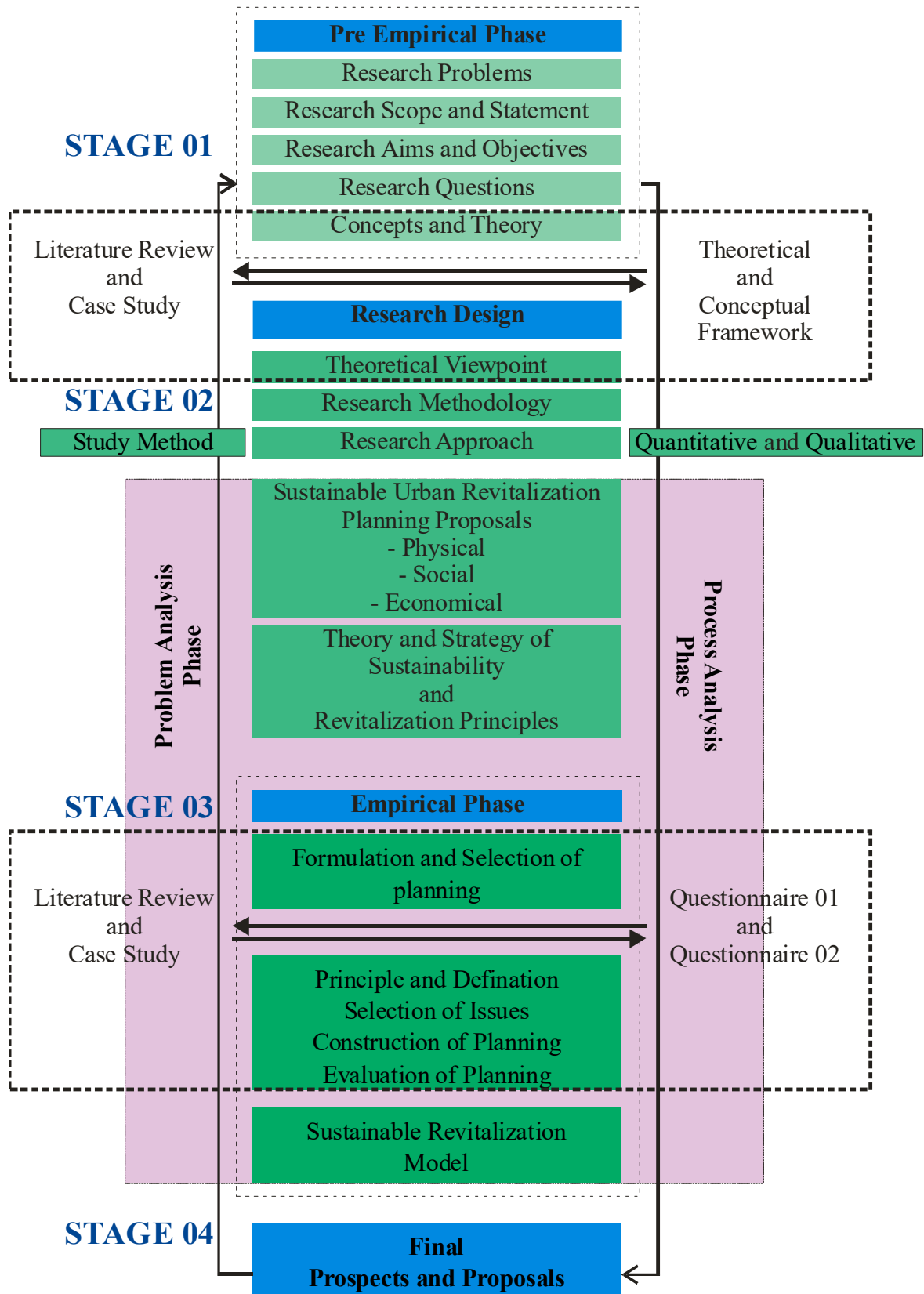


Figure 1.1: Diagram of the current research methodology in the relation with the research process

### 1.7.6. Data Collection:

Two types of relevant data have been collected for the present investigation. They are from the secondary sources as well as from the primary sources (figure 1.2).

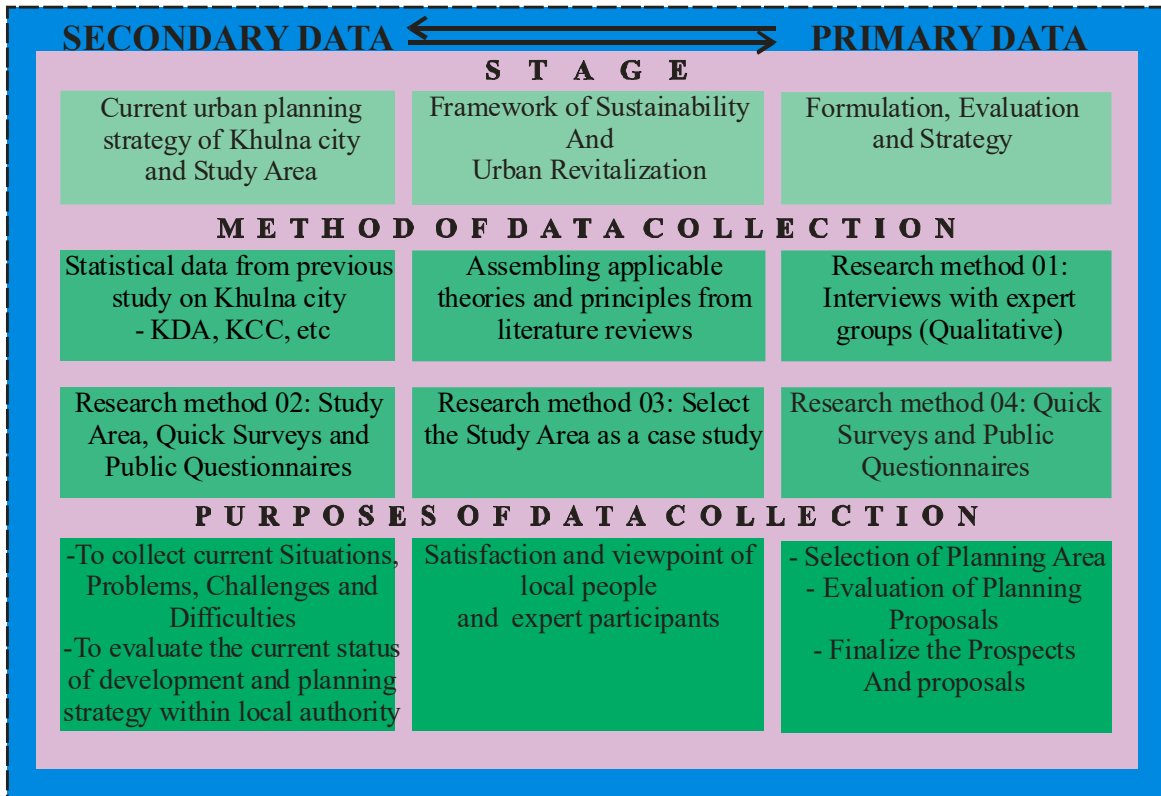


Figure 1.2: Current Research Data Collections and its Purposes

A) Secondary data have been a very important source of information that has been used in the research. It is important because research on sustainable urban planning and sustainable urban revitalization depends, to a large degree, on accrued knowledge and experience gained over the passage of time. These data have been collected from various references, published books, reports and articles, which are related to revitalization of historic towns and cities, in general, and the literature and documentation, which are related to Khulna city and its urban development planning issues.

B) Primary data have been collected at grass-root by the two different field survey carried out from August to September 2017 and August to October 2018. Much difficulty was experienced in trying to interview to various experts and local inhabitants. This was mainly due to as the conservative attitude of the people and their experiences. For maximizing the validity of results, under the given constraints the data from primary source have been put

together with the similar or correlated recent data from the secondary sources i.e. from the report of *Khulna Master Plan 2001*.

In addition this research collected the data in the following four methods –

- *Research method 01: Interviews with expert groups (Qualitative)*
- *Research method 02: Study Area, Quick Surveys and Public Questionnaires (Quantitative)*
- *Research method 03: Select the Study Area as a case study*
- *Research method 04: Quick Surveys and Public Questionnaires*

### **1.7.7. Analytical technique and Stages in data analysis:**

In 2007, Wellington and Szczerbinski has identified the following stages in data analysis:

- *Immersion*: getting an overall sense or feel for the data.
- *Reflecting*: “stand back” from the data or to “sleep on it”.
- *Taking apart / analyzing data*: de-contextualization
  - I. Carrying it up into manageable ‘units’ or chunks
  - II. Selecting or filtering out units which can be used
  - III. Categorizing or coding units
  - IV. Attempting to subsume subsequent units of data under these provisional categories
- *Recombining / synthesizing data*: re-contextualization
  - I. Searching for patterns, themes, and regularities
  - II. Looking for contrasts, paradoxes and irregularities
- *Relating and locating data*: involves the use of constant comparison and contrast (categories, methods, themes)
- *Knowing when to stop*
- *Presenting qualitative data*

The question that should be asked after the above description of the stages of data analysis is how do we analyze the data? In 2007, Wellington and Szczerbinski again responded as follows:

- The categories used to analyze data are pre-established (if they are derived from the literature – sometimes called *priori*).
- The categories used to analyze data are not pre-established but are derived from the data themselves (called *posteriori*).

- Some categories are pre-established while others are derived from the data.

All of these stages will be apparent throughout the remainder of this report on methodological design as well as in the remaining chapters that will present the results, and their interpretation.

However the present investigation can be said to be of theoretical as well as practical nature. There is substantial theoretical development, which has been experienced in dealing with the existing commercial cities and their sustainable urban planning approaches over the world. Various practical approaches, which have been employed in several commercial cities, have also been looked into and validated.

The data have been systematically analysed and reflects a deliberate attempt to give equal emphasis on the basic elements, (such as economics, social, environment, culture and overall network) of a settlement and its subcomponents. The elements were assigned the values according the degree of their involvement in the existing situation. Based on the evaluation, the feasibility and the possibility of each element were identified.

For the present thesis, it has been started organizing the data from regional context, then about the city and finally about the site. The first step of organization will be regional information which will help me understand more about the surrounding area of the city and proposed study area. Regional context will also contain some data about historical development of that area. The next step will be organizing the data about the study area, its assets and historical background for few decades. Later than explaining (chapter 6, section 6.9) the results obtained for the *problems and present situation*, as shown in above sections and correlating the new information obtained from the expert participants, consultants and local people, with the knowledge already documented in various historical studies, documents and questionnaires survey, the study shows a categorical results which will assist to further understanding and recommend to sustainable urban revitalization approach for the proposed study area.

### **1.8. Principles and Strategies**

In order to formulate guidelines for the revitalization plan, a set of critical principles and strategies have been prepared for selected areas and these essentially represent the morphology of the city. Subsequently, planning alternatives have been prepared, for this, different approaches have been employed on the basis of findings, feasibilities and possibilities.



A) The river side area: A special component of the city that plays a major role in its economics and is an important factor in revitalizing the city as a whole. The renewal approach' has been employed to revitalize the area. The different constituents i.e. redevelopment, rethinking and rearrange have been employed in different alternatives.

B) Commercial and residential area: A critical commercial and residential area has been selected to carry out the strategy for rehabilitation of the commercial and residential area within the study area. The proposals concern the following:

- Rehabilitation of physical structures, through repairing and redesigning with open spaces within the residential, shopping and bazaar area.
- Rehabilitation of road and transportation networks, connections with physical infrastructure and recreation facilities.
- Redesigning of public spaces i.e historical buildings, streetscape, landscape, social squares and urban gardens.
- Rehabilitation and functional upgrading, this deals with rehabilitation of shopping, office, bazaar facilities for visitors and local people.

### **1.9. Revitalization plan**

A set of revitalization plans for various components have been prepared on the basis of the formulated principles and the strategies. Research proposed a framework for revitalization plan through different methods considering (prospects and proposals) the experts, public opinion and their satisfaction concerning proposed area. Subsequently these proposals and recommendations have been formulated to guide and control the implementation of revitalization plan.

### **1.10. Limitations of the study**

1. The present thesis is an extensive work on sustainable urban revitalization planning and development proposals to some extent. As the research on sustainable urban revitalization of a most busy area of the city is limited and therefore a broad study is further needed.
2. The basic elements, which have been covered in the present research comprehensively, may further be studied in greater details as every element by itself offers a challenging field for research.
3. The urban design faced has not been carried out in detail. That may be an additional area of research to be done subsequently.

### 1.11. Structure of the thesis

- Chapter 2: *Urban Design and Urban Sustainability in the global perspective* starts with broad definitions, historical review and trend analysis surrounding sustainability, urbanism and urban sustainability. Urban sustainability will be further studied in terms of the methods of measuring its performance, either in indicators or dimensions. In addition, the chapter contains a review of the lessons from history, European cities. This is followed by literature on strategies and their implementation.
- Chapter 3: *Sustainable Urban Revitalization in the global perspective* starts with extensive definitions, historical review and trend analysis surrounding sustainable urban revitalization. Sustainable revitalization again explained in terms of process, global perspective with example of central and inner parts of post socialist cities, urban revitalization of market/public places. This is again followed by literature on strategies and their implementation.
- Chapter 4: *History and Urban Development Strategy of Khulna City* is intended to bring in Khulna city within a few contextual dimensions including its historical and current urban development status, Planning and strategy in Khulna City, Evaluation of Khulna master plan. This is followed by a brief recall of the literature on Khulna city, s urban development and planning from colonial period to after 1971.
- Chapter 5: *Demography and Background of Boro Bazaar Area* explained the context and history of the study area along with different analysis of land use planning, zoning, and river side, commercial and residential area.
- Chapter 6: *Problems and Present Situations Analysis Phase–Results and Explanation* explains the results and their interpretation for the data that were obtained from various research methods designed to reflect the content of this problems and current situations analysis phase for the particular sustainable urban revitalization strategy that were selected from experts and local peoples. Most of the sections are divided into sub-sections which illustrate the following elements of this analysis: problems, challenges, difficulties and present situations.
- Chapter 7: *Process analysis phase and the sustainable urban revitalization model* demonstrates feedback on the functioning of key strategies and describes some contemporary opinions. The foremost objectives are to formulation and selection with developing a model for proposing sustainable urban revitalization strategy within the study area.

- Chapter 8: (planning and development proposals towards sustainable urban revitalization) following on from the results of the *problem analysis* phase and *process analysis* phase, this chapter summarizes the key recommendations for planning and development proposals towards sustainable urban revitalization. This chapter also explains - recommendation results for final planning proposals, understanding and summary of proposals and recommendations.
- Chapter 9: (Conclusion) reviews this thesis by dealing with the primary research aims and objectives and how they were responded throughout this research. In addition, it registers out the various understandings that contribute to information and challenges meet during this research project, and how the research may be taken forward in the future. It ends up with a final reflection and summary of research of this current project.

# **CHAPTER 02: URBAN DESIGN AND SUSTAINABILITY**

## **IN THE GLOBAL PERSPECTIVE**

### **2.1. Introduction**

In 1987, the Bruntland Commission published its report, *Our Common Future*, in an effort to link the issues of economic development and environmental stability. In doing so, this report provided the oft-cited definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43). Albeit somewhat vague, this concept of sustainable development aims to maintain economic advancement and progress while protecting the long-term value of the environment; it “provides a framework for the integration of environment policies and development strategies” (United Nations General Assembly, 1987). However, long before the late 20th century, scholars argued that there need not be a trade-off between environmental sustainability and economic development. The concept of sustainable development is steadily approaching recognition, if not full disciplinary autonomy, becoming the focus of new theoretical and normative reflection. However, the same cannot be said of a more specific field of application of that same concept - the urban environment (Camagni, 1998).

This chapter will start with broad definitions, historical review and trend analysis surrounding sustainability, urbanism and urban sustainability. Urban sustainability, which is the focus of this research, will be further studied in terms of the methods of measuring its performance, either in indicators or pillars, and this will be followed by gathering the literature knowledge on the problems and challenges to urban sustainability, which are all covered in section 2.10 and 2.11. Section 2.8 and 2.9 illustrates in brief the relation between urban design and urban sustainability and urban design and sustainable development. Section 2.3 will review the theoretical framework of urban sustainability and 2.4 will explain urban sustainability in global perspective. Section 2.12 is dedicated for the urban sustainability assessment with two parts: indicators and pillars. Section 2.18 and 2.19 explains the critical expression and gap in understanding of the chapter. Finally, the chapter ends with a summary in section 2.20.

### **2.2. Historical background of Sustainable Development**

The doctrine of 'sustainable development' derives from a discipline in economics that has been evolving for almost two centuries. The debate about whether Earth's limited natural resources will continue to provide life support for humanity's burgeoning population began

with the work of the English political economist Thomas Malthus in the early 1800's (Dixon and Fallon, 1989).

In an *Essay on the Principle of Population* (1798), Malthus framed the fundamental tenet of environmentalism - namely, that because human population tends to grow in a geometric progression while subsistence can grow in only an arithmetic progression, population growth is destined to be checked by natural resource depletion and inevitable human want and misery (Eblen and Eblen, 1994).

Since the days of Malthus, economists have tended to ignore the dilemma of resource depletion. Traditionally, economists have been concerned with the efficiency of resource use. They have been slow in developing economic models that adequately account for resource scarcity and pollution. Only rarely have economists worried that some resources may be in short supply and that if these resources are used indiscriminately, they may become exhausted and constrain the very growth for which they are developed. Hence, economic theories explaining long-term growth and technical progress have remained unsettled into the modern era (Freeman, 1973).

The first influential work examining whether the current paradigm of world economic development is 'sustainable' was *The Limits to Growth* (The Club of Rome, 1972). A team led by Donald and Donella Meadows at the Massachusetts Institute of Technology simulated a computerized world model ('World 3') and entered into it data assuming that population, industrial production and pollution would continue to grow exponentially in the future as they have in the past. The Meadows' team concluded that since the world is physically finite, exponential growth of these three key phenomena must eventually hit a limit. They predicted that as of 1972, the limit was only a generation away. Absent an emergency mobilization, it would likely be reached not through a smooth transition to more frugal lifestyles, but by a crash from good to very bad conditions - a poor, crowded, hungry, and polluted planet. They advised that averting catastrophe would require radical 'value changes', such as policies to recycle resources, to put birth rates into parity with death rates, to hold capital investment equal to depreciation, and to both reduce consumption and change its emphasis from the consumption of goods to the consumption of services (Krier and Gillette, 1985). This controversial study, distributed in millions of copy worldwide, made many fear a looming Malthusian crisis of the environment and development.

The concerns expressed in *The Limits to Growth* were echoed internationally. In *A Blueprint for Survival* (Editors of *The Ecologist*, 1972), a distinguished British panel wrote that our 'industrial way of life with its ethos of expansion' is not 'sustainable'. Rates of growth in

population and consumption are undermining human survival prospects by disrupting ecosystems and depleting resources. The panel concluded that a stable society would cause minimum ecological disruption, practice maximum conservation, and maintain a constant population. 'Our task is to create a society which is *sustainable* and which will give the fullest possible satisfaction of its members', they wrote. The apprehension that industrial production is eroding the natural resource base upon which economic development depends led to the UN Conference on the Human Environment at Stockholm in 1972. The Stockholm conference brought representatives of developed and developing nations together for the first time to debate humanity's right to 'a healthy and productive environment'. Participants addressed trans-boundary pollution, cooperative management of shared resources and the global commons, and agreed to open their courts to trans-boundary proceedings (Boyle, 1995). Stockholm set the stage for later treaties protecting the global commons, for example, the World Heritage Convention, the Whaling Convention and the Montreal Protocol on Ozone Depletion. These agreements created the doctrine of 'global trusteeship' upon which the doctrine of 'sustainable development' would later be founded (Boyle, 1995).

However, the term, 'sustainable development', first appeared in the World Conservation Strategy drafted by the United Nations Environment Programme (UNEP) and the International Union for the Conservation of Nature (IUCN) in 1980. It should be advanced through 'conservation', defined as 'the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations' (Eblen and Eblen, 1994). During the 1980s, the results of international development policies caused many to question basic assumptions about economics, society, and the environment. However, the social and environmental consequences of this approach, embodied in the Third World debt crisis and environmental destruction caused by large construction projects became evident in the 1980s. A global consensus formed that development had aggravated social disparities in developing nations and accelerated the loss of biodiversity. Hence, in the future, economic development would have to be constrained by social and environmental considerations.

The UN's World Commission on Environment and Development, chaired by Gro Harlem Brundtland of Norway renewed the call for 'sustainable development' to alleviate poverty, safeguard the environment, and feed the world in 1987. The Brundtland Commission Report, *Our Common Future*, defined 'sustainable development' as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987). This definition has been widely circulated and is accepted as

authoritative. At the UN's Conference on Environment and Development (or 'Earth Summit') held in Rio de Janeiro in 1992, diplomats from over 120 nations signed five pacts framing 'sustainable development' as the overarching policy of the 21st century. The 27 principles of The Rio Declaration on Environment and Development 'define the rights and responsibilities of nations as they pursue human development and well-being'. Its many references to 'sustainable development' suggest a form of development that integrates economic growth and environmental protection. Agenda 21 is 'a blueprint on how to make development socially, economically and environmentally sustainable'.

In addition, the 'Earth Summit' was the largest gathering of world leaders in human history. Thus, its enshrinement of the doctrine of 'sustainable development' in public international law is significant. While it is unclear whether or not 'sustainable development' will remain the prevailing paradigm of world economic development, it is certain to greatly influence future discourse in development science.

### **2.3. Theoretical Framework of Urban Sustainability**

The advent of 'sustainability' in development science has led planners to apply evolving notions of 'sustainability' to the contemporary debate over how cities and regions should be revitalized, redeveloped, and reformed. 'Sustainability' is regarded alternatively as either the proper means or the proper end of urban development. One of the most influential and visionary books in the history of urban planning is Ebenezer Howard's *Garden Cities of Tomorrow* (1898) which outlined the strategy for addressing the problems of the industrial city, as well as attempting to create a city that is balanced, which fits within the paradigm of sustainability.

However, it is common in planning circles for urban planners to describe efforts to reverse problems of urban sprawl, congestion, and decline as a search for 'urban sustainability' (Basiago, 1996). This is the case even though in urban theory no consensus exists as to which human settlements embody 'sustainability'. 'Urban sustainability' might imply the vitality of a city as a complex system, the quality of life of its citizens, or the capacity of nature to support its activities. Some commentators define this concept narrowly in terms of the economic 'sustainability' of a city, its potential 'to reach qualitatively a new level of socio-economic, demographic and technological output which in the long run reinforces the foundations of the urban system' (Ewers and Nij. kamp, 1990). Others, notably environmental activists, link 'urban sustainability' to broader social principles of futurity, equity, and participation, especially involvement of public citizens in the land development process.

When environmental planners speak of urban 'sustainability', they mean the pursuit of urban form that synthesizes land development and nature preservation. Hence, for environmental planners, the pursuit of 'urban sustainability' becomes a matter of placing the development of land into cities and the protection of natural systems into a state of vital equipoise (Lyle, 1994). It is as if city and regional planners have seized upon the ideal of 'sustainability' as a tangible goal, a particular societal end-state, rather than properly viewing it as an organizing principle governing activity at all levels of an urban system, a process for selecting urban alternatives that will yield vitality (Basiago, 1995).

Perhaps this confusion in planning circles about what 'urban sustainability' will require stems from the fact that *Agenda 21*, the 'Earth Summit' pact that addresses the 'sustainable development' of cities, both mandates concrete planning measures and implies abstract concepts (in the following) that should guide planning generally. This is not inconsistent; nonetheless, the tumult over 'sustainability' in planning circles has tended to conflate planning *guidelines*, which are specific in nature and applicable on a case-by-case basis (Calthorpe *et al.*, 1991) and planning *principles*, which, by definition, must be general and of universal applicability (McDonough, 1992).

- In terms of practical planning guidance, *Agenda 21* proposes a number of concrete measures to achieve 'sustainability' in the socioeconomic realm. These include equity, entrepreneurship and technology transfer.
- *Agenda 21* ties access to land, security of land tenure, tenants' rights, liberalized credit policies, and low-cost building material programs to 'sustainable' urban living for the homeless and for the urban poor.
- *Agenda 21* also proposes a number of tangible strategies to bring about 'sustainability' in the environmental realm.
- *Agenda 21* calls for appropriate technology, transport reform, and urban renewal. Governments are asked to improve rural areas and urban slums, to build moderately sized cities that promote job creation and housing, and to build cities invulnerable to natural disasters.
- In terms of planning principle, however, *Agenda 21* introduces a new paradigm of urban development. It is this paradigm, rather than the litany of urban reform proposals recited above, that relates 'sustainability' in development theory to 'sustainability' in city planning practice. A lack of understanding in planning circles as to what this urban development paradigm entails may explain why 'urban sustainability' is so often misconstrued as merely an environmental doctrine.



- Kahn (1995) writes that the paradigm of 'sustainable development' described in *Agenda 21*, in fact, rests on three conceptual pillars. These pillars are 'economic sustainability', 'social sustainability', and 'environmental sustainability' (Table 2.1).

**Table 2.1: The Paradigm of Sustainable Development in *Agenda 21* as Elaborated by Kahn (1995)**

<b>Element</b>	<b>Criteria</b>
<b>Economic Sustainability</b>	Growth Development Productivity Trickle Down
<b>Social Sustainability</b>	Equity Empowerment Accessibility Participation Sharing Cultural Identity Institutional Stability
<b>Environmental Sustainability</b>	Eco-System Integrity Carrying Capacity Biodiversity

The theoretical framework elaborated by Kahn posits that economic, social and environmental 'sustainability' must be 'integrated' and 'inter-linked'. They must be coordinated in a comprehensive manner. A hypothetical case of deforestation in a developing country context follows to illustrate this 'integration' and 'interlink age'. This example amounts to a gross over simplification, but it nonetheless describes how the economic, the social, and the environmental substrates of 'sustainability' relate to one another.

Finally, Thayer, (1989) defined sustainability as "a characteristic of a process or state that can be maintained indefinitely". One last definition of sustainable development that needs to be mentioned here is that identified by *The Omani Economic Association*, declared in its Fourth Conference: "sustainable development is a social process that is conscious, continuous, directed based on a national and independent resolve towards attaining structural transformations and creating political, social and economic changes that permits subsequent

growth of the social capabilities and continuous improvements to its living standards” (Economic Association, 2013).

#### **2.4. Linking Urban Sustainable Development to Globalization**

As Haughton (1999a, b) suggests, among the visions of urban sustainability there are at least four competing perspectives including, in his terms: (1) “free market;” (2) “re-designed;” (3) “self-reliant;” and, (4) “fair shares” cities models. Of these visions, two (the “self-reliant” and the “redesigned” city) either do not explicitly address an external orientation or restrict their resource usage and waste distribution to a naturally defined “bio-region.” These models focus on improving individual components of the city, preserving natural assets and encouraging small decentralized communities. As such, they are limited in applicability to contemporary growth conditions since they suggest that cities are/should be autonomous self-dependent units. The visions of self-sufficient cities within ecologically defined regions or green cities efficiently planned for local transportation, residence, industrial and commercial activities turn their back on current predictions that, for example, by “2025 the whole world will be one urban network” (Hall & Pfeiffer, 2000, p.8).

Two other visions of sustainable urban development described by Haughton, attempt to include global and local forces into a model for the future. These visions reject attempts to divorce cities from their broader development context. One model, the “free-market” city, posits that urban centers undergo economic development as defined by contemporary neo-liberal strategies and inevitably will overcome both environmental and social challenges as their wealth increases. Thus, growth is not only important for increasing the general wealth of society, as it trickles down to lower classes; it is a necessary component of increased environmental protection. These relationships have been described by the so-called “Kuznets curves” because they were based upon the relationship which exists between income inequality and economic development suggested by Simon Kuznets.

The inverted “U-shaped” curve was also applied to the relationship between development and the environment. A study by Grossman and Kurger (1995), for example, suggested that economic growth was ultimately good for the environment as countries grow out of environmental problems. This and other examples of the environment–development relationship were synthesized and presented by the World Bank in their 1992 report. This argument turned the “limits to growth” view (Meadows, Meadows, & Randers, 1992) on its ear as instead of the environment setting constraints on growth, these conclusions suggested that growth is required for environmental and social improvement. This environmental theory

has since been refined to suggest that different types of pollution increase and decrease during different stages of development.

Haughton's final sustainable urban vision proposes that while city regions are restricted by carrying capacity, trade and other flows should be encouraged (but only if guided by social and environmental concerns). This model takes features from the redesigned cities and the self-reliant cities models (for example, increased regional autarky, greater urban compaction and improved use of market tools for engaging in more equitable trading relationships with other areas) and it also recognizes that global and regional flows are important for development. This perspective recognizes the importance of international flows associated with globalization, but also suggests policies to address imbalances. Unfortunately, empirical research on this model is lacking. Within the literature on "sustainable cities" there are limited international comparative studies currently available. Indeed, in a recent compendium of seminal writings on urban sustainability, the editor, Satterthwaite (1999) noted these lacunae in current research.

Finally, in developed countries, despite investment in pollution-related infrastructure, consumption-related pollution levels increase (see for example, Pugh, 1996). A comparison of conditions among cities provided evidence for the variety and spatial scale of urban environmental challenges associated with the relationship, labelled the "urban environmental transition" (McGranahan & Songsore, 1994). The model asserts that affluence is "neither unambiguously harmful nor unambiguously beneficial to the physical environment" (McGranahan, Songsore, & Kjellen, 1999). Affluence changes the locus of environmental challenges from the specific issues of the local level, to those which have a city region-level significance and finally those of such that the worst environmental issues at different levels of development shift from localized to city-region levels and finally to the global level. Affluence also delays the timing of environmental impacts and complicates the causal linkages between the emission or environmental condition and human health effect.

## **2.5 Asian Countries and Urban Sustainability**

### **2.5.1. Asian countries urban sustainability in the era of globalization**

Globalization driven growth has not translated into a single path of development, rather localities have demonstrated contextually specific paths. Urban sustainability can only be achieved through addressing the economic, environmental and social health of the city. Further, scholars have increasingly recognized that urban areas are not autonomous units, but rather a part of an international development milieu. A growing body of literature has

attempted to approach urban sustainability, in terms of the social, economic and environmental development of cities, from the global level (see, for example, Harris, 1992; Burgess, Carmona, & Kolstee, 1997; Low, Gleeson, Elander, & Lidskog, 2000). Using the “functional city system” concept of Lo and Yeung (1996), the Asia-Pacific region is used to demonstrate the variety of urban environmental and social issues among types of cities categorized by both their development status and their role within the regional production system. The argument implicates the emergence of the regional system as a condition for addressing urban environmental and social sustainability and therefore directs attention to the role of supra-local policies.

One important caveat to this argument concerns the association of globalization forces with a single path of urban development. While transnational flows have been particularly strong within cities in the Asia-Pacific, local factors play a crucial role in growth. Together, localization and globalization-driven progress have not translated into a particular path of development rather localities have demonstrated contextually specific paths. Addressing urban sustainability therefore requires governance efforts at different scales.

#### 2.5.2. Contemporary urban development in the Asia-Pacific region

A popular conception of development within the Asia-Pacific region has been built on the “flying geese” model (Hatch & Yamamura, 1996; Lo, 1994). This model spells out a protracted process, driven by the gradual and international diffusion of technology, in which a developing country upgrades its export and industrial structures and suggests that an international division of labour among countries at different levels of industrialization has encouraged greater interconnectedness. Among the “flying geese,” Japan is in the lead, followed by the Asian NIEs, then the ASEAN, then China, and so on.

In the Asia-Pacific region, at the center of the linkages between nations are the major metropolitan centers. These cities which have increasingly articulated to the regional economy have been undergoing dramatic transformations associated with global flows of goods and services, investments, people and information. The process of economic, physical and social restructuring is called world city formation (Friedmann & Wolff, 1982) and in this region it has taken on obvious physical characteristics. These features include large transportation (including rail, sea and airport hubs) and communications (including teleports) infrastructure projects, research and development facilities, industrial estates (particularly export processing zones) and large mixed-use mega-projects developed on reclaimed land (Lo & Marcotullio, 2000).

Physical urban transformations were accompanied by dramatic social changes including increases in per capita incomes. Rapid and prolonged wealth creation for nations prompted some to call Asian development a “miracle” (World Bank, 1993). Economic indicators alone, however, do not capture the social transformations experienced in the region. It was not only wealth that increased but also the quality of life in Asia dramatically improved as manifested in reductions in shares of population below basic needs poverty lines, longer life expectancy, reductions in birth mortality, increases in access to basic services and greater literacy (ADB, 1997).

However, levels of poverty within the region dropped substantially. From 1987 to 1993, the Asia Pacific experienced decreases in both numbers of people living in absolute poverty (from 464 to 446 million) and the percentage of total population living in absolute poverty (from 28.8 to 26.0 percent). At the same time Europe and Central Asia, Latin America, the Middle East and North Africa, South Asian and Sub-Saharan Africa all experienced increases in the number of people in poverty (World Bank, 1999). In Hong Kong, Taiwan and Singapore, poverty has almost disappeared. It has almost been eliminated in Korea, and Malaysia has also made great strides in reducing the percentage of poor.

Up until recently the positive side of globalization dominated news and popular media accounts of development within the region. However, in 1997 and 1998 several countries in Asia were suffered severe economic contractions. The speed and intensity with which the crisis mounted within country after country surprised the world. Some have commented that during this period, globalization took a step backwards (ADB, 1999). By the end of 1998, however, the crises were contained in most countries. The speed of these current recoveries is positive trends, although problems may emerge elsewhere in the region (UNCTAD, 1999). Despite the recovery, the development community’s attention has been sharply focused on areas that were previously given less emphasis. The crises intensified both the social tensions experienced in the past (Daniere, 1996; Schmidt, 1998) and environmental problems (Setchell, 1995; Dua & Esty, 1997; ADB, 1997) including pollution levels that have increased faster than GDP even during the most rapid growth periods (Brandon, 1994). While focus has been increasingly turning to environmental problems, for example, the crises brought the issues to prominence as planners questioned the future viability of globalization-driven growth strategies. As a result, the old model, based on the Japanese experience of “grow now, clean later” (Webster, 1995) is being re-evaluated. “Sustainability” is increasingly promoted as an important component in urban development strategies. It is the

task of planners and policy makers to incorporate this goal into the current context of development.

### 2.5.3. Globalization and the context for urban sustainability in the Asia-Pacific region

Asia's environmental performance has not matched its economic progress. Indeed, curbing pollution is one of the greatest challenges for the region. In general, Asian environmental quality has deteriorated to the extent that the region is one of the world's most polluted. Environmental conditions in many countries are severe (Table 2.4.3.) and conditions in urban Pacific Asia have been referred to as an "urban-industrial environmental crisis," due to water and air pollution and solid waste in urban areas having reached extreme levels (Douglass & Ooi, 1999).

In terms of social sustainability, in developing highly multi-ethnic Asia-Pacific we find that lack of resources and a weak local government and civil society have helped to create severe social inequalities, hence impacting the social sustainability of cities. While social stability and equity are issues for cities of all development statuses, there is a sense of growing levels of disparity in incomes. Despite claims of "growth with equity" within the region, many nations, with notable exceptions (Baum, 1999), and their major metropolitan centers are experiencing increasing wealth polarization (Sassen, 1994). Examples of nations and cities that have ignored these trends exist; ethnic diversity and inequality combined with economic instability during and after the Asia Financial crisis threw Indonesia and its major metropolitan center, Jakarta into political chaos from which it is still struggling to recover (Firman, 1999).

When surveying the state of the urban environmental and social conditions across Asia, damage is often aggregated and compared across different cities to demonstrate difficult conditions. While in aggregate, the state of the cities in the region is severe, however, experiences have been different. A comparative analysis of environmental and social trends among developing cities in the region and their role within the regional economy allows for a greater understanding of the role of globalization forces in generating these circumstances.

### 2.5.4. The functional city system and urban sustainability in the Asia-Pacific

In the Asia-Pacific a functional city system, or "a network of cities that are linked, often in a hierarchical manner based on a given economic or socio-political function at the global or regional level" has been developed (Lo & Yeung, 1996, p.2). Theoretically, not only does this functional city system impact the economic growth of cities, the roles that urban centres play within the larger regional system also significantly relates to the environmental and social conditions within the city. Indeed, it is increasingly difficult to distinguish between

industrialization and urbanization impacts on the environment (Douglass & Ooi, 1999). The two processes are linked at the mega-urban region level through a set of activities that are increasingly cross-border in nature (McGee & Robinson, 1995). That is, the growth of these large regions and increasing investment, capital flows and other transnational activities are occurring simultaneously. In part, therefore, understanding the urban macro-development trends helps to explain their local level costs.

## **2.6. Urban Sustainability in European cities**

### *2.6.1. The Role of Cities and Urban Policies for Sustainable Development in Europe*

Cities play a vital role for the development of European regions. They are key to increasing the European Union's worldwide competitiveness. Cities are home to the majority of jobs, firms and higher education institutes and their action is decisive in bringing about social cohesion. They are also the focal point of innovation, entrepreneurship and economic growth, areas in which the EU has ambitious objectives. Where cities and neighbourhoods are strong, the regions around them show stronger growth and are more competitive.

Recognizing this, EU Ministers responsible for urban development included all the principles of good urban management in the Leipzig Charter on Sustainable European Cities. They recommended making greater use of integrated urban development policy approaches and considered the following strategies for action to be crucial for strengthening the competitiveness of European cities:

- Creating and maintaining high-quality public spaces.
- Modernizing infrastructure networks.
- Improving energy efficiency, including the efficient use of natural resources, economic efficiency and the energy efficiency in new and existing buildings.
- Proactive innovation and educational policies.
- Pursuing strategies for upgrading the physical environment.
- Strengthening the local economy and local labor market policy.
- Proactive education and training policies for children and young people.
- Promotion of efficient and affordable urban transport that links those neighborhoods to the city and the region as a whole.
- Improving the attractiveness of Member States, regions and cities as places to invest, to work and to live.
- Encouraging innovation entrepreneurship and the growth of the knowledge economy.
- Creating more and better jobs.

- To make cities more attractive through transport facilities, services, environment and culture.
- To strengthen the relations between urban, rural and peri-urban areas.
- To strengthen the role of cities as growth centers, to promote entrepreneurship, innovation and the knowledge economy and to support small and medium-sized enterprises (SMEs).
- To improve employability and to reduce the disparities between districts, on the one hand, and social groups, on the other.
- To combat delinquency and the feeling of insecurity.
- To improve governance of urban interventions.
- To promote experience-exchange networks.
- To develop financial engineering mechanisms to achieve the maximum leverage effect with Structural Funds.

#### 2.6.2. Towards a Common European Methodology for Sustainable Urban Development

Over recent decades, urban planning has evolved from being a merely technical discipline into something much more complex, where politicians and stakeholders want urban development to meet the needs of cities and people. Many years of practical experience have delivered valuable elements of good practice and recommendations for urban policy that meet the challenges in European cities. There are at least five dimensions or features that can be identified in the following –

- A move away from individual sectors towards wider integration within the local or regional economy.
- A shift from government to governance, i.e. the tendency of central governments to confer certain duties to lower levels of government, such as provinces, regions, cities, city districts and neighborhoods (referred to as ‘decentralization’). Together with the privatization of governmental tasks, this involves the participation of a larger number of different policy partners, organizations and individuals (governance).
- An increasing focus on empowering the inhabitants of cities and specific neighborhoods.
- A shift from universal policies to more focused, area-based policies.
- Growing attention paid to the effectiveness of policies.

A common methodology for sustainable urban development has begun to take shape over the last decade and has been generated following the emergence of a European ‘Acquis Urbain’, which builds on the experience gained while supporting integrated and sustainable urban development. This methodology is also in line with the policy principles and



recommendations laid down in the Leipzig Charter on Sustainable European Cities. The ‘Acquis Urbain’ is based on the following cornerstones.

- The integrated and cross-sector approach of the URBAN Community Initiatives.
- The new instruments of urban governance, administration and management, including increased local responsibilities and strong horizontal partnerships, successfully tested by the URBAN Community Initiatives.
- A targeted selection of towns, cities and eligible areas and the concentration of funding.
- Networking, benchmarking and the exchange of knowledge and know-how, building on the positive experience and results of the URBACT I Programme.

### 2.6.3. Key elements of sustainable urban development in European cities

Following the common European ‘Acquis Urbain’, sustainable urban development is reached best through integrated urban development plans developed around long-term visions for cities and neighbourhoods in their regional context. Area-based integrated development plans work best if they are embedded in city-wide strategies and supported by policies that are geared towards specific target groups. Plans can have a much higher impact if they look beyond the problems and capitalize on the potential of the area and the local population.

#### What are the key elements of sustainable urban development?

- Developing a city-wide vision that goes beyond each project and is embedded in the city-regional context (analysis of target areas; strategy building; defining long- and medium-term objectives, priorities, measures and projects).
- The integrated approach as an added value (strong ‘horizontal’, cross-sectoral coordination of urban regeneration measures and physical urban renewal as the main elements of an integrated approach to sustainable urban development, covering aspects of local economic development, business and employment, education, training and qualification, social inclusion, culture, environmental measures, urban mobility and high-quality public spaces; strong ‘vertical’ coordination with all relevant levels, coherence with European, national and regional objectives).
- Financing and investing to achieve a lasting impact; concentration of resources and funding on selected target areas.
- Creating strong local and regional partnerships; new instruments of urban governance, administration and management.
- Capitalizing on knowledge, exchanging experience and know-how.
- Monitoring the progress.

## **2.7. Sustainable Urbanism**

Sustainable Urbanism is a recent term prevalent in urban design and planning. Within the contemporary metropolitan environment, it is rooted in study of sustainability and urban design in a rapidly urbanizing world (Philip Plowright, 2010). Changes that have taken place in the world over the past twenty years, including ecological disturbances and radical changes in traditional settlements have produced cities that are not just chaotic inhabitants. In this context, environmentally sensitive design approaches at the building scale has been understood better comparing to those at the urban scale (especially in northern European countries and the USA), and there have been significant developments in the field, although the contemporary architectural practice in the developing countries is still lacking many aspects of sustainable building design. On the other hand, the absence of the urban or neighbourhood scale in most of the environmental literature has been masked by the recent obsession with “green” building. Based on these shortcomings, the study would like to highlight the background, evolution and linking concepts for sustainable urbanism.

### 2.7.1. Background of Sustainable Urbanism

In order to become sustainable cities, need to adopt a new approach to planning the city. In the World Cities Report (UN Habitat 2016) this is described as the city that plans in contrast to the planned city. The ‘city that plans’ uses integrated and multi-sectored planning approaches, takes into account local circumstances and involves diverse populations including women, plans are prepared at different geographical scales and across political boundaries, and improves the education for planners, especially in developing countries. A city that plans not only projects the future from past trends; it also brings the public, private and third sectors together with communities to build a collectively preferred future. These aspects of planning don’t seem ground-breaking, but in many cities they are not applied. The following principles (Farmer et al. 2006) are defined to support implementation:

- Promote sustainable development,
- Achieve integrated planning,
- Integrate plans with budgets,
- Plan with partners and stakeholders,
- Meet the subsidiary principle,
- Promote market responsiveness,
- Ensure access to land,
- Develop appropriate planning tools,
- Be pro-poor and inclusive, and recognize cultural diversity.

Since the 'Brundtland report' (World Commission on Environment and Development 1987) sustainable development is a main goal for many sectors in urban policy-making. This has also impacted the practices and theories of urbanism. Over the years, this led to many frameworks, concepts and planning principles. One often noticed outcome of this goal is the Freiburg Charter (Daseking et al. 2012), in which the principles are defined in three groups: spatial development, content and process. These principles provide guidelines on how a sustainable city can be developed which are the following -

- Farr, 2007 - Sustainable urbanism is defined as “walk able and transit-served urbanism integrated with high performance buildings and high-performance infrastructure”.
- Sharifi, 2016 - A broader definition is: “the application of sustainability and resilient principles to the design, planning, and administration/operation of cities”
- Adhya, 2011 - Compactness (density) and biophilia (human access to nature) are considered as the core values of sustainable urbanism
- Neuman, 2005 - Others question compactness as being really sustainable.

Hence the main focus of sustainable urbanism lies on the design of urban environments and aims to implement sustainable solutions through these designs. The leading cities however show strong preference for certain themes. The New Urban Agenda aims to harness the potential of cities and human settlements to help eradicate poverty in all its forms and dimensions, reduce inequalities, promote inclusive growth, and achieve sustainable development (Habitat III 2016). Therefore, it provides a new global framework to develop sustainable cities. One of the principles defined is to ‘transform the way we plan, develop, govern and manage cities and human settlements, recognizing sustainable urban development as an essential instrument to achieve prosperity for all and sustainable development’.

### 2.7.2. Evolution of sustainable urbanism

Looking back in time, sustainability has not always been a central theme in urbanism. The famous image of the architect eating the landscape, by Malcolm Wells, illustrates the way urbanism was seen for a long time: as a destroyer of natural values. Girardet (1996) was one of the first to acknowledge the importance of an integrated approach to developing cities in a sustainable way. He connected themes such as looking at cities as ecosystems, the footprint of cities, urban heat islands, and others with urban design schools, such as the garden city movement (Howard 1902), the modern city of Le Corbusier (Cohen and Benton 2008), Frank Lloyd Wright's Broadacre city (Wise 2013) and megacities in general (Nicholls 1995; Donatiello 2015). Since then many perspectives, visions and conceptual practices have been developed, each of them taking sustainability into account in planning and designing cities in

one way or another. Following seven distinctive periods show how the concept of sustainability has evolved over time.

*Aesthetics* - For a long time men dominated nature and aesthetic rules determined the design of cities, buildings and gardens. Geometry and symmetry were important tools for design, through which the environments of man and nature could be separated. Landscapes were mostly arranged according to strict rules.

*Rationalism* - In a second period sustainable urbanism is characterized by the assumption that knowledge is the crucial driver in design and that knowledge will implicitly lead to solutions. An expert planner or the designer 'who knows it all' (Gunder 2011) is required to translate this knowledge into functional urban environments.

*Conceptualism* - In this third period the design of concepts, or concepts inspiring designs, is at the core. Ecological understanding of the water system, the soil and nature becomes important as the directing force of these concepts.

*Negotiatism* - In this period sustainability is seen as a negotiable aspect. In order to make sustainable development discussable, different ambitions are defined which can be negotiated during the planning process. Once a certain ambition is set, it is easy to check whether the plan has delivered the expected level of sustainability.

*Systemism* - In this period the city and its surroundings are seen as an ecosystem (Tomásek 1979). In this concept resources can enter the system and rest-flows are exhausted. The system itself is capable of regulating in- and outgoing resource flows and the processes of using, reusing and transforming these resources.

*Emergism* - Directly linked to systemism, the period of emergism focuses on the adaptive capacities of complex systems. Understanding the adaptive capacity of systems helps to plan for cities that are more resilient. These concepts are common in nature and can be used in designing future cities and landscapes that are more adaptable (Waterman 2010).

*Anti-fragilism* - A system then is not only able to respond to changes in an agile way, but more than this, it is able to use these responses to make itself stronger and more capable of dealing with unexpected changes in the future. This concept is called anti-fragility (Taleb 2012) and it has not been used in urban design yet. However, this concept offers new insights in how urban environments could be treated in uncertain times.

2.7.3. Linking concepts of sustainable urbanism

The concepts and approaches of sustainable urbanism shift over time (Fig. 2.1.), with each concept and approach fitting the timeframe during which it was developed and used. Many of the concepts overlap and relics can be witnessed until today. When the concepts are connected to each other and the strengths of each period are taken and integrated into sustainable urbanism, a new perspective emerges. The key qualities of each of the periods mentioned above (section 2.7.2.) are linked (fig. 2.2.), illuminating the integrated strength of sustainable urbanism. This constructed and comprehensive set of properties can be used for sustainable urban designs. Many current urban designs predominantly focus on one sustainability issue or approach. Therefore, the set of capabilities can provide an integrated sustainable perspective on urban development, notwithstanding other important factors in city design, such as land values, programmatic aspects and others.

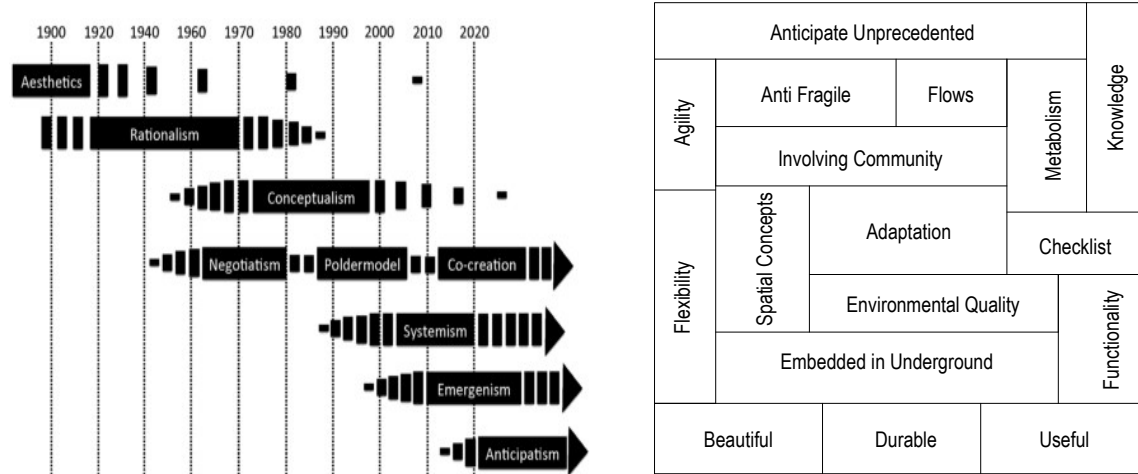


Fig. 2.1.: Shifting concepts over time, Fig. 2.2: The strengths of sustainable urbanism

When sustainable urbanism is characterized in many contexts, what is usually addressed as the main concern is natural environment, and hence ecological sustainability, a condition that could be explained with the climate change, the inevitable environmental crisis. However, we should be aware of the fact that today’s development practices do not only consume enormous amounts of land and natural resources, damage ecosystems, produce a wide variety of pollutants and toxic chemicals, create ever-growing distances and fuel global warming, but also create inequities between groups of people, undermine local community and social values, economies and quality of life. These incremental changes imply a more critical state in cities of traditional societies where transformations in the urban level are still visible.

## **2.8. Strategies and relation between Urban Design and Urban Sustainability**

One can possibly find as many definitions for urban design, as the number of writers and practitioners of urban design (for example: Pittas 1980; Floyd 1978; Lynch 1981, 1984; Mackay 1990; Gosling and Maitland 1984; Tibblads 1984; Gosling 1984a, b; Barnet 1982; Colman 1988; Goodey 1988; Levy 1988; Scott Brown 1990; The Pratt Institute Catalogue 1988; Kreditor 1990; Lang 1994, 2005; Relf 1987; Madanipour 1997; Schurch 1999; Marshal 2009; Brown et al. 2009; Mumford 2009). These varieties of definitions, aside from some commonalities, reveal the very complex and multi-dimensional nature of the subject matter of urban design. Schurch, in analyzing some of these definitions, suggests that the fundamental problems with these definitions of urban design are that they lack breadth, cohesion and consistency (Schurch 1999, p. 17). Over thirty years ago Pittas (1980) emphasized on the importance of a clear definition to the success of the profession. He, then, suggest seven parameters that urban design deals with:

1. Enabling rather than authorship;
2. Relative rather than absolute design products
3. Uncertain time frame
4. A different point of entry than architecture
5. A concern with the space between buildings
6. A concern with the three dimensional rather than two dimensional
7. Principally public activity.

On the other hand, in 2011 Urban Design Group explained that - Urban design is the art of making places in an urban context which involves designing groups of buildings and the spaces and landscapes between them and further the creation of frameworks for successful development. Even though there were some instances where urban design principles had been practiced in ancient civilisation, the discipline was introduced as a separate profession in 1950's after the determinations of 1956 international conference about the future of cities which took place in Harvard's Graduate School. Regeneration of cities after the 2nd world war was urgently required. But at that time the body of knowledge that existed in architecture and planning was not strong enough to deliver successful urban regeneration projects. Therefore, to bridge this gap a separate discipline called urban design was emerged (Krieger, 2004).

City beautification was the fundamental purpose of urban design at the time it was introduced as a separate profession. Over time, the scope and objectives of the urban design have changed and currently urban design plays a vital role in city development. Today urban

design functions at the crossroads of architecture, landscape architecture and city planning. It has become a collaborative discipline functioning with the other disciplines to create three dimensional forms and spaces for people that function effectively. Therefore, urban design seeks to enhance the life of the city and its inhabitants in socio-economic & environmental terms (Wall & Waterman, 2010).

The concept of sustainability has become integrated with urban design. Today the key task of the urban designer is to delivery sustainable places in terms of the “triple bottom line” that is the three dimensions of life – economic, e.g well-paid jobs, social e.g good schools and sports facilities and environmental e.g. clear air, clean rivers, beautiful places to live, work and play and as Ritchie and Thomas (2009) describe sustainable urban design is vital for this century. Therefore, achieving sustainability in urban design will provide environmental quality, economic and social benefits. In August, 2017; Peter Calthorpe (Principal and Co-Founder of Urban Footprint) explained the following seven strategies for sustainable urban design and planning:

**1. Make Connections - Connect data, people, aspirations, needs, opportunities, futures, and outcomes - More and more the act of creating an urban design, a plan, framing the right infrastructure or public policy, involves enhancing connections.**

Creating connections is fundamentally what cities do, and it is what designers must do if they are to succeed. Great cities create connections between people of all ages, incomes, and races. They enhance connections to the natural environment, to history, to local culture, and to goods and services. They are also places that connect ideas, that cross-fertilize, that foster innovation and mix the foreign with the local, the regional with the neighbourhood. They are the armature of the global world.

More and more the act of creating an urban design, a plan, framing the right infrastructure or public policy, involves enhancing connections. These connections are most typically between stakeholders and special interests that too often see their goals as isolated, view outcomes as winner-take-all, and understand plans as fixed. In addition, we need connections between isolated and growing data sets, stovepipe professional analysis, and facts that too often evade the discussion. Connecting information in ways that create insight is fundamental to understanding and design.

**2. Collage Data - Integrate data to reveal patterns, educate stakeholders, and extend boundaries - We are swimming in data and it is growing at phenomenal rates. The challenge is to translate this onslaught into useful information.**

We are swimming in data and it is growing at phenomenal rates. The challenge is to translate

this onslaught into useful information. This involves synthesizing what are now isolated streams and distilling the data into useful information. And this information must be translated into insight and insights must be shared.

Digesting data is an interactive practice that involves much more than downloading bits. It involves layering data in ways that reveal new connections, synergies and causalities - effectively revealing deeper patterns born of isolated datasets. It involves the ability to edit and layer diverse and complex information in ways that enhance understanding a place and setting directions for the future. It also involves asking the right questions easily in ways that integrates many dimensions of input.

3. **Solve for the Future - Design for multiple futures rather than perfecting the present - We cannot understand the efficacy of new strategies and infrastructure without setting them in a future framework.**

Much smart Cities efforts are rightly focused on improving how we, piece by piece, make existing systems more efficient. Software and technology that makes better use of our buildings, roads, services, and open space is critical to setting the stage for a more inclusive and less demanding city. But also needed are tools and practices that shape a more coherent long-range future, that look to the large changes in context and infrastructure that incremental fixes tend to miss. Future land-use patterns and circulation systems are the foundation of better cities, shaping the next generation of investments, systems and policies. We cannot understand the efficacy of new strategies and infrastructure without setting them in a future framework.

4. **Build Scenarios - Test varied strategies, press extremes, and find the sweet spot - Scenario planning assumes that we cannot predict the future because of unforeseen events and multiple forces.**

Scenario planning has been used by the private sector and the military for decades for strategic planning based on a range of assumptions. Scenario planning assumes that we cannot predict the future because of unforeseen events and multiple forces. Instead it is a methodology that learns by testing different futures from a matrix of probable primary drivers. It brackets the future and reveal strategies that can adapt to differing futures or work with the largest range of outcomes.

But there is another reason for building urban scenarios - to be inclusive of and to test differing preferences of participants. Each stakeholder and special interest group brings their own ideal future born of their own priorities.



These special interest scenarios tend to be shaped around one preferred outcome rather than multiple advantages. Scenario planning allows all to see their idea affirmed as a potential future, analyzed across differing metrics, and then rationally compared to others. In so doing, scenario planning often reveal co-benefits and new coalitions between historically isolated interests. This is a catalyst for political change that in turn is the foundation of real change.

**5. Seek Co-Benefits - Transform single-issue advocates into coalitions, reveal interconnected outcomes – Shaping the future of the city depends on consensus and coalitions; it is essentially a political act.**

Shaping the future of the city depends on consensus and coalitions; it is essentially a political act. Current practice typically involves elected officials adjudicating the interests of multiple stakeholders; neighbourhood groups, developers, unions, environmentalists, and social equity advocates to name a few. This diverse group of voices often leads to stalemate, delay, and least common denominator outcomes.

Uncovering what we call "co-benefits" can uncover unseen common interests and coalitions. Comprehensive analysis across a full range of metrics can reveal win-win strategies that demonstrate there are choices that do not involve painful trade-offs. Some virtuous development patterns can solve many problems simultaneously, amplifying cost effectiveness and smoothing the political process.

**6. Be a Generalist - Analyze and integrate multiple metrics to end stovepipe thinking - Planners and designers are inherently generalists; they must integrate across issues, disciplines, and interest groups.**

Planners and designers are inherently generalists; they must integrate across issues, disciplines, and interest groups. Urban design amplifies this trait, calling on practitioners to understand the social, economic, and environmental dimensions of the built environment. They must balance all of these forces and find ways to communicate whole systems to an audience of specialists. They are conductor and composer of a complex orchestra.

Our cities are too often the product of specialization. Whether developer, engineer, or community group, each actor optimizes for their goals and interests without an over view of systemic impacts, trade-offs, or synergies - without a sense of the whole story and its outcome.

The role of the generalist, the urbanist in fact, is to understand all the forces at work and find the shared pattern that shapes the narrative. Multi-disciplinary action, though rarely taught, is the practice that creates value through synthesis rather than optimization.

7. *Think Beyond Horizons - Stretch boundaries, expand time frames, and connect the dots - The larger environment, history, culture, and economies shape the urban landscape whether for small sites, neighborhoods, districts, towns or cities.*

Designers, planners, developers and architects are trained to look beyond the boundaries of their project or site. The larger environment, history, culture, and economies shape the urban landscape whether for small sites, neighbourhoods, districts, towns or cities. The metropolitan region is now the platform from which cities interact with the globe. As a result, every project must push beyond static jurisdictional boundaries or simple property lines to the regional context. Expanding the domain always leads to more sustainable and powerful schemes. It is essential for planning in the 21<sup>st</sup> century.

Expanding timeframes as well as boundaries also enhances the intrinsic value of design. Short term, local thinking too often dominates the debate around significant developments, infrastructure, and policy initiatives - it is baked into the political process and is hard to overcome. With long term visions, lifecycle economics, generational social consequences, and geological environmental impacts can come into focus as a part of our public process.

## **2.9. Urban Design and Sustainable Development**

In the context of 90's Cuesta, Sarris, and Signoretta (1999) state that the issue of sustainable development is the social foundation of urban design today. Walton et al. (2007) describe urban design as a discipline to create sustainable communities and sustainability is not merely environmental sustainability but embraces economic environmental and social aspects as well. The authors present the EGAN wheel (Egan 2004, Figure 2.3) as a good framework to create sustainable communities in urban design. A key finding of the Egan (2004) is that sustainable communities do not come by chance and we must work to create them and the report introduces key components of sustainable communities as represented in figure 2.8. Over the last 10-15 years many other writers, e.g. from Bentevegna et al (2002), to Farr (2012) all discuss that urban design and development is about creating sustainability. When these and other discussions on urban design and sustainable development are examined the common phase which can be traced is that the Urban Design is all about creating sustainable communities in terms of socio-economic and environmental aspects.

### *Current Approach to Urban Design*

As the Egan report has argued the approach or process used in urban design plays a vital role in delivering sustainable communities. This section seeks to explore different sources where the approach to urban design and its key components and stages are identified. Moughtin

(2003) describes the urban design process in line with the RIBA practice and management hand book of the time. Accordingly, for him there are four main phases in the design process

which are as follows:

- Phase 1 *Assimilation*: the accumulation of general information and information specially related to the problem
- Phase 2 *General Study*: the investigation of the nature of the problem: the investigation of possible solutions
- Phase 3 *Development*: the development of one or more solutions
- Phase 4 *Communication*: The communication of the chosen solution to the client.



Fig. 2.3: EGAN Wheel, Source Design Compendium 2, Walton et al., 2007

However, Roberts and Greed (2001) discuss about the urban design process in four sequential stages. These sequential stages are named as the framework for urban design,

- Defining and Analyzing the problem
- Developing a rationale
- Summary of development opportunities and constraints
- Conceptualizing and evaluating urban design options

From a landmark project exploring the sustainable 24-hour city Boyko, Cooper, Davey, and Wootton (2006) identified a more recent development of the urban design process which has considered stakeholder engagement. There are four main steps in this process including four transitional stages. The key four stages in this process are as follows,

- Stage 1: creating teams, appraising the situation and forming goals.
- Stage 2: designing and developing.
- Stage 3: evaluating, selecting and creating a plan.
- Stage 4: implementing, monitoring and following up.

The Department of Infrastructure and Regional Development Australia (2013) introduces its own urban design process model as a part of the urban design protocol for Australian cities. In this model four common themes are introduced under different sub themes as follows,

1. Context: Strategic planning- a project should work within the context of the strategic planning framework.
2. Engagement: Relevant stakeholders, including the broader community, should be able to

provide input and feedback at key stages of the process. They can help to develop the vision, review design options and provide feedback e.g. during a public exhibition.

3. Excellence: Through leadership, Collaboration and teamwork, Integrated processes, Design culture.
4. Custodianship: Ensure that systems are in place for on-going operations and management, to ensure the place is well-maintained and sustainable in the long term.

This urban design process model begins to integrate the professional actors with the stakeholders and ‘Engagement’ is considered as the main means to consult stakeholders and the community at different stages so raising in importance the community vision for the area. This indicates that even in this process model which has many good features from the perspective of the community there is still a risk that it can be framed entirely by the professional actors because up to the vision development stage of the design process the professional actors play the dominant role.

## **2.10. Urban Sustainability and Sustainable City**

This section provides following literature background to the concept of urban sustainability-

### 2.10.1. Sustainable Development

This paradigm of sustainable development aims, to quote the words of the World Commission on Environment and Development, to meet ‘the needs of the present without compromising the ability of the future generation to meet their own needs’. While we are working towards, and still have not been able to develop and achieve distributive justice within and between societies in the present generation, the paradigm of sustainability requires us to aim at distributive justice with future generations!

### 2.10.2. Sustainable Urban Development

‘Sustainable urban development’ has been fashioned by applying similar objectivity into urban context. Here the objective has been to seek sustainability, both in terms of equity of distribution and safety of use, in all inputs that go into urban development and in all components of urban environment. As urban systems are characterized by concentration of people and economic activities, inputs to urban systems, whether in terms of material and energy or in the form of society and technology are dense and concentrated too. The urban system is not closed and draws much of its material and energy resources from areas beyond its administrative boundaries and at the bottom; its economy is dependent on the hinterland. Without this base, there can be no city and that a city cannot sustain by itself is an axiom. The application of the ideology of sustainability in urban context thus should not be construed as

urban self-sustainability. Sustainable Urban Development should aim at distributive justice and access safety in a spatially extended area that includes the hinterland and expects the play of action and results in the urban-rural continuum. Urban sustainability demands direct recognition and nurturing of urban-rural continuum.

### 2.10.3. Sustainable cities and sustainable urban development

*... the city is rooted in the habits and customs of the people who inhabit it. The consequence is that the city possesses a moral as well as a physical organization, and these two mutually interact in characteristic ways to mold (sic) and modify one another (Park 1915, p. 578).*

The subject of 'sustainable cities' is endlessly fascinating. There are now global and local commitments to make urban areas into 'sustainable cities' through various processes of 'sustainable urban development'. Numerous actors are involved in the academic and practical aspects of the endeavour. We see, for example, social scientists, built and natural environment specialists, engineers and artists all undertaking research, and developing strategies and programmes, to tackle elements of sustainable urbanism.

Yet knowing if we are actually making any progress towards sustainable cities is problematic. In one sense, so much has been achieved in raising the profile of sustainability and sustainable cities over the last 30 years that the rate of change is inspiring. Urban policies around the world are infused with the language of sustainability and a multitude of exemplary initiatives can be found. Yet, in other ways, we seem to be going backwards, to the extent that it is hard to see where there is any room for optimism. Urban problems in developing countries are becoming more acute as populations rise and resources become scarcer. In the developed world, we see massive new infrastructure and building projects that defy any notion of sustainability, yet are celebrated by the public and professionals. So, although there have been huge advances in some areas of knowledge, and some impressive practical initiatives, a very contradictory, or at least fragmented, picture arises of change 'on the ground'. Given this complex picture, it is sometimes hard to see where common 'sustainable cities' challenges may be identified. However, part of the problem in conceptualising progress centres is around what we think we are aspiring to, what changes we want to make and what we assess 'progress' to be.

### 2.10.4. The challenge of 'the vision': do we know what 'the sustainable city' is?

Despite the fact that the 'sustainable city' discourse is now relatively mature, precise conceptualisations are rare and contested. As Bulkeley and Betsill state, 'Despite ... near universal recognition that sustainable cities ... are a desirable policy goal, there is less

certainty about what this might mean in practice' (2005, p. 42). We find the notion of the sustainable city immediately appealing, yet complex and intangible.

In reality, most disciplines working in the field of sustainable cities construct their own notion of what the concept means for them. We see 'ideal states' proliferate in many sectors. For example, in engineering, the sustainable city is defined when resources are used most efficiently. Systems are mapped and losses and uncertainties identified. In the social sciences, sustainable cities are often described in terms of the goal of 'social sustainability'. It is the desired 'ideal', realized only when a particular conceptualization of social equity or justice is evident in a spatial setting. Within the 'sustainable urban form' debate, the idea of the 'compact city' has been favoured, above other settlement patterns in policy for a number of decades (although with less agreement by researchers in the field, [Williams *et al.* 2000]). Yet these 'ideals', and the debates about them, remain within their discrete worlds and are rarely acknowledged or understood outside their expert communities.

The issue here is that all interest sectors involved in achieving sustainable urban development have genuine but differing 'visions' of the future. As Guy and Marvin state '... within the sustainable-cities debate, a diverse and expanded group of interests can be identified, each developing competing visions of what a sustainable city might become' (1999, p. 269). None of these 'visions' represent the complete picture (although some claim to), as each is only a part of the complex 'whole' that is the city.

### **2.11. Challenges of Urban Sustainability**

Probably one of the most important defeats for sustainable development during this century is dealing with the unprecedented challenges facing cities. Especially demographic, environmental, economic and social transitions will move cities to new models of development that are fundamentally different from their development during the last 60 years.

Rapid urban growth, environmental pressures and economic decline will have most significant social consequences. The rapid growth of urban slums and squatter settlements is one of the most visible signs. These areas are the ones that are most threatened by the effects of climate changes and where most of the economically vulnerable people live. All this will lead to increasing poverty and inequality and to a speeded up growth of the urban informal sector.

For all these reasons, managing the urban environment in a context that complies with sustainable development is probably one of the most important and difficult tasks for the coming decades. There is currently no real strategy that can universally be applied. However,

a recent UN Habitat report (2009) indicates a set of responses to these challenges. We list the most important ones:

- New trends in urban planning should be more widely applied. These include: strategic spatial planning, new land regularization and management approaches, participatory processes and new forms of master planning.
- Producing plans is not enough. New approaches to implement plans for more sustainable greener cities are necessary.
- When it comes to participation of citizens, new and promising approaches have been established. At the local level, participatory urban appraisal (PUA) provides information inputs into decision-making rather than itself being a decision-making tool. Therefore, it has been complemented by community action planning, which develops actionable ideas and implementation arrangements based on the PUA information.
- Cleaner and greener cities are imperative. This includes developing renewable energy, setting up carbon-neutral cities, prevent and counteract water pollution, increase the number and the surface of accessible green areas, improve eco-efficiency of cities, develop sustainable transport and develop cities without slums. All this should be core areas of planning for cities of the 21st century.
- Spatial structures as road networks and decent housing projects should support the environmental, economic and social goals of sustainable cities.
- To a growing extent, cities develop in an autonomous way. Evaluation and monitoring should ensure that plans for sustainable cities are realized as conceived.

Finally, planning for sustainable cities becomes increasingly complex. Researches within these areas and other training programmes that offer urban planning processes should adapt their programmes to the needs of the 21st century. All this shows that dealing with the main urban challenges of the 21st century (climate change, resource depletion, rapid urbanization, poverty and informality) becomes increasingly complex. The good news is that more and more cities line up as a “sustainable city”. These initiatives should be strongly supported.

## **2.12. Barriers to Urban Sustainability**

Barriers to sustainable urban development are phenomena which actively counteract and are in the way of a desirable change or sluggishness which results in the change progressing slowly in relation to challenges and targets. Inadequate physical structures and technical systems, unclear or insufficient legislation, groups of actors with different targets and

agendas, cultures with approaches which change slowly, time-consuming planning and work forms are different types of barriers.

A report by Swedish “National Board of Housing, Building and Planning” which summarizes about - “*Barriers to sustainable urban development*” was conducted between the years 2008 – 2012. The report for Sustainable Cities had a broad representation of stakeholders, including representatives of trade and industry, academia, architects, planners, technology consultants and export promoters were included. One assignment of the Delegation was to examine following 15 possible systems and structures can comprise barriers to sustainable for urban development –

1. Visions of sustainability have not been integrated in different policy areas
2. Quality of life issues and the attractiveness of cities are given too little weight in the context of urbanization
3. Unsustainable lifestyles and behavior leads to high carbon dioxide emissions
4. Increased social and spatial division in cities
5. Insufficient dialogue with citizens about development of the city
6. Silo thinking approach impedes holistic solutions
7. Lack of coordination within and between different levels
8. One-sided and short term project focus prevents a long term approach
9. Lack of leadership capacity and know-how for complex, cross-sectoral processes
10. Lack of incentives for long term sustainable decisions
11. Structural lock-ins that are hard and costly
12. Insufficient state investments in socially important infrastructure linked to the cities’ development and needs
13. Insufficient support for research, learning and pilot projects
14. Lack of suitable business models
15. Conservative public procurement rules

Again O'Meara Sheehan et al., 2007, identify the following barriers to equitable cities:

1. Weak governance – the 3 Cs: corruption, clientalism, and cronyism.
2. Violence and stigma.
3. Anti-urban bias: cities as threat to nature.
4. Skewed international assistance.
5. Counterproductive incentives and fear of change “sticking with the way things have always been”.
6. Inadequate data for benchmarking.



In terms of the institutional mechanism constraints, (Wong, 2004) identify the following:

1. Limitations on the availability of finance and human resources.
2. Difficulty in mobilizing the relevant experts and stakeholders.
3. Lack of coordination between statistical agencies and the indicator focal point.
4. Low level of awareness among stakeholders.
5. Low level of commitment.
6. Competing work demands and government leadership transitions that results in discontinuities in the implementation in the indicator process.

(McLennan, 2004) forecasts that “a sustainable future is possible and achievable within this century if we continue to remove the barriers to sustainability and apply appropriate technologies and the knowledge we continue to acquire. That most of the barriers to a sustainable future are not technological but fear and ignorance based”. Alternatively, another study concerning sustainability strategies in North American cities highlight that “political fragmentation and a lack of clear policy guidelines from senior governments have combined with the consumer preferences of a largely affluent population to perpetuate discontinuous, low density sprawl as the predominant urban form” (Reese et al., 2005).

### **2.13. Integrated Urban Sustainability Assessment**

Systems with interacting drivers such as urban areas have emergent properties (unexpected outcomes and consequences) which are a challenge for policy makers – particularly those used to deal with linear systems over short timeframes. Clearly, it is meaningful to think about the many facets of urban sustainability in the same assessment framework and similarly, cities cannot be considered outside of a regional or global context. An integrated approach is therefore essential.

This is increasingly recognized; yet single sector analysis remains prevalent (Hunt and Watkiss, 2011). More developed studies consider a very limited range of interactions, or provide an ‘integrated’ summary statement. However, most recently a new generation of quantified integrated assessment methods is emerging. Taking an integrated assessment approach enables us to take a long term view and re-frame the questions that are asked so as to link global, regional and local scales and their interactions in the context of future urban planning. This provides a more complete picture about how issues may evolve than is possible when taking a more conventionally sectoral view of problems. Additionally, integrated approaches provide an opportunity to explore not just model results or analyses, but how these relate with people and their urban area.

However, this is not just limited to urban areas - as Kelly et al (2013) note “effective environmental management requires an understanding of the interactions between policy choices and complex social, economic, technical and environmental processes and related aims”. Many integrated assessments are associated with global scale analyses (e.g. Warren et al. 2008), but others are emerging to address a range of complex problems (e.g. Dawson et al. (2009) for coastal management).

It is commonly stated that one cannot manage what cannot be measured. Developing new means to measure urban performance is a crucial mechanism to assist cities in preserving the natural capital of Earth in the long term. So far, conventional measures of economic performance and urban quality of life have not been adequate to capture the dependencies between urban society, economic development, and the environment. Furthermore, “although cities affect and are affected by natural systems beyond their physical boundaries, the interdependence between urban systems and the regional and global environment is not reflected in urban decision-making. No signals on the state of natural resources and on the sustainability of their current uses are typically provided to urban communities” (Alberti, 1996).

Maclaren, 1996, define urban sustainability reporting as “a tool for informing local government, as well as individuals, businesses, and other organizations, about the progress that they are making towards achieving urban sustainability”. There are many urban sustainability assessments methods that can be identified throughout the literature. (Adinyira et al., 2007) concluded that there are following three groups of methods which can be grouped on the basis of their methodological foundations:

1. Environmental-in general methods
2. Life cycle assessment methods and
3. Sustainability indicator assessment methods

Once again Walton et al., 2005, stress that robust and comprehensive methodologies for the assessment of sustainability in the urban context are fundamental for various types of urban policy-makers such as planners, architects, engineers and managers.

#### **2.14. Urban Sustainability Indicators**

A report by European commission in 2015 described – “Urban sustainability indicators are tools that allow city planners, city managers and policymakers to gauge the socio-economic and environmental impact of, for example, current urban designs, infrastructures, policies, waste disposal systems, pollution and access to services by citizens. They allow for the

diagnosis of problems and pressures, and thus the identification of areas that would profit from being addressed through good governance and science-based responses. They also allow cities to monitor the success and impact of sustainability interventions”. Following are the different explanations by researchers about Urban Sustainability Indicators in different ways:

- Sustainability indicators tend to be quantitative and explicit, while in practice most people and institutions' use of SIs tend to be more qualitative and implicit (Bell & Morse, 2001; Bossel, 1999). Holden (2006) explained that both qualitative and quantitative indicator types can serve well in different political and research contexts. However, SIs are more distinguished from other indicators by their need to measure the ability of a system to adapt to change and continue to function over a long time span (Milman & Short, 2008).
- It is more representative of the needs and priorities of local users by focusing on the key issues that affect the pursuit of sustainability within that local region (United Nations Development Programme, 2006), and seen as important tools in the implementation of sustainable development (Bell & Morse, 2001).
- Mega and Pedersen (1998) argued that sustainable development cannot be achieved without local communities, governments and citizens rising to meet the major challenge of sustainability, which is described as a creative, local, balance-seeking process extending into all areas of local decision-making.
- Lynch et al. (2011) explained that indicators have become the most commonly accepted approach in assessing sustainable development as they bring different meaning to different levels. At the local level, the indicators are used mainly in the decision-making process of urban development for implementation by local authorities. Therefore, urban sustainability indicators play a crucial role in helping decision makers ensures the continuous success of their cities.
- However, “a review of current practice suggests that priority is often given to the measurability and policy relevance of these metrics. Their analytical validity – i.e. their ability to act as meaningful representations of the urban system and thus inform appropriate policy responses – is less certain” (Keirstead and Leach, 2008).
- (Curwell and Cooper, 1998) conclude that “this presents a considerable challenge, as the questions presented by the need to assess and create more sustainable buildings and cities require wider horizons, much greater resource efficiency and effective participation in decision making”.

Finally, “Indicators provide quantitative and qualitative information that help to determine urban development priorities” (Syrian, 2009). The results of their work confirmed that “there

is no tool currently capable of simultaneously covering all assessment criteria but demonstrated the need not for a new tool but for a framework that integrates those that already exist. Consequently, the consortium proposes the development of an integrated sustainability assessment toolkit (ISAT)". Following are the outlines of the different tools and methods used internationally to monitor sustainability as the Urban Sustainability Indicators:

1. *SEAs*: Strategic Environmental Assessments
2. *BREEAM*: Building Research Establishment Environmental Assessment Methods (BREEAM, 2014)
3. *LEED*: Green Buildings Council's Leadership in Energy and Environmental Design (USGBC, 2014)
4. *Green Building Challenge* (Canada, 1998-2007)
5. *Australian Building Greenhouse Rating Scheme*
6. NABERS: National Australian Building Environmental Rating System (NABERS, 2014)
7. *Green Star*: by Green Building Council of Australia (2003)
8. *SAP*: Standard Assessment Procedure in UK
9. *NatHERS* and *FirstRate*: in Australia
10. *EcoQuantum*: in Netherlands
11. *Green Guide to specifications*: in UK
12. *Envest* and *Ecopoints*: by Building Research Establishment in UK
13. *Estidama*: meaning "sustainability" in Arabic, by (Abu Dhabi Urban Planning Council, 2014)

#### 2.14.1. Comparative analysis of Asia's developing countries urban sustainability indicators

Urbanization and urban growth are phenomena of increasing concern to the world especially among developing countries. Their vast growth is living proof of their desire to catch up with the pace of developed countries. Unfortunately, these actions come with the price of negative effects on the environment, and even social aspects. This has forced governments in developing countries to take the issue of sustainability seriously and important steps have been taken to tackle the increasing sustainability issues. According to Ng and Hills (2003), while cities under study are being progressively integrated into the global economy, they remain diverse with regard to their ability to address issues of urban sustainability. Following defines the process - how the developing countries in Asia have taken matters into their own hands by developing their own sets of indicators.

Malaysia - There is a need for Malaysia to build national, state and local capacity to collect useful information on urban conditions and trends, to convert that information to knowledge through appropriate analytic techniques, and to apply that knowledge in formulating and modifying urban policies and programs (Muhammad, n.d., para. 1). These efforts are aligned with the Sixth Malaysia Plan which states efforts will be initiated to prepare indicators of sustainable development that will provide a yardstick for monitoring and evaluation progress. In the Seventh Malaysia Plan, it describes the measures taken to achieve sustainable development during earlier Malaysia Plan periods to enhance Malaysia's ability to develop sustainability.

The mandate to develop the urban sustainability indicators were given to the Ministry of Federal Department of Town and Country Planning, and the Ministry of Housing and Local Government where they created an approach known as Malaysia Urban Indicators Network (MURNInet) (Marzukhi, Omar, Oliver, Hamir, & Barghchi, 2011). Currently, MURNInet is recognised nationally as one of the most important programs ever undertaken in the country to measure urban sustainability. The program is able to track the sustainability status of an urban area, to see whether it has increased, reduced or remained stagnant. It is an approach to measure and assess the sustainability of a city by utilizing the use of indicators. All the selected dimensions, themes and indicators were agreed upon by various stakeholders at all levels including the Local Authorities, State Planning Department, Federal Agencies, and Ministries.

A set of the most compatible sustainable indicators has been identified to measure sustainable development at the local level by taking into consideration the country's present development policies. The MURNInets system at present has 36 indicators that are benchmarked against the present indicators used at all levels of planning in the country. The National Physical Plan (NPP), National Urbanisation Policies (NUP), Sustainability Assessment (SA) for Local Plans preparation, Rural Planning and indicators are being used at the international level, UN Conference on Sustainable Development (UNCSD), and in the United Kingdom.

China - China has been predicted to undergo a rapid increase of urbanization (United Nations, 2011), which no doubt will lead to sustainability issues if there is no immediate action to control the vast growth, specifically in the environmental aspects. According to Wang et al. (2010), one of China's busiest cities, Beijing, has suffered from a great shortage of land and water, indications of how these commodities have been wasted by blind urban development. This has created awareness in China on the importance of sustainability issues, resulting in serious measures being taken to improve their level of sustainability.

Indicators were selected based on those that are more readily available in developing economies and are more relevant. The Urban Sustainability Index (USI) is designed to measure the relative performance of Chinese cities over time across a common set of sustainability categories (Urban China Initiative, 2010). China has created an urban sustainability index to fill a gap in the current analysis of sustainable development. The indicators are able to assist China in analysing factors that are influencing the sustainability of urban development. This is done by identifying blockages that are restricting sustainable development for different types of cities, and finding the gap between Chinese cities and advanced cities in the developed world using international benchmarking and sharing experience from city case studies. There are 23 indicators for the index to quantify the level of sustainability. There are 17 indicators in USI 2011 and 34 indicators proposed in the China Urbanization Index 2013.

Taiwan - In response to the United Nations (UN) mandate, Taiwan has taken great strides in setting up an effective means of evaluating the sustainability of the island's national development. The National Council for Sustainable Development (NCSA) at the Executive Yuan has collaborated with a few ministries to set up an effective means to assess the Island's sustainability level. The ministries actively involved are the Ministry of Education, the Ministry of Health and Welfare, the Ministry of the Interior, the Ministry of Science and Technology, the Ministry of Transportation and Communications, and the Ministry of Economic Affairs, Council of Agriculture, and Environmental Protection. They collaborated in terms of data collection and data analysis. The NCSA has been extremely proactive towards the effort of developing national sustainable development indicators (SDIs) in Taiwan, and in putting into place the relevant mechanisms for recording, measuring, announcing and reviewing these indicators (National Council for Sustainable Development Network, 2013). The development of Taiwan's urban sustainability indicators is based on the United Nations Centre for Human Settlements (UNCHS) urban indicator program.

In its efforts to achieve this mandate, the Sustainable Vision Working Group (SVWG) under the Council for Economic Planning and Development (CEPD) at the Executive Yuan has invited more than 50 governmental departments and related agencies to establish the Working Group for Sustainable Development Indicators (WGSDI). Based on the results of an integrated research project initiated and sponsored by the National Science Council (NSC) of Taiwan in 2002, the WGSDI reviewed each of the 112 indicators initially selected by members of the 'Sustainable Taiwan Evaluation System' research group. After considering the feasibility and stability of data collection, the significance of correlation with public

policy, the possibility of international collaboration, and other factors, the WGSDI selected a set of 40 meaningful and representative indicators for assessing sustainable development and creating the system of Sustainable Development Indicators (SDI) for Taiwan.

### 2.15. Sustainability Pillars and their Interrelations

It is well known that economic, social, and environmental dimensions are considered the major pillars for sustainability (Abdul-Kadir and Jamaludin 2013; Zheng et al. 2014). The International Council of Research and Innovation in Building and Construction (CIB) developed a model that expresses sustainable features. Figure 2.4, illustrates how traditional

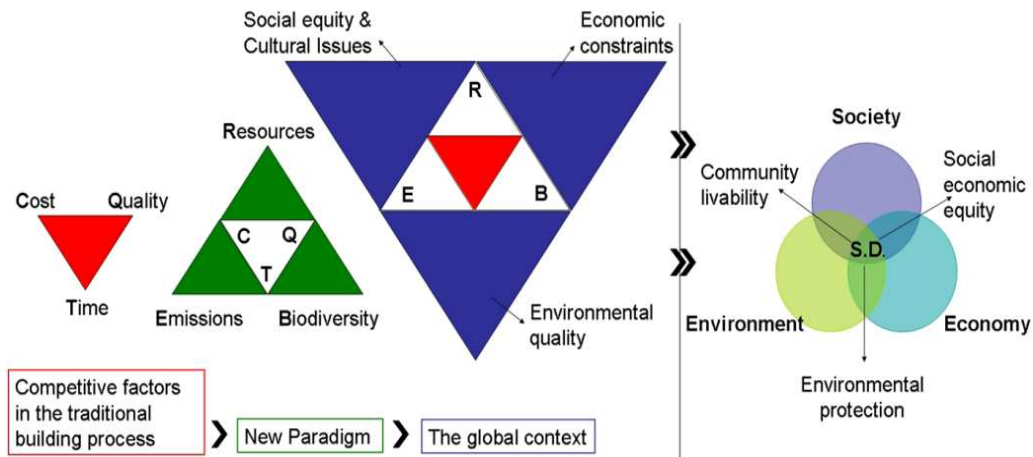


Fig. 2.4: Requirements and pillars for sustainability, from the micro level to global level (Cibworld 2014, modified by the authors)

engineering will be broadened when environmental demands are considered. The economic and socio cultural issues are presented in the global context, together with the environmental issues (Cibworld 2014). The comprehensive sustainable object, regardless of scale (city, neighbourhood, or even a dwelling), is able to maintain a balance between these pillars. In China for example, Shanghai is ranked the top economic city among all Chinese cities, but it still an unsustainable city due to imbalanced development in terms of socio-ecological factors (Jiang and Shen 2010; Pow and Neo 2013). Therefore, achieving sustainability requires work on the three dimensions of economy, environment, and society. In fact, societal aspects are often overlooked in the fast-paced life of contemporary society.

Again Jon Hawkes in 2001 added - a cultural analyst and one of Australia's leading commentators on cultural policy, wrote *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning*. Since the book's publication, there has been a growing interest in cultural sustainability and how it can be applied to emerging community and city planning models (Hawkes, 2006). *The Fourth Pillar of Sustainability* (Figure 2.5)

incorporates four interlinked dimensions: environmental responsibility, economic health, social equity, and cultural vitality. Hawkes

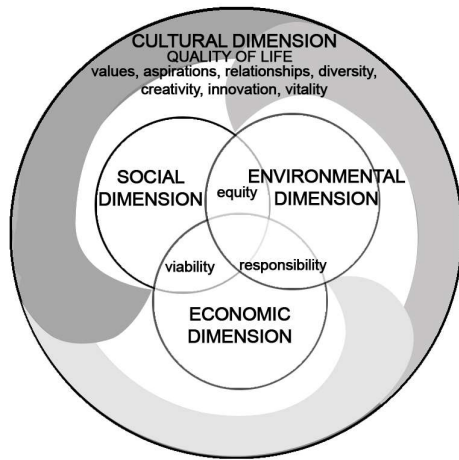


Figure 2.5: *The Fourth Pillar of Sustainability*, Source: Runnalls, 2006

addresses the need for a cultural perspective in public planning and policy by proposing practical measures for integration. In order for public planning to be more effective, Hawkes argues that government must develop a framework that evaluates the cultural impacts of environmental, economic, and social decisions and plans currently being implemented in cities and communities. Conceptually, there are multiple ways of viewing culture's relationship with

sustainability (Figure 2.6), and myths about culture continue to circulate that present obstacles to fully integrating culture into urban development planning.

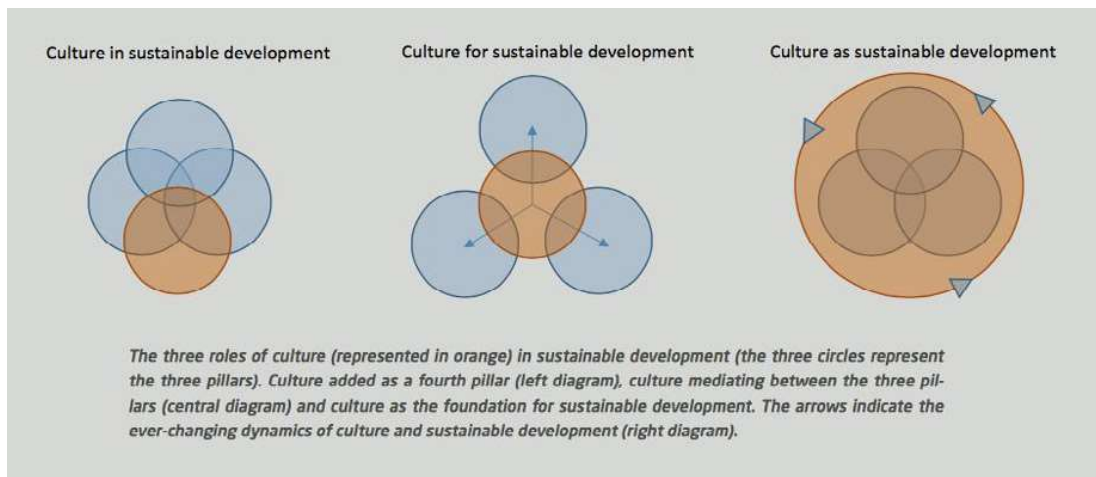


Figure 2.6: Culture and sustainable development: three models; Source: Dessein et al., 2015

There is general agreement that the different dimensions of sustainable development have not been equally prioritised by policy makers within the sustainability discourse (Drakakis Smith, 1995). As Figure 2.7, illustrates, environmental and economic issues dominated the sustainable development debate at its beginning whilst it is only in the late 1990s that social issues were taken into account within the sustainability agenda. This is mainly because sustainable development was born out of the synergy between the emerging environmental movement of the 1960s and the 'basic need' advocates of the 1970s, but also because assessing social aspects of development presents measurement problems that will be



discussed later. As a result, there is limited literature that focuses on social sustainability to the extent that a comprehensive study of this concept is still missing. Indeed, Littig and Griebler (2005) argue that approaches to the social sustainability concept have not been grounded on theory but rather on a practical understanding of plausibility and current political agendas. In addition, a recent study by the OECD (2001) points out that social sustainability is currently dealt with in connection with the social implication of environmental politics rather than as an equally constitutive component of sustainable development.

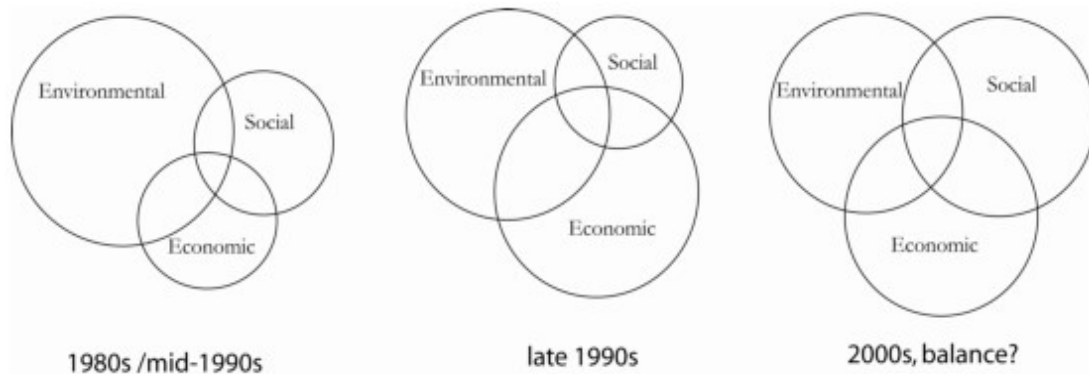


Figure 2.7: sustainable development debate in different period

In 2010, Marco Tavanti again showed about following six pillars of sustainability (figure 2.8) and explained the relation and integration of the sustainability frameworks (or pillars) have at the core of the sustainability debate since its original definition of "sustainable development"

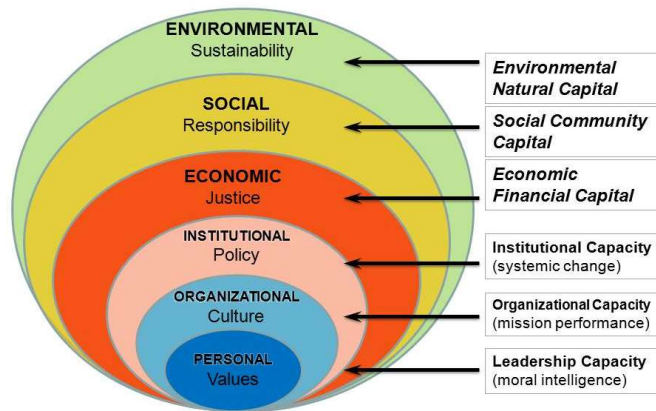


Figure 2.8: six pillars of sustainability by Marco Tavanti in the Brundtland Report "Our Common Future". A holistic definition of sustainability requires that we see the world as a system—a system that connects space, time, resources, economies, peoples, organizations, institutions and values. In general, the concepts and practices of sustainability are centered on the concerns and efforts to maintain and enhance environmental, social and economic resources in order to meet the needs of current and future generations. The United Nations

Commission on Sustainable Development (CSD) refers to sustainability as the mutual reinforcing of economic development, social development, and environmental protection integrated by the institutional frame. The UN Permanent Forum on Indigenous People (UNPFII) has emphasized the importance of cultural diversity and spiritual values as fundamental dimensions to the understanding and achievement of sustainability.

From the above, it is clear that there is a debate about the suitability of the common three dimensions of sustainability (economic, social and environmental).

## **2.16. Experiences and Understanding from Global Contexts**

Many cities around the world have developed sustainable urban development plans for leading their urbanization process towards a desired status of urban sustainability (Shen et al., 2011). The following section identifies various experiences and understanding learned from history, and current trends in European cities as well as from various cities from within the Asian countries.

### 2.16.1. Experiences and Understanding from the past

Perhaps the most notable statement regarding this topic is available in (Frey and Yaneske, 2007) who conclude with the following experiences and understanding learned from settlements in history:

1. The current reactionary approach to achieve sustainability needs to be replaced by the systematic appraisal of the current state of play and what needs to be done to re-establish a symbiotic city-hinterland relationship.
2. In cases where there is certainty that human activity will cause damage to the environment, the reactionary approach needs to be complemented by precautionary measures to prevent damage occurring in the first place.
3. For cases where environmental change is unforeseen or unforeseeable, resources need to have been put aside as insurance to fund future unknown remediation of damage that was not prevented because it was not foreseen.

### 2.16.2. Experiences and Understanding from the European Cities

In 2004 Beatley identified the following experiences and understanding to be learned from European cities:

1. Demonstrate the critical role that municipalities can and must play in addressing serious global environmental problems.
2. Innovation in the urban environment offers tremendous potential for dramatically reducing our ecological impacts.

3. Initiatives and strategies should serve to enhance livability and quality of life.
4. It is possible to apply virtually every green or ecological strategy even in highly urban or compact settings.
5. Process: Understanding the great power of partnership and collaboration between different parties with an interest in sustainability is a key part of the successful urban sustainability process.
6. Need to recognize the differences in governmental structures.
7. Political, social and cultural conditions might favor exemplary green ideas.
8. Need to recognize regionally unique cultural values and differences that have significant planning and land use shaping implications.
9. Sustainability must go hand in hand with humanizing cities and strengthening their livability and sociability.

#### 2.16.3. Experiences and Understanding from Historical Asian cities

Since globalization is a recent phenomenon, the paths of urban development have been varied in the past societies. As a result, history offers a variety of towns developed in response to differing contexts and challenges. Some such contexts, such as many Asian cities in history, even though they are termed 'historical' also because they lost relevance in course of past time and did not attain fully long term sustainability, may be profitably reviewed for experimentations and successful approaches towards sustainability. These may provide important experiences for the present in outlining paths to urban sustainability and reinforcing moves toward it. We may also try to understand why and how their efforts to extend it further into their future failed so that we do not repeat the same mistakes. In the following paragraphs Kanazawa, Japan. (Oct. 2000); explained - how Asian cities experienced urban sustainability from the history -

#### Limiting Urban Sustainability and Culture

As it demands application of deontological logic in planning and seeks actions in economic, social and cultural planes of the environment, the extent to which we may aim and attain urban sustainability depends as much and even more on social agreement, will and foresight of the present than on the possibilities of technical know-how. In the history of Asian cities, we can relate the level of sustainability attained by the technical know-how to their ways of living or cultural practices and their ability in causing appropriate individual and community behaviour for economic, ecological and social balance over long period of time.

### *The Target of Future Generation*

In history of Asian social development, we find other instances of application of concepts of ethics much like dharma, karma and rebirth found in Hindu societies, such as spiritual attainment through material frugality in Buddhism, 'virtuous behaviour and observance of social order' as a life-principle in Confucianism, etc., as universal religious / social packages with a view of obtaining sustainable way of urban living. For our time too, we will have to discover some such principals/ processes for attaining sustainability and create motives for implementation in the name of well-being of humanity and human race. To switch to such processes from our modern state of fixation with the present is not going to be easy and may demand as epochal an input as the above historical examples too.

### *Setting up the new motives and evolving ethical behaviour: ritually mediated plan*

Almost all historical Asian cities from India to Indonesia and Japan have used doctrinal development and planning approaches based on religious thoughts. It may come as a surprise to observe that the approach and the planning doctrine, which not only remained in use for than 1500 years in the vastly dispersed Asian societies but also developed cities that sustained over several centuries, were remarkably similar in both the religions of Hinduism and Buddhism. The cities, like other man made architectural edifices, were planned and patterned after the perceived image of the cosmos and their use and performance was mediated through rituals. Such a patterning sought to provide a physical framework and conceptual ordering of land use and activity, capable of accommodating growth but remaining complete and balanced at all times as a mental construct. The operation of the city and its activities were mediated by rituals, which, by virtue of their association with the religious faith of the society, were able to demand exacting performance and social behaviour from the citizen and the social groups over long period of time.

### *Bounded but Interacting Urban and Rural systems*

We have discussed above that sustainability of the current urban systems can be improved through creating and nurturing interaction between city and its hinterland. But not only the hinterland of the present city is extensive and diffuse, even doubling up in the role for many cities, the city itself is going through a similarly diffuse suburbanization and expanding out to join up with others forming conglomerations and mega-cities. Historical Asian cities were always conceived as bounded entities because the image of the cosmos after which the cities were patterned had a set of perimeter gods and goddesses, whose location spatially defined a physical boundary. Since it would be taboo for the residents to build outside of it, a town's

general tendency to expand and break its boundary was stemmed as its religious bearing acted as a deterrent.

#### *Managing Dependencies*

Historical Asian cities are not only ritually mediated in planning and its growth, they also are famed for many festivals that seemingly enact the ritual play of life of gods that are interspersed in the city in the pattern of the cosmos. However, if we look deeper and analyse the component activities, we find that several festivals are played out in annual/seasonal or other cycles, not just inside the town but in a wider region including the town and villages in its hinterland. In the guise of religious activities, these festivals incorporate citizen participated actions more suited at preserving and maintaining the resource and ecology of the region. The festive region shows more as an area with a dispersal of ecological / economic resources rather than a collection of religious spots. These festivals appear designed as a locus of managing and sustaining urban rural dependencies through citizen participation.

#### *Land Donated in Perpetuity / Community ownership*

An effective tool of building sustainability in the urban social environment is community participation. If activities of importance and meaning to the community as a whole, such as creation, maintenance and operation of elements and processes of providing public good, could be managed by the citizen and the user, it would not only bring them into direct control of their services environment but it will also lead to system of management based on decentralization and spatially-identifying community groups. It may even lead to incremental service systems, which may be more sustainable than large systems managed by large institutions. Although in Asian societies, the property that was held in trust was often kept in the form of land. Although this was done primarily because land was the most precious and permanent of properties in agricultural economy, it also helped develop a healthy association of land and community. At the same time, it brought participation of community in the management of urban services.

#### *Social cohesion in Multicultural society and the town*

Globalization of communication and information in recent decades has also seen further erosion of community behaviour with increasing individual communication. Therefore, unless heterogeneity and loss of community spirit is moderated, the urban social environment will remain unsustainable. Andreas van Agt has sketched various possible models for sustainability of cultural diversity within multi-cultural societies expounding on the gradations of cultural tolerances (Michael Walker): segregation, melting pot, and rainbow

and mosaic scenario. The patterns of historical towns in Asian cities suggest that through creation of ‘mosaic scenario’, it may be possible to sustain a multi-cultural or heterogeneous urban society and social interactions could be sought within as well as between groups through designated spatial elements allowing gathering of people.

### **2.17. Strategies and Implementation of Urban Sustainability**

D. MÜLLER-EIE in 2017, explained that implementing urban sustainability strategies has proven to be difficult. Through a conceptual model, four types of opposing and sometimes contradictory relationships are identified:

1. Between global aims and local implementation
2. Between institutional pressure and the behavior of individuals
3. Between strategic measures and personal consequences and
4. Between attitudes and behavior.

UN-HABITAT in 2007, the framework advocates a four-phase approach to developing strategic urban development plans and is inclusive and participatory in nature. The four phases of urban strategic planning include:

1. Urban Situation Analysis
2. Sustainable Urban Development Planning
3. Sustainable Action Planning and
4. Implementation and Management of Projects.

In the context of planning and design strategies for sustainability and profit, Pitts in 2004, outline that strategic planning encompasses:

1. Development of strategies
2. Use of benchmarking and target setting
3. Analysis of trends and performances
4. Setting of goals for achievement

When it comes to the strategy tools, (Kaufmann-Hayoz and Gutscher, 2001) promote the use of five basic types of strategies instruments focusing on the ecological dimension of sustainability which aims to achieve environmentally responsible action:

1. Command and control instruments,
2. Economic instruments,
3. Service and infrastructure instruments,
4. Collaborative agreements,
5. Communication and diffusion instruments.

They suggest that these are of a general character that would allow for the inclusion of specific groups of instruments for promotion of the other dimensions of sustainability: economic and social sustainability.

On the other hand, Allen and Browne in 2010, identify that policies and strategies to meet some basic human objectives are as difficult to identify as the objectives themselves. They suggest that “such policies must weight trade-offs between goals and values within changing socio-economic conditions”. Barr in 2003 argues that “policymakers are becoming increasingly interested in the means by which individuals can be encouraged to engage in environmental actions around the home”. Strategies may also address the factors associated within a particular scope and try to take account of these factors. For example, (Barr, 2003) conducted an empirical research and a large questionnaire survey to argue that environmental action is open to a range of influences, focusing especially on environmental values, situational characteristics and psychological variables.

In terms of implementation, the following are six successful factors for implementing sustainability that have been identified by (Lindberg and Connely, 2007): vision, commitment, practicality, capacity building, effective incentives and disincentives, and communication.

Again Frey and Yaneske in 2007 have come up with the following conclusion regarding the implementation of any sustainable initiative:

1. There is a reasonably clear idea of the complexity of social, economic and environmental issues of sustainability and an understanding that their interdependencies and interactions have to be taken into account.
2. However, when it comes to the translation of policy statements into sustainable development action plans, then the comprehensive view of social, economic and environmental indicators is lost as nations focus on the parameters they consider essential for their development and ignore others.

They identify a number of factors that are responsible for this:

1. The lack of moral obligation to achieving social equity.
2. Invisibility of the environmental impact of resource consumption in developed nations (consumers not concerned about the impact of their consumption level).
3. The nature of current conventional economics.
4. Lack of knowledge of environmental and ecological systems.

Although different to this context, we can consider the silent killers of strategy implementation and learning (Eisenstat and Beer, 2000) to understand more about shortcomings in the implementation process:

1. Top-down or laissez-faire senior management style.
2. Unclear strategy and conflicting priorities.
3. An ineffective senior management team.
4. Poor vertical communication.
5. Poor coordination across functions, businesses or borders.
6. Inadequate down-the-line leadership skills and development.

### **2.18. Critical Expression and Final Explanation**

This chapter presents a wider perspective of urban design and sustainability within the global perspective with the aim to make use of this information in this proposed study. In conclusion the following nine expressions are the researcher's thought about the presented literature and where he identifies its impact or influence on this proposed study.

1. It is certainly clear that sustainability, as a term, is widely used for different means and interpretations. The definition of sustainability is a challenge for more mature research streams and for the wider urban development experts and specialists. Economists have begun to address the question first about "*economic growth caused by environmental destabilization and pollution*" posed by Malthus whether exponential growth in population and in resource use but only linear growth in technology and in subsistence is bound to lead to a social catastrophe - in a word, whether the contemporary course of economic development is 'sustainable'.

2. The advent of 'sustainability' in development science has led planners to apply evolving notions of 'sustainability' to the contemporary debate over how cities and regions should be revitalized, redeveloped, and reformed. 'Sustainability' is regarded alternatively as either the proper means or the proper end of urban development.

3. Urbanism and globalization driven growth has not translated into a single path of development, rather localities have demonstrated contextually specific paths. Sustainable urbanism has several distinctive periods and concepts which have developed over time within present sustainable global context. Although Sustainable Urbanism is a recent term prevalent in urban design and planning. Within the contemporary metropolitan environment, it is rooted in study of sustainability and urban design in a rapidly global urbanizing world.

4. Among the visions of urban sustainability there are at least four competing



perspectives including: (1) “free market;” (2) “re-designed;” (3) “self-reliant;” and, (4) “fair shares” cities models which attempt to include global and local forces into a model for the future. Within global context the idea of urban sustainability makes clear both in terms of equity of distribution and safety of use. Although main challenge and barrier for urban sustainability is the vision to quality of life issues and the attractiveness of cities.

5. In European regions cities always play a vital role for the development. Therefore, where cities and neighborhoods are strong, the regions around them show stronger growth and are more competitive.

6. Urban sustainability indicators play a crucial role in helping decision makers ensures the continuous success of their cities. Therefore, developing new means to measure urban performance is a crucial mechanism to assist cities in each planning and development process. Therefore, an integrated approach and indicator for assessments to sustainable urban development is very significance.

7. The idea of sustainability has become included with urban design. Nowadays accomplishing sustainability in urban design will provide environmental quality, economic and social benefits.

8. One of the most important defeats for sustainable development during this century is dealing with the unrecorded challenges and barriers facing cities. Especially demographic, environmental, economic and social transitions will move cities to new models of development that are fundamentally different from their development during the last 60 years. Rapid urban growth, environmental pressures and economic decline will have most significant challenges and barriers for recent sustainable urban development.

9. Sustainability has different dimensions and focus for various regions and within various research disciplines. For instance, the dimensions of sustainability in the urban form and city scale are somewhat different from the built environment and building scale. It is also different from the environmental dimension. The European focus on sustainability, closely knit around climate change and renewable energy, is different from the developing countries focus, mainly on development, growth and provision of basic human needs. It will also be visible in later stages how this compares with the sustainability focus in developing country like Bangladesh, and the dimensions that are contained within its overall urban or development strategy.

Lastly this may be attributed to the fact that, in many occasions, sustainability initiatives were carried out through projects, treaties or regulations, as clearly articulated in the previous sections. It is rare to find a national strategy for sustainability or an assessment of its

implementation. In addition, it is hard to identify how regional differences impact sustainability definition, dimensions or implementation. Moreover, there is not much research carried out to identify the drivers for sustainability for particular regions or local environments, or what may be the barriers in its execution.

### **2.19. Gap in Understanding**

In view of the above literature review on the general topics of sustainability, urbanism and urban sustainability, the following key gaps in knowledge emerge:

1. *The gap of definition:* Still as a developing nation the urban sustainable planning and process is very innovative. Therefore, one cannot assume that what will be the planning version or interpretation of sustainability or urban sustainability is aligned to the global definition, which by itself is not concrete.
2. *The gap of objectives and aims:* Due to several arguments of defining urban sustainable planning and process and again urban problems and processes are not same in each context. Therefore, it is always difficult to set a significant objectives or aims as a research goal.
3. *The gap of methodology:* if we were successful in defining what urban sustainable planning and process is, we are more likely to face the problem of identifying how we can achieve it. Moreover, which particular method obtains the results that are sought?
4. *The gap of indicators, assessments and dimensions:* It is clear from the above literature review that there is a wide debate on what sustainability constitutes, and that it definitely is not limited within the traditional triangular approach of society, economy and environment. Moreover, there does seem to be a disconnection between indicators, assessments and dimensions of sustainability and the indicators, assessments and dimensions for urban sustainability.
5. *The gap in decision making:* The above literature review clearly stimulates the essence of the political will and policy making in addressing various aspects of sustainability, and this has also been viewed when reflecting on experiences from Europe. For example, gap within decision-making, financing, political will and policy will not find a successful sustainable urban project.

## **2.20. Chapter Summary**

This chapter includes the literature review around the topics of sustainability, urbanism, urban design and urban sustainability within various global perspectives. It provides a review on the origins of these topics, along with various definitions of each that are commonly cited in the literature. It focuses specifically on urban sustainability and the development of the city, along with review of common challenges, barriers, indicators, assessments, strategies and implementations. The discussion also focuses on experiences, understanding and gap learned from history, European cities and Asian cities which are the main benefits of this chapter. This will be the focus of this research and will drive the selection of the research aims, objectives and questions that will be identified in next chapter.

## **CHAPTER 03: INTERNATIONAL VIEW OF URBAN REVITALIZATION AND URBAN MARKET**

### **3.1. Introduction**

Reviewing of the literature dealing with different sustainable urban revitalization approaches applied to a city center, urban quarters and urban market (bazaar) of historical importance has been of immense value. The review pertains to the relevant research undertaken in past by international institutions as well as individual professionals. The present review has been undertaken to analyse the natural sequence of revitalization approaches applied to bazaar areas or assembly in the chronological order. It is the general observation that, to some extent there are similarities in the nature of the problems and challenges of the grown-up urban areas in a city, irrespective of the fact whether it is in developed countries or in developing countries. Though all the literature reviewed relates to foreign countries, yet it is a very important source to learn not only from successes (or partial successes) but also from failures of different approaches. Literature review becomes an important aspect in this research because most of the research works in the area of town planning and urban design depends on acquired knowledge and experience gained over several generations. Therefore, documented information, in any form of literature, becomes an important source of reference data.

### **3.2. Theories of Urban Revitalization**

One of the first problems encountered by those who work in urban revitalization is the lack of agreement on the right concepts, their definitions and the absence of a single accepted theory (Roberts, 2000, p. 20). The Handbook on Urban Regeneration, edited by Peter Roberts & Hugh Sykes (2000), identifies the evolution of urban regeneration as a constant movement from reconstruction in the 1950s to revitalization in the 1960s, renewal in the 1970s, redevelopment in the 1980s and regeneration in the 1990s. From an academic, as well as a practitioner point of view, the word 'regeneration' is still used very little in the US or even in Portugal, where revitalization in the former and renovation in the latter still dominate the debates at the beginning of the new millennium. This section chooses to compromise on the use of the term 'urban revitalization', knowing that it broadly refers to what Roberts (2000) calls "urban regeneration".

*a comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change. (p. 17).*

The lack of a single accepted theory of urban revitalization leads us to review several ancillary theories of urban change (Vazquez et al., 2001).

Following two urban revitalization theories are explained and argued by the different authors: *The neighborhood life-cycle theory* - Its beginnings go back to the Chicago School of Sociology in the 1920s. This theory draws analogies to natural systems and describes neighborhood change as a life cycle ending within evitable decline. In the work of the Real Estate Research Corporation (1975), the stages of neighborhood change ranged from healthy to incipient decline, clearly declining, accelerating decline and finally abandonment. In orthodox interpretations of this theory, urban revitalization policies at the local and national levels would attempt to invert these stages through different types of interventions in order to ultimately increase property values and revitalize the neighborhood. These types of interventions have been aggregated by Grigsby et al. (1987, p. 64) into four strategies that could be pursued singly or combined:

1. market stabilization;
2. dispersal of low-income populations;
3. containment/revitalization;
4. Reduction in the size of low-income populations, i.e. reduction of poverty.

More recently, Metzger (2000) argued that the US Department of Housing and Urban Development and local planners used the life-cycle theory to “encourage the deliberate dispersal of low income and African-American urban neighbourhoods, followed by the eventual reuse of abandoned areas” (p. 7). This argument was vehemently refuted by Downs (2000) and others, based on the rationale that “the demographic, social, and economic forces that existed in the post-war years caused some inner-city neighbourhoods to decline” (p. 41).

*Regime develops an accompanying mode of regulation* - A second theory is put forward by the regulatory school based on the concept of successive regimes of accumulation in which “each regime develops an accompanying mode of regulation” (Knox, 1995, p. 104). Regimes, in the words of Stone (1989), consist of “informal arrangements by which public bodies and private interests function together to make and carry out governing decisions” (p. 179).

This theory takes into account dominant ideologies, agenda setting, access networks and issues of power relations (Rossi, 2004). Finally, urban revitalization is also concerned with institutional and organizational dynamics of the management of urban change. So, institutional

theory focuses on the more resilient aspects of social structure. Roberts (2000), in what is widely accepted as the first single source of analysis on urban regeneration theory and practice, argues that urban regeneration as a distinct activity is rooted in practice rather than theory. He then goes on to synthesize the main elements of urban regeneration:

1. An interventionist activity
2. An activity which straddles the public, private and community sectors,
3. An activity which is likely to experience considerable changes in its institutional structures overtime,
4. A means of mobilizing collective efforts,
5. A means of determining policies and actions designed to improve the condition of urban areas. (Roberts, 2000, p. 22)

However, following two attempts for urban revitalization are described and argued by the different authors:

#### *City Centre Liveability as the End-goal*

City centers are distinctive places in cities (Gruen, 1964; Whyte, 1988; Gratz & Mintz, 1998; Rypkema, 2003). Normally they coincide with historic districts, constitute the centre of communities and are forums for civic life, but their main characteristic is that they are multifunctional places. Usually, they are the shopping districts and the CBDs par excellence of cities. The typical land uses include housing above stores, public and private services and entertainment facilities. Different stores and architectural styles add variety and interest to the centre. The city centre also includes squares and public spaces, normally with monuments and statues—symbols of local and national culture. However, it is the multiple publics who walk the streets of the city centre that create an urban life so unique to the city's atmosphere. It is the organic mix of activities together with an intense daily use that makes the city centre a successful place.

According to Montgomery (1998) a successful place must combine quality in three essential elements:

1. Physical space
2. The sensory experience
3. Activity

The physical space refers to townscape, built form, permeability, landscape and urban furniture. The sensory experience refers to legibility, cultural associations, perceived functions and attractions, and qualitative assessments. The activity refers to land use, pedestrian flow behaviour, patterns, noise and smell and vehicle flow. Others identify access, comfort and

image, uses and activities, and sociability as the main characteristics of great public spaces (PPS, 2000). Successful places are often described as liveable places, even though ‘liveability’ is a difficult term to define. At best, a liveable place is one with which we can identify when we see and experience it. Liveability has been expressed as the result of two main variables: vitality and viability (Ravenscroft, 2000).

However, due to a variety of reasons many city centres have lost their liveability and have become mono-functional places. Taken to the extreme, this can be portrayed as a spiral of decline or obsolescence that can be characterized as the ‘urban doughnut effect’—a hole (lack of activity) in the city centre surrounded by a ring of suburban development (DoE, 1994; Vazquez et al., 2000). In this sense, obsolescence is the ‘reduction in the useful life of a capital good’ and can include physical, functional, image, legal, locational, financial and economic obsolescence (Tiesdell et al., 1996). The combination of many of these types of obsolescence can still be well observed in many US cities. In fact, Porter (1995, p. 55) stated that “the economic distress of America’s inner cities is one of the most pressing issues facing the nation”. In most European cities these spirals of decline and centrifugal forces are not so intense due to the fact that they have a lot more controls and regulations on urban development, but the possibility that it happens in southern Europe is a reminder to act accordingly.

#### *Place-making as the Guiding Framework*

City centre revitalization is an attempt to bring liveability back to central areas. This includes the upgrade of the economic, social, environmental and physical well-being of the community (Pijawka et al., 1998; Roberts, 2000).

- In Europe, city centre revitalization appears connected to a myriad of different types of interventions, such as physical operations, brownfield and flagship redevelopment, infill development, gentrification, public space improvements and town centre management schemes.

- In the US there is a tendency to devise and implement small-scale projects, known as ‘urban husbandry’, in opposition to large-scale urban redevelopment projects associated with the urban renewal period (Gratz & Mintz, 1998).

One of the questions associated with central city revitalization is the definition of city centre boundaries. These can be defined by a change in physical character, by a physical obstacle or by an administrative limit. In a first phase public powers may conduct physical revitalization that results in an attractive physical realm. Following are the explanations and arguments by the different authors:

- Tiesdell et al., (1996) argue- In the longer term, a deeper economic revitalization is required

because ultimately it is the private realm—the activities within the buildings—that pays for the maintenance of the public realm. A merely physical revitalization may be unsustainable and short lived. (p. 18).

- Porter (1995, 1997) claims for a new socio-economic model to capitalize on the competitive advantage of the inner city. Although functional and physical interventions are closer to a place-making philosophy (Arefi & Triantafilou, 2005), the organization in charge of the revitalization is critical to the implementation efforts.
- Tiesdell et al., 1996 again argued: Functional interventions in city centre revitalization include the upgrade of housing, retail, services and leisure functions. Intervention in these functions is usually difficult because it involves private space and different property owners, sometimes with conflicting interests. However, functional interventions are required if place livability is to be restored
- Appleyard, 1981; Carr et al., 1992; Madanipour, 1996; Banerjee, 2001) once more explained that physical interventions are very common in city centre revitalizations. The objectives of physical interventions are to increase pedestrian mobility, strengthen local identities and increase the comfort and aesthetics of public spaces, which can make people move around easier and stay longer in the city centre.
- Inam (2002) when he argued that city centre regeneration operations in the US and the UK have been criticized for putting too much emphasis on the physical aspects of regeneration. This was echoed by current urban design projects repeat familiar deficiencies of the past, i.e. “a focus on the superficial aesthetics and the picturesque aspects of cities (instead of what role aesthetics play in community development processes” (p. 37).

There is an overall consensus that physical interventions based on urban design projects carry added value to cities and their different stakeholders (Madanipour, 2006). Carmona et al., (2002) identified three dimensions of the value of urban design projects:

1. the pure economic performance of investments (rental values, vacancy rates, investment availability);
2. the wider economic impact of urban design (local property values, place marketing, potential for area revitalization);
3. The social and environmental benefits associated with urban design, such as: identity, civic pride, inclusiveness, connectivity, safety and amenities, etc.

Finally, in order to implement functional and physical interventions, a growing number of cities are devising new organizational typologies. These include separate public offices, municipal corporations and public-private entities. The main objective of these entities is to create



organizational capacity capable of developing and implementing city centre revitalization operations (DoE, 1994). Many European cities are using the philosophy of the private shopping centre to implement similar management strategies in city centres. This includes better accessibility to the centre, longer opening hours, more diversity and a critical mass of complementary uses, better amenities, increased comfort levels and the management of common services, e.g. cleaning, security, marketing, and resourcing (Forsyth, 1997). In the UK these initiatives are known as town centre management schemes (DoE, 1997; Warnaby et al., 1998), and in the USA, similar initiatives are designated as centralized retail management strategies, business improvement districts and main street programmes (Mitchell, 2001; Robertson, 2004; Hoyt, 2005).

### **3.3. The Meaning and Aim of Urban Revitalization Processes**

At the end of the twentieth century, in the United States and also in Europe, urban regeneration became more important than before. Nowadays, the term of revitalization is used interchangeably with urban rehabilitation and urban renewal. The meaning of all the mentioned terms is a broad subject because it encompasses different aspects of intervention. According to Britannica dictionary, “urban renewal” contains different aspects of action namely physical, social, economic, political, cultural, health-related, and environmental to redress a complex of urban problems including unsanitary, deficient, or obsolete housing, inadequate transportation, sanitation and other services and facilities, haphazard land use, traffic congestion and others (Britannica, 1994: 201).

The meaning of revitalization/regeneration is very often treated as “rehabilitation of existing facilities, historic preservation and reuse of obsolete structures” (Encyclopedia Britannica Ultimate Reference Suite, 2012). Revitalization actions have been taken in many different places, cities in the world and have considered various assumptions (Lichner, Breznoscak, 2007: 22; Casanovas, 2007: 73; Rui, 2003: 2; Narring, 2008: 197–213). But in every renewal action which has been taken so far, there are aspects which are common.

In the EU policy during 2014–2020, European structural and investment funds deal with the subject matter of the revitalization by underlining the necessity of taking action to improve the urban environment, to revitalise cities, regenerate and decontaminate brownfield sites (including conversion areas), reduce air pollution and promote noise-reduction measures (European Structural and Investment Funds 2014–2020: Official Texts and Commentaries, 2015: 208). Moreover, to answer the problems appearing in cities, international documents like, for example, Leipzig Charter on Sustainable European Cities, pay attention to the

necessity of modernization of networks of the infrastructure in cities, taking action in problem solving of the poorest districts in the context of the entire city (high unemployment, social exclusion and so on) (Leipzi,2007: 5–9).

One of the ways to rehabilitate contemporary cities is to launch revitalization actions realized by regional programmes. During the programming period 2007–2013, every voivodship in Poland implemented their own Regional Operational Programme (ROP). It seems to be important to recognise how the problematic areas were identified in the Regional Operational Programme of Opole Voivodship (ROP OV) and what features of this area were to qualify it for revitalization. The document treats problematic areas as a sign of disproportions in development and underlines the need to identify and limit them to pursue an effective development policy [Poland-Regional..., 2008: 98]. Moreover, it is important to prevent the marginalization process, taking into consideration social, economic and spatial aspects of it. Revitalization measures should target ensuring sustainable development. The implemented processes should result in making degraded areas able to function efficiently again by changing the structure of the areas and giving them new functions. [Poland-Operational..., 2008: 3]. The priority Axis 6 “Mobilisation of municipal and degraded areas” qualified the areas of intervention. Axis 6 contained three categories of intervention:

1. Revitalization of industrial areas and reclamation of contaminated land,
2. Integrated projects for revitalization of urban and rural areas,
3. Housing infrastructure.

The framework of Category 2 defined its priority and the respective aim was assigned two actions which were directly connected with revitalization. They were as follows:

- Revitalization of urban areas,
- Management of degraded areas (Szczegółowy opis..., 2015: 139–155).

The main objective of the priority axis is to give new social and economic functions to municipal and degraded areas. The above-mentioned space has to be revitalized in order to increase its territorial and economic attractiveness, as well as to create conditions for a rise in employment in these areas. Moreover, the aim of the measures within the Axis was mainly focused on revitalization of urban areas [Poland-Regional..., 2008:155]. The main aim of taking actions was to “contribute to the development of towns as drivers of economic growth and of neighbouring areas to bolster sustainable development of the whole Opole Voivodship.” Of course, it should result in every aspect of development and embrace also economics by supporting growth and new jobs.

### **3.4. First Impact with the Terminology Used of “Revitalization” in Globally**

Urban Revitalization is highly interdisciplinary; it evolves with time and therefore requires a specific method of intervention. Unlike urban Regeneration and urban Renewal especially, urban Revitalization is not of a “long-lasting” type (Roberts 2000): often, the efficiency of the intervention is deferred to the successful integration of diverse organizations (nonprofit, private and public), which are called upon to operate in a convergent way (Jacobs 2000; Evers 2008). In the 1980s, in the “mature economy” featured in the United States, urban Revitalization was dominated by physical Renewal and therefore by Renewal (Roberts 2000; Couch 1990). Relatively, much was written on urban Revitalization in the 1970s and 1980s, even if the term goes back to one a decade earlier (Fessler Vaz and Berenstein Jacques 2006; Shutt2000). The terms used for urban representation include some contradictions, the most significant of which refer to:

- The evolution of the terms themselves over time, which causes them to mean different things.
- The confused use of the terms occasionally due to some standard theories.

#### 3.4.1. Revitalization within different cities

There is a substantial difference between European and North American cities and the applied terms themselves sometimes result in different connotations and evolutions which are explained in the following –

- In international literature, urban Revitalization somehow overlaps with urban Regeneration and there is no strong distinction between the two terms, if only on the side of “involvement and participation” which are unavoidable aspects of urban Regeneration.
- Based on a debate on urban Revitalization in Great Britain and the United States (Parkinson and Judd 1998), Revitalization has been connected with the welfare state concerning the urban area, i.e., with education, housing, health and general welfare programs.
- The large difference between American and English cities lies within both welfare and the fiscal and financial autonomy of the city. In the absence of welfare and Revitalization programs in the most prosperous American cities, they have extreme levels of wealth and poverty.

#### 3.4.2. Revitalization within the strategic plans

Globalization is a new phenomenon of standardization. The competitive advantage among global cities has been introduced and has accelerated the standardization of concepts and application of urban representations. It could be interesting to submit the contents of the revitalization, as defined in the strategic plans, to better understand the specificity of the term.

- The term Revitalization is used in certain circumstances as contents of strategic plans and refers to the identification of often limited poor/weak places which need to be revitalized.

- It does not necessarily refer to the outskirts; in regard to Glasgow for example, it refers to prevention and restorative strategies for the urban economy. The peak of strategy was reached in 1990 when Glasgow became the European capital of culture. The event attracted nine million visitors to the city and made an important revitalization of the city possible through interventions on historical building facades, which contributed at making the city center a real shop window for the entire urban area.

- In Wien, the main objective of this strategic plan is the revitalization of the cities' commercial streets by maintaining a polycentric commercial structure. In Wien, Within the Local Administration, different Departments and Offices of Vienna's municipality were involved in implementing the revitalization project of the commercial roads: infrastructures and urban renewal (general coordination); city planning (dealing with the strategic planning of the urban development projects); public works and transport (for the economic planning); communication and press (information and marketing); Urban planning and development.

- While all this occurred, in Italy, the model of local government was at the top of its functional and bureaucratic organization. The Italian local authorities were organized with tasks and duties that were in total and unequivocal opposition to the necessary "interdisciplinary" approach required by Revitalization.

#### 3.4.3. Revitalization within Urban I" and Urban II

An important contribution to the use of the term comes from the European Union initiative "Urban": first edition "Urban I" (1994–1999) and, more importantly, second edition Urban II (2000–2006). The second edition has been given the definition of "the economic and social revitalization of the city to promote the sustainable urban development." The first edition referred to urban decay, whilst the second edition was more concerned with the "Revitalization" issue. A later analysis on the 165 projects, involving nearly as many European cities belonging to 15 countries, points out that the first Urban edition mainly focused on the recovery of decayed buildings, works, infrastructures and monuments, whereas their use as function integrated containers for service supply was considered a minor aspect.

- In Urban I, the interventions on the constructions had a particular importance. Specific objectives were often connected with the interventions (like a container with contents) on an interdisciplinary basis: the recovery of the historical center for repopulation; or the recovery of a building for a social use and so on.

Based also on the concept of Revitalization as defined for the achievement of the financial support, Urban II was more linked to nonphysical aspects, even in if some cases the cities' physical structure "had been" affected. The analysis on the 70 "revitalization" projects involved in Urban II, underlined the following -

- Priority was given to the settlement of startups, especially those operating in high technology fields;
- More than in Urban I, more interventions were carried out on buildings and containers which were functional to the development of their contents;
- Interventions concerning socially weak segments of the cities were predominant (women, young and old people, problematic users);
- Focus was also given to the integration of immigrants;
- Finally, the central role of nature and environment. Those elements were very often linked altogether within the same programs and interventions.

Throughout Europe, Urban projects therefore assume different characteristics: in Germany and Austria the revitalization of Urban II is more connected to the start-up of technology companies; in Italy and Spain to buildings and infrastructures; in Netherlands and Belgium to the integration of immigrants. In Urban II, Revitalization is an interdisciplinary issue; it mainly deals with the economic and productive and social elements (employment) of the city and has an important impact on the physical structure of the city.

### **3.5. Urban revitalization in central and inner parts of (post-socialist) cities: conditions and consequences**

The post-socialist cities of Central and Eastern Europe have experienced significant transformation in the last decades. During socialism the inner and central parts of cities declined in economic, physical as well as social terms. New political and economic condition, however, created opportunities for revitalization of neglected urban zones and neighbourhoods, particularly of those which offered good potential for commercial and residential development. Accordingly, various revitalization processes have been taking place in post-socialist urban cores and inner cities with significant consequences for social and physical environment of the neighbourhoods. In addition, urban revitalization belongs to frequently debated themes in the Western literature. Although similar processes are taking place in post-socialist cities, the context for revitalization significantly differs.

#### **3.5.1. Bringing a place to life and the meaning of urban revitalization**

- Beauregard and Holcomb (1981) urban revitalization means to put new life into

cities and to upgrade areas for 'higher' social and economic uses. Typically, urban revitalization involves 'Investment to remodel or rebuild a portion of the urban environment to accommodate more profitable activities and expand opportunities for consumption, particularly retail and housing for middle and upper income households' (Beauregard & Holcomb, 1981, 1).

- Two major components of urban revitalization can be distinguished; social component focused on residential areas and economic component targeted at commercial services. Residential restructuring implies rehabilitation of housing stock and residential environment of inner-city neighborhoods with a view to attract middle class consumers (Anderson, 1988).

- Commercial redevelopment of CBN or local commercial centres entails physical renovation and economic revitalization secured by new retail and office schemes, congress and cultural centres or sport arenas (Beauregard & Holcomb, 1981).

- In general, Zielenbach (2000) identified two distinct approaches to revitalization; individual-based approaches aim at people and improvement of their living conditions in neighborhoods (e.g. anti-poverty programmes, new employment opportunities, and support of social institutions), and place-based approaches emphasize local economic development and increase in real estate values (e.g. adaptive re-use, gentrification, incumbent upgrading). Obviously, urban revitalization takes place under various conditions specific to each urban context. Since the circumstances differ from one city to another, revitalization strategies are not identical and do not bring the same outcomes. Various processes are part of larger revitalization of the core and inner city. The basic division is on process primarily changing residential and those transforming commercial areas.

### 3.5.2. When and how revitalization happens, approaches and conditions

Criekingen and Decroly (2003) pointed to geographical diversity of regeneration experiences implying that revitalization processes tend to occur in various ways in different neighbourhoods of different cities. Followings are the explanations of the chronological stages of how and when it happens:

- Basically during the whole post-war era city leaders in the West have searched for appropriate strategies to tackle urban problems and decay. Between 1950s and 1970s, urban renewal, the process associated with wholesale clearance of run-down city sections and replacing them with new buildings, was applied to revitalize deprived urban areas and improve living and social conditions in cities of North America and Western Europe.

- Urban renewal projects were typically planned under massive government subsidies.

Starting in the 1970s in the US and later, in 1980s, in Europe urban policies have been designed to encourage private sector investment into regeneration of derelict areas.

- The arena for urban revitalization in central and inner parts of cities in Central and Eastern Europe opened only at the beginning of 1990s after the collapse of socialist regime.

- In North America and Western Europe urban revitalization usually relies on strong involvement of public sector, entrepreneurial urban governance, targeted urban policies and public private partnership. Hence the form and the course of revitalization in CEE cities as well as the role of particular actors and drivers vary from Western experience.

- The post-socialist society and space are today more influenced by economic mechanisms, while the role of state and administrative decisions diminished. The real power and scope of public authorities (particularly local self-governments) in guiding revitalization remains much weaker in post-socialist cities, often along of tight local budgets, restrictions imposed by private land ownership, protracted bargaining processes and the lack of experience and expertise (Badyina & Golubchikov, 2005; Keivani, et al., 2001; Sailer-Fliege, 1999)

- Taking the example of the waterfront regeneration in Tallinn, Feldman (2000) argued that Western concepts used to explain urban revitalization have limited applicability to the post-socialist cities, among others due to fragmented and unstable institutional context, fiscal and organizational weakness of city governments, the lack of partnership and cooperation among stakeholders, and the continued pivotal role of the central state in urban planning.

- Besides institutional context and political settings a range of other factors determine and influence the pattern of revitalization process and its differentiated outcomes. According to Zielenbach (2000) revitalization results from the interplay of local decisions, the characteristics of the community (e.g. location, physical amenities, local institutions, community organizations, local leadership, social capital) and the economic and social forces affecting the city and the metropolitan region as a whole.

### 3.5.3. Changing neighbourhoods, landscape and people

The effect of neighbourhood changes for social structure, and quality of life gained substantial attention in urban literature. The growth of socio-economic status has been obvious in many neighbourhoods experiencing revitalization. Therefore, subsequent changes can be done by urban revitalization, which explained in the following -

- By revitalization the neighborhood's environment conforms to the requirements

of new and qualitatively higher functions and to the needs of newcomers (residents and consumers) of better socio-economic standing.

- Urban revitalization thus results in a wide range of transformations that include physical upgrading, land use adaptations and changes in social structure.

- Urban revitalization not only transforms the physical and social environment of urban areas, but also changes image of the cities and psychological relationships between humans and urban places (Beauregard & Holcomb, 1981).

- Many authors however aired doubts about the ability of revitalization to trigger off development and to sufficiently distribute benefits of the growth among different social groups and neighborhoods in the city (Beauregard & Holcomb, 1981; Bianchini, et al., 1992; Harvey, 1989; Smith 1982; Turok, 1992). The exclusionary manner of urban revitalization is thus emphasized, both in social as well as spatial terms.

### **3.6. Sustainable Urban Revitalization**

Several practitioners have suggested the use of sustainable development as an economic stimulus for neighbourhood revitalization (Rudlin, D. 1999. Devuyt, D., 2001, Chiras, D. 2003, Erickson, D. 2006, Kemp, R.L. 2006). Very few, however, specifically explain how sustainable development is used in revitalization efforts. Roger Kemp is one scholar and practitioner who have provided a little more explanation of sustainable development and revitalization. He has set up ten basic framework principles which serve as the basis for building the urban environment. Those principles include:

1. Evoke a sense of place
2. Restore and establish the unique urban ecology
3. Invest in the public realm
4. Broaden the mix of uses
5. Improve connectivity
6. Ensure that buildings support city building goals
7. Build on existing strengths
8. Preserve and enhance heritage resources
9. Provide a balanced network for movement
10. Foster public safety



Communities are beginning to realize that the decline of their neighbourhoods needs to be addressed in a holistic way, looking at all the issues (environmental, social and economic) involved within the context of the entire local situation. Accordingly, the two different concepts - revitalization and sustainable development is related according to their holistic, comprehensive character. Based on this relation, in order to avoid the degradation, it is necessary to activate an economic and social process, finalized to the environmental and social preservation of historic neighbourhoods. This approach is a transposition of the economic definition of sustainable development which conjugates at the same time social equity, environmental preservation (in this case urban environmental preservation), and economic development.

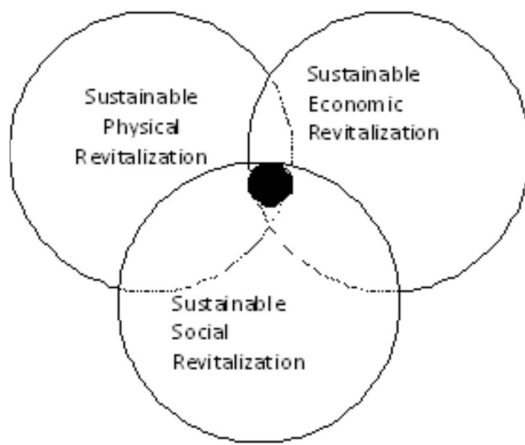


Figure 3.1: The model for sustainable urban revitalization for historic urban quarters.

SUR clarifies the continuity and change as processes that form the basis of any urban culture and society. It can only be achieved if their present urban life in conserved area. Therefore, to achieve a well effective and sustainable urban revitalization, the urban neighbourhood should be taken into consideration as a whole with its physical, economic and social structure as being in urban revitalization. In other words, sustainability of historic urban environments can only be possible with a “sustainable

urban revitalization” process. This process involves sustainable physical revitalization, sustainable economic revitalization, and sustainable socio-cultural revitalization at a time (Figure 3.1).

### 3.7. Sustainability and Urban Revitalization

The process of urban revitalization is required when obsolescence is present in the physical, social and/or functional structure of an area. It is implemented to reduce the amount of deterioration and to avoid the further decay of the historic environments. As discussed previously, the urban revitalization process should deal with three systems—physical, economic and social—of the historic environments in order to be successful enduring and sustainable. It is assumed that if the urban revitalization process is applied to the

aforementioned three systems, healthy and sustainable historic environments will result; sustainable communities in such environments can also be handled with the help of urban revitalization (Oktay, 2005). This idea stems from the concept that a sustainable community also has the same three components/systems of economics, environment and society.

Sustainability is about meeting basic human needs and wants. People value their health, economic security and happiness and that of their children. These are primary elements in relation to the issue of quality of life. Sustainability refers to “long-term economic, environmental, and community health” (Bauen et al., 1996, p. 4). According to Bauen et al. (1996), it was suggested that researching and identifying new ways of creating economic vitality, maintaining a healthy environment and building healthy communities and meeting local needs.

Sustainable community and/or city can be achieved by improving and adapting the economic, social and physical environments of cities in order to achieve the required global standards of the urbanization process. Historic environments, in particular, lose functional and economic viability and their scarcity have obsolescence in their urban fabric and buildings, social polarization and exclusion due to the urbanization. This approach is a transposition of sustainable urban revitalization, which also means preserving, and carrying the social, economic and physical structure for future with dealing with social equity, environmental preservation and economic development (Oktay, 2005). However, in the following part the study will demonstrate about the sustainability principles in different developed and developing countries:

- Sustainability principles of cities and or part of cities (historic urban quarters) in developed and developing countries shows many similarities, the differences are even larger, the scope of the problems more extreme and the resources to deal with them considerably fewer.
- Furthermore, the level of underdevelopment in developing countries may be cause for despair, but it also provides an opportunity for development to avoid the problems experienced in developed countries, by following a more sustainable development path.
- The developed world, which owes its wealth and high standard of living to its inhabitants, would naturally emphasize the dimensions or aspects denominated as ecological and geographical/spatial sustainability.
- The developing world, however, comes from a people centered view of development, which recognizes that ultimately it will be the behavior and choices of people that determine the success or failure of sustainable development/sustainability.

- Sustainability in developing countries will become feasible if it meets the needs and requirements of the people in these countries and does not conflict with their culture and values.

In other words, the two different concepts, sustainability and revitalization, are directly related. Based on this relationship, the sustainability of the historic urban environments can only be possible with a “sustainable urban revitalization” process. Oktay, 2005 explained this process involves the followings –

- *Sustainable physical revitalization:* Sustainable physical revitalization is intended to improve the physical/environmental sustainability and address issues related to making minimum use of renewable and non-renewable resources, recycling of resources, protect and enhance the built environment, safeguard historic buildings, attend to the redevelopment of abandoned open areas, enhance the landscape and provide green spaces in historic urban areas.
- *Sustainable economic revitalization:* Sustainable economic revitalization is intended to lead to economic sustainability (competitiveness) that is related with meeting the human needs and improving the living conditions. This revitalization process addresses the issues that are related to mixed land uses, tourism and high-income people with job opportunities.
- *Sustainable socio-cultural revitalization:* The concept of sustainable socio-cultural revitalization is intended to lead to social sustainability/equity or social cohesion and it addresses those issues that are related to social equality, justice and freedom.

Once again by the above discussion the aims of sustainable urban revitalization can be summarized as follows:

- Maintaining and enhancing the community’s cohesion through its neighborhoods.
- The protection of the special physical characteristics that enhance neighborhoods, maintain a sense of place and sustain area identity
- The preservation and rehabilitation of facilities and neighborhoods that are part of a community’s diversity.
- The preservation of the community’s local historic, archaeological and cultural heritage.
- A commitment to community revitalization to prevent the decline of old, historic areas and to ensure that a variety of living, working and leisure opportunities are provided in these areas.
- The preservation, enhancement and revitalization of the city centre’s residential and commercial neighborhoods as the community continue to grow and mature.
- The redevelopment and reinvestment in the community’s mature areas, through urban

Revitalization, innovative programs, context-appropriate infill development and redevelopment efforts.

- Incentive programmes that encourage context-appropriate infill development in more mature areas of the city.

### **3.8. Urban revitalization for sustainable urban development at neighbourhood scale**

The sustainability of cities is not possible if their components (neighbourhoods) do not contribute to their overall sustainability (Choguill C.L., 2008). Therefore, urban revitalization projects focusing on neighbourhood scale must allow cities to concretize their objectives of sustainable development. Indeed, neighbourhood scale appears to be a very appropriate scale for planning. It is the place where inhabitants develop their lives (Charlot-Valdieu C., 2004), which allows the analysis of physical and human variables. Furthermore, the notion of sustainable neighbourhood is situated exactly at the crossroads between the art of constructing sustainable buildings and the art of managing a sustainable city (Lefèvre P., 2009). By definition, it is based on a global-local approach, which enables the understanding of a variety of aspects at different scales. To develop a holistic approach towards sustainable development, understanding the objectives of the territory from this global-local approach is essential (Charlot-Valdieu C., 2012). It involves knowing the shared objectives between European and Latin American countries and local objectives of cities in each context.

Accordingly, to achieve a sustainable urban development, Latin American cities must seek a solution to urban sprawl, but also overcome social segregation, poverty and lack of trust in government (URB-AL III, 2012). Hence, the notion of sustainable urban revitalization established in this document, includes not only the regeneration of physical-spatial conditions of the city, but also its human and immaterial conditions (Gehl, J. 2010).

On the other hand, to develop a sustainable revitalization assessment at neighbourhood scale, several principles can be found in the literature. Most authors highlight the necessity to use decision-support tools and monitoring assessment indicators to ensure the integration of sustainability principles all along the project process [1, 15, 18, 19, and 20]. Following explains the implementation process in the different countries:

- Mainly in Europe, North America, Australia and China, sustainability assessment tools are used to measure the success of a neighbourhood in approaching sustainable development goals. However, most of the available tools do not involve a holistic approach regarding the simultaneous integration of social, economic and environmental aspects (Charlot-Valdieu C, 2009). This can be explained by understanding Sharifi & Murayama's 2013,

classification that divides neighbourhood assessment tools (NSA) into two groups: “spin-off tools” and “plan-embedded tools”.

1. The first category consists of tools derived from building assessment methodologies, which tend to privilege environmental indicators. It is the case of LEED, 2011 - Neighbourhood Development and BREEAM-Communities.
2. The second category includes tools that contain indicators related to urban plans at neighbourhood scale, i.e. they follow an approach of sustainable city. As a result, these tools, such as HQE2R 2004, SmèO (Roulet Y, 2009) and SIPRIUS (Rey, E., 2012), have a better performance supporting the decision-making process of urban revitalization projects.

It can be concluded that plan-embedded tools enable performing a comprehensive sustainability assessment of the neighbourhood, by analyzing physical and human variables taking into account the three pillars of sustainability in a transversal way. Furthermore, they allow measuring the success of the neighbourhood responding to the sustainable development goals of a particular context, which is the main objective of the sustainability assessment at neighbourhood scale.

### **3.9. Urban revitalization in historic urban quarters and city center**

This section will explain different subjects and questions of historic urban quarters, city centers and market / bazaar with the relation of urban revitalization planning process and implementations.

#### 3.9.1. The challenges of revitalizing in the historic urban quarters

Tiesdell et al., (1996: p 20) argue that the revitalizing historic urban quarters involves both the renewal of the physical fabric and the active economic use or utilization of buildings and spaces. Accordingly, there is a need for both physical and economic revitalization. One may prefigure the other, for example, a cosmetic or “physical” revitalization may be a short-term strategy intended to induce a deeper “economic” revitalization in the longer term. A physical revitalization can result in an attractive, well-maintained public realm. However, in the longer term, economic revitalization is required because ultimately it is the productive utilization of the private realm which pays for the maintenance of the public realm”. Depending on their inherent qualities as well as local physical, socio-economic conditions, different comprehensive approaches, in other words different strategies — *restructuring the economic base, regeneration, functional diversification* — should be engaged in the revitalization processes of historic urban quarters (Doratli, 2000).

In historic urban quarters, the necessity of integrating the various exigencies of conservation and revitalization, of balancing economic development while respecting environmental quality, is particularly challenging. Tiesdell's argument therefore, underpins three contextual attributes within this definition of "revitalization":

1. *place assets,*
2. *obsolescence, and*
3. *Intensities of development pressures.*

Place assets: values and qualities that make the areas worthy to be preserved and revitalized.

In traditional urban environments, urban cores show the most successful qualities of a well-defined urban fabric, namely architectural unity, order and visual continuity. Traditional urban quarters may embrace:

- *Cultural identity value: Including age, tradition, and continuity, political and national values;*
- *Scarcity value and*
- *Resource value*

Obsolescence: factors and processes contributing to deterioration and decay.

The area may suffer under different types of obsolescence:

- *Physical/structural obsolescence:* The traditional buildings would be subject to physical/structural deterioration, which leads to obsolescence.
- *Functional obsolescence:* Obsolescence of this type arises due to the functional characteristics of the building/area.
- *Locational obsolescence:* This type of obsolescence is primarily an attribute of the functional activities within the area.

Beside these most basic types, it is also possible to consider other forms of obsolescence:

- *Image obsolescence:* related to the perception of a building or an area.
- *Official/legal obsolescence:* related to physical and functional dimensions.

A strategic approach for revitalization

Strategic planning has been extensively used in the private sector to provide corporations and businesses with long-term vision and goals and short-term action plans to achieve these goals. Although strategy is the means used to achieve the objectives, it is not just any plan. The concept of strategy has to be perceived as a plan that is the result of analyzing the strengths and weaknesses and determining what the environment has to offer (the opportunities and threats), so that the objectives can be achieved (Jauch et al., 1988: p 12). Recently, development of strategies became much more popular than ever before, not only in the business world, but also

in many other fields due to the rapidly changing environment. Town planning, urban design, architecture and conservation planning are no exception to this general trend.

As in the process of planning in general, strategic planning for revitalization of historic urban quarters also includes various stages, the following will now focus on this stage in detail:

#### Analysis stage for strategic approach to revitalization

The analytical stage is the crucial basis for successful planning and proposals and therefore should be given due attention and effort. There are two main questions to be answered at this point:

1. What should be analyzed? The analysis topics
2. How should it be analyzed? The analysis methods/techniques and tools

The answers to these questions will clarify the scope of overall analysis stage in strategic planning for conservation and revitalization. Accordingly, the analysis topics can be classified under three main headings:

1. Analysis of the natural environment
2. Analysis of the built environment
3. Analysis of the socio-economic environment

Beside these analyses, there is also a need to identify key problems, challenges and difficulties as well as potential opportunities. Again to understand the present situation of the study area the analysis should complete with the help of experts and local people and the SWOT analysis method (Doratli, N., 2004) which has recently become popular in environmental studies which is a prerequisite for strategic planning. Finally based on the data gathered from the analyses methods, the study should comprise the following proceedings:

1. A scan of the inventory of the neighborhoods to identify their value; physical condition and the land-use survey for detection of the functional obsolescence in the study area; and
2. The re-evaluation of the socio-demographic, economic, and physical indicators in order to assess the indicators of locational obsolescence—ownership pattern, changes in social composition, land and property values, opinions of the local people and incompatible uses and the type and level of development.

#### 3.9.2. Urban Revitalization of a Town and Historic Centre

##### Definition of Town center

*Gibbered, Frederic (1967)* generalized the definition of 'Town Centre' as “the chief administrative business, entertainment and Cultural center of the town as a whole. It has been the place where the craftsmen worked, a meeting place for the people and the focus of the circulation system”.

*Kennedy, Declare (1976)* wrote that most cities contain a core area with high-density development having specialized and overlapping functions, which are collectively termed as Town Centre.

#### Definition of Historic Centre

- At a seminar in *Quito (1977)*, Historic Centers' were defined as "those living human settlements, strongly conditioned by a physical structure dating from the past, recognized as representative of the evolution of people".

- The historic centre contained a cultural property with values which may be assigned-broadly to buildings, townscape and landscape under three main headings. These are:

1. Emotional Values Wonder, Identity, Continuity, Spiritual and Symbolic.
2. Cultural Values: Documentary, Historic, Archaeological and Scarcity, Architectural, Townscape, Landscape, Ecological and Scientific.
3. Use value: Functional, Economic, Social and Political.

*Hardoy, J.E. and Others (1991)* define 'Historic Centre' as simply a district in the city. It has features which distinguish it from other districts. They are inhabited by a stable population which lives and works there and have their own social and cultural life along with other facilities associated with a neighbourhood.

*Steinberg, Florian (1996)* mentioned 'Most definitions exclude Historic Residential Area and Historic City, which equally represent the urban heritage. He added that there may be non-tangible elements of urban heritage which play a role for the articulation of space use and the built environment'.

#### Historic centre 'conditions and trends

*Gibbered, Frederic (1967)* analyzed that the town centers renew themselves through a gradual process of replacement of worn – out or obsolescent structure. This slow and almost spontaneous growth has been destroyed by abrupt and often violent social and technological changes. He noted that the prime functional problem with most town centers is that of overcrowding; too many buildings and too much traffic on a small area of land.

*Steinberg, Florian (1996)* In 'Habitat International explains that in addition to the problems of 'inner city' there is a problem of housing because of the rapid growth in size of most cities, especially in the developing world and the transformation of the city economics, the whole spatial pattern of land use and activities began to change. Inner cities became valuable for land uses other than housing and economic pressures led to further elimination of the older housing stock.



For all these reasons, most cities in the developing world have paid and continue to pay very little attention to their older housing areas. As a result, these areas generally continue to decline, with their physical, social and economic functions disrupted and their potential contribution to the city's overall housing stock under-utilized.

*Hardoy, J.E. and Others (1991)* analyzed that 'Historic Centers' have suffered gradual renovation in construction and change in land use, growing physical deterioration, increased traffic congestion and deterioration in services. There are also indications of the general impoverishment of the resident population and deterioration in their quality of life. The physical deterioration of historic centers housing stock and old buildings and even many streets is one indication of their deterioration. It reflects the abandonment of houses or flats in the centre by wealthiest social groups and their replacement by groups with a much lower income and there is also the destruction caused by tourism.

*Margaria Gutman, (1891)* added that various public buildings underwent changes of use. Old houses also went through similar process of change, whether by demolition and replacement or because of change in use.

There is also the destruction caused by tourism because some historic centers began to attract international and / or national tourists. 'An historic place with traditional cultural activities became an important factor in encouraging the sale of property in that area, but these processes generate incredible destruction, i.e. the demolition of residences of high historical value.

*Serageldine, Ismail (1991)* discussed the problems of rapid urbanization in developing world, which faces many challenges-such as population growth, influx of rural migrants and evolving economic base. All these factors on the other hand challenge the ability of the city to provide jobs and livelihood, crumbling infrastructure, poor and over-stretched social services, rampant real estate speculation and weak government and thus contribute to putting tremendous pressure on the central cities. *Strange, Ian (1997)* wrote that the competing demands for land use, changes in the nature of economics and the continued consumption of historic assets present a threat to the specific features of the historic cities.

### 3.9.3. The Approach to City Centre

#### Introduction: The Generation of Urban Renewal

*Carmon, Naomi (1990)* divided the historic overview into three successive generations of policies as below:

1. *First Generation: The era of bulldozer "physical determinism and emphasis of the built environment."*

Intolerable housing conditions in old and very old areas in the growing cities coupled with the wish to make “better use” of the central urban land and to drive the poor out of sight, give birth to the idea of ‘slum clearance’.

They were criticized for ignoring the heavy psychological cost of forced relocation and the social cost of the destruction of the healthy communities. In those cases, where new residential neighbourhoods were built, the planners and designers were blamed for building inhuman multi-storey blocks which were unfit for family life and certainly not fit for human habitation. Redevelopment continued for two-three decades and during that time, unused buildings and vacant land vacated by pulling down the buildings and similarly the construction of roads and commercial buildings in place of housing covered the centre of the city causing vast economic and social damage.

2. Second Generation: Neighborhood rehabilitation- “a comprehensive approach emphasizing social problems”

This approach of assisting distressed neighbourhoods was developed and implemented in many countries in 1960s. It was influenced by the severe criticism of the bulldozer approach of the first generation. Public opinion became more favourable than before towards public programs which require large allocations for welfare purpose. As a consequence, it was possible to plan and implement comprehensive rehabilitation programs, aimed at improving existing housing and environment instead of demolishing them while simultaneously treating the social problems of the population by adding social services and improving their quality.

3. Third Generation: Revitalization “especially in city centre a business - like approach emphasizing economic development”

In the beginning of 1970s and 1980s, interesting spontaneous processes of revitalization were documented in large cities of the developed countries. The very low prices of land and housing in the city centers began to attract both small and large private entrepreneurs. The new processes can be divided into two groups Public – individual partnerships and Public - private partnerships'.

The first term refers to cases in which investments were made by individuals and the second term describes the cooperation between large private investors and public authorities. These generations, which are described by Armon Naomi (1999) as a generation of urban renewal existed in integration with each other in most of the urban renewals and programmes / schemes.

### **3.10. Urban revitalization and Urban Market Places**

#### Concepts of Urban Market

In mainstream economics, the concept of a market is any structure that allows buyers and sellers to exchange any type of goods, services and information. The exchange of goods or services, with or without money, is a transaction. (Swedberg 1994). Market participants consist of all the buyers and sellers of a good that influence its price. Followings are the definitions that were explained by the different authors about the concepts of market -

1. Markets vary in form, scale (volume and geographic reach), location, and types of participants, as well as the types of goods and services traded. Markets are man-made features established for the use of man (Omole, 2002).

2. The work of scholars particularly that of Nwafor, (1982); Sada and McNulty (1978); Eben-Saleh (1999) among others agree with this assertion. They went further to identify two basic classes of market places as daily and periodic market which were further sub-classified as; morning, full day, night, periodic, provincial and inter kingdom markets.

3. Nwafor (1982) held the view that a daily market requires the existence of many fulltime traders and that it is a more convenient type of market in that it provides daily needs to the people on daily basis.

4. The building market is the result of a historical and architectural evolution and the adaptation to the demands of society (Ripol, 2003). It started as an outside commercial area of the city and became a closed space for reasons of hygiene and comfort.

5. It follows, in general, a typology of "square", with a central space of variable configuration (with stalls, terrados, kiosks) and shops on the periphery, open to the surrounding. They usually are large and bright with vocation as public spaces (Oliveira, 2008).

6. The identity of the marketplace is marked by its vocation as a "shopping plaza" which has therefore strong social and urban characteristics (Cachinho, 2002). The marketplace is an urban space with a structuring role in cities and strong vocation as a public space and social space, as a place where everyone can be and relate.

#### Typology of Urban Market

The marketplace is a place where the local lifestyle and products are practiced and displayed by the community, which contributes to the richness of the local culture and heritage. There are many types of marketplace in the world. Even some were practiced almost hundreds of years ago. Several typologies of the marketplace can be identified as public market, the farmers market; shopping centre, bazaar, night market and the traditional market (Table 3.1).

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**Table 3.1: Typology of Urban Market**

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<b>Types</b>	<b>Market Description</b>
<b>Public Market</b>	A public market is municipally owned and operated in a building where vendors sell fresh food from open stalls. Public markets come in various forms and settings, offer a wide range of different products, and are owned and operated by various types of organizations, not just city governments. (Birmingham Public Market Study- Creating Healthy Food Hubs for the „Magic City“, 2011).
<b>Farmers Market</b>	A farmer’s market is a direct marketing by small agricultural producers to consumers. Farmer market activities usually occur in the morning and in open spaces. The farmers market can be claimed as one of the oldest institutions in the world, commonly occur since Roman times (Ashman et al., 1993).
<b>Shopping Mall &amp; Centers</b>	The supermarket chain is often an integrated institution that incorporates the ownership and management of its own factory-farms, transportation, storage, processing, distribution, and retail facilities (Sommer, 1989).
<b>Bazaar</b>	A bazaar is defined as a marketplace or shopping quarter, a sale of miscellaneous contributed articles. In some countries, bazaar activities occur in city urban open spaces and in certain periods of time, once or twice a week (R. Siti Rukayah, 2012)
<b>Night Market</b>	A night market can be defined as a trading place during the evening where small business offered a variety of products and cooked food at a cheaper price (Huang, Liou and Tzeng, 2009). The night market is also known as street market. Mostly night market occurs once a week in Malaysia.
<b>Traditional Market</b>	Traditional market usually is the oldest marketplace in a town or city. Almost similar to public market, the traditional marketplace however is very old, and countless such markets are still in operation around the whole world. Traditional local markets are one of the most visited tourist attractions,

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not just for shopping, but for enjoying local culture and food unique to the area.

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### Opportunities and challenges of Urban Market

Regarding urban market, in Europe there are several projects/programme which can add value to and complement the social, economic and environmental approach within the urban neighbourhood. As an example – in 2015 the URBACT (The URBACT Markets project has provided the opportunity to the different European cities) projects/programme in Europe explained the following opportunities (figure 3.2) and challenges of Urban Markets -

### Key opportunities

Urban markets present massive opportunities and benefits. They can play an important role for the sustainable development and revitalisation of a city and its neighbourhoods by promoting and enhancing:

1. Job creation, employment, entrepreneurship and migrant integration
2. Tourism, especially related to gastronomy and culinary traditions
3. Local (retail) commerce, its offer and associated infrastructure
4. Healthy life styles
5. Revitalisation of public space, buildings and social interaction
6. An environmental friendly local supply chain, adding economic value and reducing the environmental impact of production and consumption
7. Social and cultural "services"

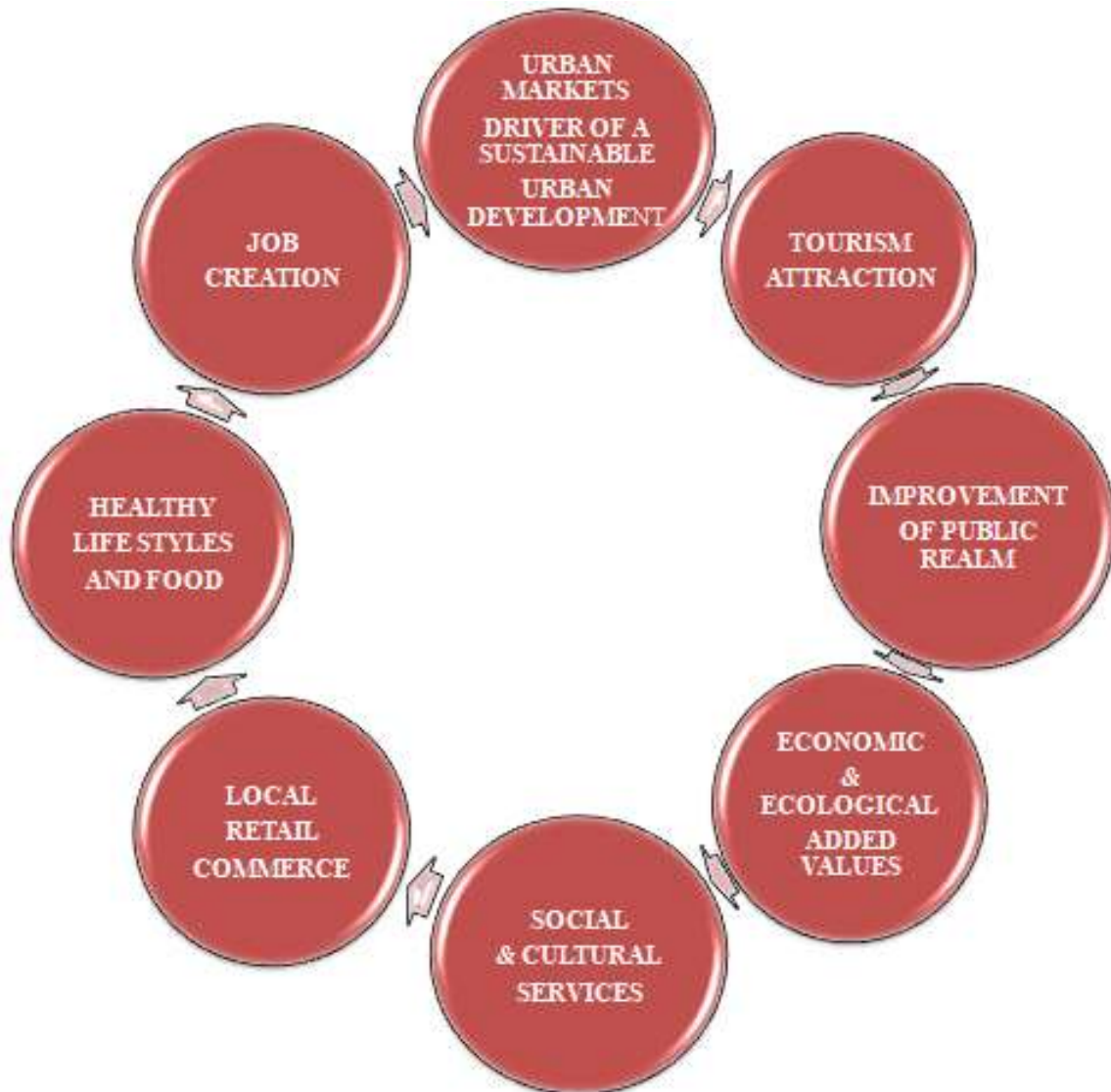


Figure 3.2: Opportunities of Urban Market, Source; URBACT, 2015.

Key challenges

But markets do not only provide opportunities. There are also challenges to deal with. Although the situation of markets varies considerably in European cities due, for example, to differences in retail competition, local laws, market governance models, logistics models, etc., they share a number of key challenges.

1. Markets are not sufficiently consumer-oriented
2. High competition from supermarkets
3. Stallholders and trader association lack sufficient management skills and professionalism
4. Lack of coordinated group and communication strategy

5. Lack of investment in market infrastructure or market renovation
6. Right balance between tourism and local citizens' demand
7. Environmental impact of markets

### 3.11. Introduction to Urban Markets and the thematic guidelines

#### *Strategies and actions of town centre regeneration:*

Once again in 2015 the URBACT (The URBACT Markets project has provided the opportunity to the different European cities) project/programme in Europe defined urban market and the thematic guidelines with 5 areas of study for the “town centre regeneration”:

1. Urban planning efficiency
2. Direct and indirect impacts of a market on their neighbourhood
3. How to identify and engage the services and areas involved in market regeneration
4. Financing a Market regeneration
5. Social impact of the markets

#### *Urban planning efficiency*

Market regeneration can't be afforded without considering its whole neighbourhood and it has a very significant impact on the urban planning of its surroundings. For this very reason, many times market's revitalizations are done as a part of a whole action to a certain area of the city. However, looking them just as ordinary “municipal equipment” implies losing a unique opportunity to act on the economic and social wellbeing of a whole neighbourhood. Therefore, urban planning and market revitalization should be coordinated independently from whom starts the regeneration. Following 4 strategies and actions should think to get the markets department involved for the urban planning efficiency (table 3.2):

**Organization:** To have a clearly identified “Market department/unit”

**Leadership:** To provide leadership when markets are involved in quartier or town center regeneration

**Coordination:** To coordinate revitalization actions with the urban planning department and other involved areas.

**Community:** To Build on community existing assets

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**Table 3.2 : Urban planning efficiency**

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**Strategies**

**Actions:**

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1. Organization	<p>1.1 Some cities don't have an area in charge of the markets, being its responsibilities distributed across several departments. In this cases, it required:</p> <ul style="list-style-type: none"> <li>• To identify the departments and technical areas involved.</li> <li>• To create a single body or the necessary bridges to its correct joint and coordinated action for markets.</li> </ul>
2. Leadership	<p>2.1 To anticipate problems and opportunities on the urban development for markets.</p> <p>2.2 Market team has to define the multiple objectives, set up an accurate diagnosis of the project and its development phases.</p> <p>2.3 Market team must canalize all the knowhow of the team, and partners in the project and can define its own model of markets or follow an existing one.</p>
3. Coordination	<p>3.1 To monitor by teamwork.</p> <p>3.2 To define deadlines for every step and phases of the project according to every stakeholder and to the different services involved.</p> <p>3.3 To organize formal and informal meetings with all the stakeholders.</p>
4. Community	<p>4.1 To identify and listen to stakeholders.</p> <p>4.2 To use neighbourhood knowledge and getting all the feedback of the field actors.</p> <p>4.3 To use this information and taking it into account for the whole organization.</p>

*Direct and indirect impacts of a market on their neighbourhood*

Markets generate an important economic impact on the city. Some of this impact is direct, due to the income generated on the markets, the jobs created to sustain the market activity, etc. Some are indirect such as the impact on the creation and sustainability of the commerce around the market, the real estate costs, the companies that live from the services provided to the market (logistics, distribution, cleaning, security, delivery, packaging, producers...).

The impact may also be focused from the social point of view, since the job and wealth creation on a neighbourhood prevents its degradation. In addition, markets are a place for intercultural



exchange, where different cultures meet to normalize their coexistence in the same territory, helping for instance, the integration of immigrants to the city. Therefore, direct and indirect impacts of an urban market on their neighbourhood consider the following 2 strategies and actions (table 3.3) to capitalize the actual impact of the markets policies:

**Evaluation:** To carry out impact assessment studies

**Communication:** To develop a message about the relevance of the market on the town from perspective – social, economic, employment.

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**Table 3.3 : Direct and indirect impacts of a market on their neighbourhood**

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Strategies	Actions:
1. Evaluation	<p>1.1 To define key indicators with economic and non-economic data.</p> <p>1.2 To look for the data within the City statistic data or to carry out field work. In this case:</p> <ul style="list-style-type: none"> <li>• To supervise survey and research or to find existing ones.</li> <li>• To get quantitative and qualitative valid and exploitable information to be communicated.</li> </ul> <p>1.3 To analyse the specific interest of other city areas on the results for their strategic and operational plan development (e.g. mobility, environmental, urban planning, waste management...)</p>
2. Communication	<p>2.1 To transform survey and technical data into accessible reports for the public.</p> <p>2.2 To spread this data to other services and department of the local administrations.</p> <p>2.3 To integrate this key figures and conclusions into the communication plan of the project (guides, leaflet, website, blogs, press, event...).</p> <p>2.4 To communicate and promote markets through those key figures.</p>

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*How to identify and engage the services and areas involved in market regeneration*

Markets are a very complex ecosystem. Different interests are involved on their success and development: political and commercial, economic and social, private and public. It implies that there is a long list of stakeholders, directly or indirectly related to the markets and that any

activity that may alter its normal functioning is able to impact their businesses or interests. Thus to get a shared vision and maximum involvement in the future development of the market regeneration, following Strategies and actions (table 3.4) will be considered:

**Organization:** To have a clearly identified “Market department/unit”

**Interaction:** To create a space for discussion about markets.

**Socialization:** To involve the individual markets in their immediate environment (association, neighbourhood...)

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**Table 3.4: To identify and engage the services and areas involved in market regeneration**

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Strategies	Actions:
1. Organization	1.1 To Identify the departments and technical areas involved. 1.2 To create a single body or the necessary bridges to its correct joint action for markets. 1.3 To draft a convention or an agreement with the area of responsibility of every stakeholder.
2. Interaction	2.1 To use the LSG as a long term strategic tool. 2.2 To create technical committees. 2.3 To organize periodical meetings. 2.4 To create an annual conference for the city markets where different experts can review and provide their vision on markets. 2.5 To make the project accepted by every stakeholders, politics and economic agent.
3. Socialization	3.1 To foster partnership and joint actions between markets and local retail or social associations, schools, and /or other local stakeholders. 3.2 To delegate responsibilities in order to involve some stakeholders into a real partnership.

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*Financing an Urban Market regeneration*

Different and creative examples can be found among the participant cities on how to finance urban market regeneration, particularly from the perspective of public-private investments. Therefore, to ensure the financial sustainability of market, following 3 strategies and actions will be measured (table 3.5):

**Model:** To define the private public mix model that applies to each city and to every different action.

**Engagement:** To involve stakeholders in the prioritization of actions.

**Urban Coordination:** To coordinate investment actions with other actions of the city.

**Table 3.5: Financing a Urban Market regeneration**

Strategies	Actions
1. Model	<p>1.1 To review current legislation to identify barriers and accelerators for different financing models and propose potential changes to improve them.</p> <p>1.2 To find out the most appropriate model for each action explored since not all actions have to be financed in the same way.</p>
2. Engagement	<p>2.1 To evaluate the potential private interest in the market revitalization, even traders or supermarkets or other distributors.</p> <p>2.2 To create a stakeholder’s space for discussion about investment prioritization and participation interest.</p> <p>2.3 To prioritize and organize investment by a formal report.</p>
3. Coordination	<p>3.1 To organize formal and informal meetings with all the stakeholders and other services of the city.</p> <p>3.2 To plan investments of the projects within all the projects of local administrations.</p> <p>3.3 To set up a special coordination unit.</p>

*Social impact of the urban markets*

Markets have a very deep impact on the social fabric of the town or neighbourhood around them. Markets adapt the offer of products and their processes to the needs of their clients. Markets create jobs and provide business opportunities to their neighbours and other stakeholders, and are definitely a place for people to gather and interact. To communicate these benefits while finding the way to further boost them is the key to find the right supports to improve the markets. To communicate and boost the social benefits of the markets, following 3 strategies and actions are recommended (table 3.6) -

**Key drivers:** To identify the main indicators about the social impact of the markets in the city

**Communication:** To integrate the social benefits in the market’s communication strategy.

**Synergies:** To look for communication synergies with other social institutions

**Table 3.6: Social impact of the urban markets**

<b>Strategies</b>	<b>Actions</b>
1. Key drivers	1.1 To review the actual impacts of the markets in the city. 1.2 To identify potential benefits generated by the market in the social fabric of their quarters. 1.3 To use all the data of previous survey and researches or to organize a new one.
2. Communication	2.1 To design a new communication axis from the social perspective. 2.2 To integrate this new axis into the communication related to markets. 2.3 To assess the opportunity to use this axis within the global communication plan of the city.
3. Synergies	3.1 To identify which stakeholders has a special interest on the social benefits of the market. 3.2 To generate joint communication actions with those stakeholders. 3.3 To find responsible of communication of all the social actors of the project.

### **3.12 Aspects of the Markets and Urban Regeneration**

Urban markets can be described as a space where goods, merchandise or products of the local community are traded. Markets may be owned and operated by various types of organizations, such as the city government, vendor associations, community groups or private entities. It is a place where people interact with one another while doing business. Urban markets often have a strong rootedness to its local people. As such, the market is also a place where localness is shown by the community lifestyle, culture and heritage.

- Urban regeneration is an approach to revitalize the social, cultural and economic resources that are pertinent in the development of cities, particularly for tourism (Azmizam 2013, Galdini 2007).

- Through regeneration, strategies are formulated to rehabilitate and improve the

physical, social and economic conditions of places that have significant values in the city, as parts of the cultural and heritage preservation (Galdini 2007, Roberts and Sykes, 2008). Again according to Roberts and Sykes, urban regeneration is a complex and dynamic process, which includes understanding the physical, social, environmental and economic needs of cities.

- The regeneration of urban markets is essential in conserving the city's heritage values. Markets play a significant role as a 'place for commercial and cultural interchange' (UNESCO, 2013). The market thrives in the first place because it serves the local community and has been a significant part of the local traditions that is rich with arts and cultural practices (Pourjafar, M., 2013, Rukayah, R. and M. Bharoto, 2012). Urban market's localness and 'charm' inadvertently entice visitors from outside to come to the market, which gradually turn the marketplace into an urban tourist attraction.

- The objectives of urban regeneration are to strengthen the sense of belonging, existing socioeconomic networks and community ownership among the urban dwellers.

- It also refers to a comprehensive approach that revitalizes urban areas by redeveloping and rehabilitating the city's physical structures, the local economy, the social fabric and the conservation of elements of cultural significance (Czischke, D., 2015). However, by the urban regeneration strategy; Hazrin. M., (2016) explained the following development can be achieved -

1. *Sense of Place*
2. *Place Attachment*
3. *Place Image and Identity*
4. *Place Dependence*

Marketplaces are much more than the commercial gathering places that city authorities sometimes take them to be. They are flexible spatial and temporal organizations that provide vivid and inclusive public spaces. As sites of interactions of flows of people, goods and information, marketplaces facilitate an improvised and spontaneous synergy of people and communities, which is at the core of everyday life of the city. Marketplaces, furthermore, provide fresh and affordable food for residents, economic opportunities for those with less access to the labor market, and places to mingle and socialize in areas that lack such facilities. Historically, marketplaces have been important engines for urban growth, while also providing sustainable solutions to accommodate this growth. But today marketplaces can also be important sites when we want to get a sense of the 'life' and 'heart beat' of a city that we visit for the first time. In a marketplace, we feel the pulse, the energy, and the potential that cities

offer – an urban quality that appeals both to tourists and to local residents. However, other studies describe in the subsequent - how a market place can be as development and sense of place making tools for urban neighbourhood.

### **3.13. The Role of the Market Places as an Urban Development Strategy**

In 2013, Janssens, F. and Sezer, C., explained market places can be an urban development strategy in the following ways -

- Marketplaces are domains of public discontent and dispute - Conflicting interests, for example public benefit versus private entrepreneurship, frustrate ambitious city agendas that aspire to profit from the strategic qualities of marketplaces.
- The dynamic image of the marketplace serves in many cases as a catalyst for gentrifying neighborhoods, rather than improving them in an inclusive way that benefits vulnerable groups in society.
- In the light of urban developments, marketplaces risk losing their qualities as generators of vital public spaces in the city.
- In parallel to the developments above, marketplaces also emerge as a part of social movements and grassroots initiatives in the city.

### **3.14. Market place and urban revitalization**

Markets have always represented much more than just a place to buy and sell provisions; these vibrant public spaces have also functioned as centers of social, civic, and cultural exchange (Tangires, 48-49, 59-60). Through their historical significance and architectural form, markets have contributed to a long-held sense of identity and place within many cities and towns. Most surviving market halls are municipally-owned, and through partnerships with non-profits, and other organizations, balance financial profitability with a range of broader public goals (Spitzer and Baum, 1-7, 16-18, 27). This mix of uses and meanings is the greatest asset of historic or traditional markets in an era of monolithic, corporately-controlled food distribution, and through a values-based approach to their rehabilitation, markets can serve the interests and needs of local residents, while building strong connections between this rare historic resource and the communities they serve.

### **3.15. Neighborhood revitalization through remodeling or the building of markets**

However, using new build / remodelling initiatives as regeneration policies represent an underexploited avenue for raising the profile of our cities. A market is in its first instance, a

building or an open-air place of interaction in a city that strongly interacts with the neighbourhood and its citizens. The permanent market (in case of an indoor market) or for a large part of the day (in case of an open air market) which occupies a specific portion of urban space. Setting aside urban and architecture analyses, this means that the presence of a market influences a specific area: it changes the flow of people and goods, the traffic; it brings with it an essential set of annexed services. Any intervention via markets when considered within the city's urban planning policy can also contribute to the generation of additional public goods: they could be an answer to the need of generation of public spaces and quality of life, preserving historic heritage or even creating new poles of tourism attraction or designing new iconic elements in the city.

Market revitalization can stimulate activities which influence the ordering and arrangement of other facilities. However, within urban design area, a market can be performing similar to a catalyst that will stimulate the future development.

### **3.16. Market places as an Urban Catalyst within Urban Space**

Every city has a unique attribute as a main base or model for the urban development. Seeing to this developmental issue, someone can refer to the term called "urban catalyst". Urban catalyst is an effective medium to carry out urban revitalization. Based on its definition, catalyst is a substance or vehicle fastening a reaction. Within urban design area, a catalyst can be conceptualized as a project that will stimulate the future development. The concept of urban catalyst developed by Wayne Attoe; 1989, has a value to exceed metaphorical expression like "the heart of capital city", a term which is commonly used to illustrate some catalytic projects. The dynamic urban catalyst within the nature is those who act as the projects having effects towards their surroundings, having potency to solve every purpose of revitalization depending on regional needs.

1. First of all, a catalyst has to improve its surrounding urban fabric condition. This matter can be done by redesigning or renovating the fabrics to make them stronger than before.

2. Secondly, a catalyst does not only improve the physical condition, but also has to discuss the social, political, and economical context of the project.

3. Third, catalytic reactions should be limited in their scope, so that they do not break their context. The already existed quality and character of a city must not be threatened because of the development, so that a catalyst should provide a sense of place for a regional exhibition (Attoe, 1989).

Urban catalyst has a potency to develop a city in several ways. Urban catalyst may contain continuous project influencing urban structure. According to Stenberg; 2002, the successful keys of urban catalyst are:

- Capable to raise up economic and social activity
- Capable to become Central Business District (CBD) in both single and mixed function
- Having strategic plan about the entry and exit pathway in a city so that it can support and shape the pattern of human movement
- Capable to influence the development of its surroundings

In addition, there are five ways of urban catalyst to motivate the surrounding development, namely:

- It can happen as long as a catalyst acts as the main purpose for people to visit certain region and has its own appeal so that it is able to create activities which one of them is the economical one (the availability of supply and demand)
- Needing a proper developmental design and having an appeal from its physical and visual attraction
- The conducted development is able to attract movement pattern through access supply
- The developmental character must be integrated with the needs of street users through streetscape supply
- The conducted development must concern with the location condition

### **3.17. Critical Expression and Final Explanation**

This chapter presents a wider perception of urban revitalization and sustainability within different areas and the global perspective with the aim to make use of this information in this proposed study. The following expressions are the researcher's thought about the presented literature and where he identifies its impact or influence on this proposed study.

The terms urban revitalization and urban regeneration are often used interchangeably. For example, Couch, et al. (2003) urban regeneration as a field of public policy that aims at re-growth of economic activity, restoration of environmental quality and recovery of social inclusion. Nevertheless, some authors make distinctions between the two terms. While the emphasis is on activities and functions in revitalization, regeneration much applies physical upgrading and environmental improvements. According to Cowan (2005) revitalization is used to refer to ways of bringing a place to life (e.g. finding new uses for old buildings, promoting cultural activities) that, unlike regeneration, do not necessarily involve significant rebuilding. McGreal, et al. (2004) apply the term urban regeneration to describe the process



of physical and economic renewal of distress locations, where development and investment in property represent the fundamental tool. Further, Cowman (2005) distinguishes between urban regeneration and urban renewal, the first one referring mainly to physical change while the second one applies more to social improvements in urban neighbourhoods.

Similarly, Beauregard and Holcomb (1981, 17) noted that 'urban revitalization efforts have many underlying similarities, but there are also significant differences from city to city in response to unique economic, political, social, and historical realities.' The understanding of urban revitalization shall therefore regard wider national as well as local context. Couch, et al. (2003, 5) emphasized that "factors such as local, regional economic conditions, previous land-use patterns and building forms, together with the nature of local markets, administrative structures, tools and mechanisms of intervention, are all shown to be important in shaping local differences in urban regeneration policy and its outcomes".

The attraction of new interests, new population and, more generally, of a new urban demand is what is being looked for by projects of Revitalization. Many of these initiatives are locally limited and self-contained (in order to obtain a higher impact on communication) and in the last few years have focused on the cultural industry, in order to find a place where either a high level of knowledge and technological development could be produced and some cultural and touristic opportunities could be developed according to an area of reinforcement activity based on the implementation of new attractive functions.

In short, Revitalization refers to interventions for re-launching urban appeal with the project as the instrument of communication, marketing, territorial animation and promotion. The objective is to give more dynamism and vivacity to a field which is risking a deep "crisis" and is undergoing economic stagnation.

Under the Revitalization process, different typologies of intervention can be considered some can be added to those listed above and are depicted as subcategories thereof, others can be quite new and distinctive. In conclusion following are the expression and explanation of this chapter

-

- Instruments must be used to improve urban appeal
- The project is used as an instrument of communication, marketing, and territorial animation and promotion
  - The objective consists in utilizing an area which is risking a crisis more dynamically
  - In some cases, physical intervention is necessary to initiate growth
  - It is necessary to find new elements to attract people and develop a new urban demand
  - A number of these initiatives are limited to some prompt and specific elements which

are used as marketing factors

- Physical intervention becomes a tool that allows a part of the city in question to become visible and recognizable where revitalization is accomplishing its territorial targeting.

- For local community the revitalization brought deterioration of local distinctive lifestyle, weakening of close social contacts and slack of internal control mechanisms in the community.

- Alike the initiation and the pattern of revitalization, its success depends on the interplay of many factors and circumstances too. Clearly the qualities of regeneration design and particular projects determine the impact on the area. New developments should have some relevance to the city and neighborhood, integrity in terms of architecture, planning and activities (Cuy, et al., 2002).

- Revitalization involves many interdependent institutions, organizations and other actors. The extent to which these participants can recognize and fulfil their roles largely determines whether economic, social and environmental needs reach a balance in the revitalization process.

- The fundamental objective of urban renewal is the application of many principles/approaches which result in revitalizing the urban structure.

- Urban renewal should encourage and encompass the revitalization of all elements of urban structure simultaneously and continually.

- To revitalize traditional town, we sought to ensure that the town would continue to evolve both economically and socially and continue to be perceived as centre of the city life.

- In historic project 'revitalizing", we should consider the main points as follows –

- Project must respect the population interests and involve them in decision - making process
- Maintaining the dynamism and diversity of activities and enhancing the quality of their spaces
- Project must emphasize the symbolic value of existing buildings spaces, and activities
- Culturally must aim at recapturing the symbolic role of the past
- Revitalize the public image of the area by 'improving and beautifying the image of public spaces creating a new building opportunity for vacant land and promoting complementary cultural events.

### 3.18. Gap in Understanding

The explanations of this section are identical to previous chapter - section 2. Therefore, in view of the above literature review on the general topics of revitalization, sustainability, urbanism and urban sustainability, the following key gaps in knowledge emerge:

1. *The gap of definition:* As Roberts in 2000 and Vazquez in 2001 stated that one of the first problems encountered by those who work in urban revitalization is the lack of agreement on the right concepts, definitions and the lack of a single accepted theory of urban revitalization leads us to review several ancillary theories of urban change.
2. *The gap of objectives and aims:* According to various argument of urban revitalization defining and planning process and again urban problems and processes are not same in each context as like the definition of urban sustainability. Although the aim of urban revitalization should target to ensure sustainable development currently.
3. *The gap of methodology:* Without proper definition and significant aims of present urban revitalization strategy still it is difficult to set up a proper methodology for sustainable urban revitalization.
4. *The gap of indicators, assessments and dimensions:* It is again obvious from the literature review that there is a broad dispute on what sustainable urban revitalization constitutes. Therefore, there does seem to be an extrication linking indicators, assessments and dimensions of sustainability and the indicators, assessments and dimensions for sustainable urban revitalization.
5. *The gap in decision making:* The exceeding literature review evidently motivates the concentrate of the political will and policy making in addressing various aspects of sustainability and urban revitalization. Therefore, within planning proposals still it has several gaps in decision making fields.

### 3.19. Chapter Summary

Doxiadis, C.A. (1976) clarified that we will solve none of today's problems if we concentrate on isolated relations, such as between

1. Man and nature
2. Man and buildings
3. Man and networks
4. Man and society.

All our mistakes can be attributed to just such isolations of relationships. Therefore, our task is to define the system of our life expressed by human settlements so clearly that it can contain

every part, aspect, expression or opinion. Success will depend on our ability to create new balance corresponding to new development. This means discovering what we dislike and can change what we love and can keep and what we love but must change.

To achieve a balance, we must approach all these changes and finally finding the challenges and problems in a systematic way avoiding partial views of particular elements or special goals. Our only road is constantly to create order out of the chaos around us. I believe that sustainable urban revitalization planning process can find out these urban goals to defend the urban chaos with chronological way. In conclusion this chapter includes the literature review around the topics of sustainability, urbanism, and urban revitalization within various global perspectives. It provides a review on the origins of these topics, along with various definitions of each that are commonly cited in the literature. It focuses specifically on urban sustainability, revitalization and the development of the city, along with review of planning process, challenges, and finally to understand the following questions -

1. What should be revitalized? The topics of urban revitalization
2. How should it be revitalized? The methods/techniques and tools of urban revitalization

The discussion also focuses on experiences learned from history, European cities and Asian cities which are the main benefits of this chapter. This will be the focus of this research and will drive the selection of the research aims, objectives and questions that will be identified in the following chapters.

## **CHAPTER 04: HISTORY AND SUSTAINABLE URBAN DEVELOPMENT STRATEGY OF KHULNA CITY**

### **4.1. Introduction**

The main purpose of this chapter is to develop a comprehensive understanding of the history of Khulna and urban development in Khulna city and to provide insights into strategic initiatives towards sustainability that have been proposed within the present period. In addition, this chapter is intended to introduce Khulna as a city within a few contextual dimensions including its physical, historical, economic, and social context. It will be followed by a brief recall of the literature on Khulna city's sustainable urban development and planning process. Section 4.7 explains urbanization and settlement and a review of sustainability and planning initiatives in Khulna city is given in sections 4.8 to 4.12. Subsequently the four tiers of planning documents are urban strategy, the structure plan; the master plan and the detailed area plan are explained correspondingly.

### **4.2. Khulna Region**

The region that is nowadays generally referred to as South Asia roughly corresponds with the former Mughal Empire (16<sup>th</sup> – 19<sup>th</sup> century), later to be colonized by the British, and covers the present nations of Afghanistan, Bangladesh, Bhutan, India, The Maldives, Nepal, Pakistan and Sri Lanka. Until the partition of the British Indian Empire in 1947, Khulna was part of Bengal, the province that contained the empire's capital Calcutta -now Kolkata. The city hence developed in the hinterlands of both Kolkata and Dhaka.

The British broke Mughal power in the nineteenth century, which left a disempowered and discontented Muslim minority with fright of being overwhelmed by the large Hindu majority. The remarkable religious tolerance that characterized the Mughals faded quickly under the British and several Muslim movements became the driving force behind the eventual Partition of India in 1947. This partition resulted in the creation of two separate nations: The Union of India and the Dominion of Pakistan. The latter contained the former empire's Muslim-majority areas: the eastern part of the Bengal province (called East Pakistan) and modern-day Pakistan. However, in spite of the religious correspondence within this new nation, occurrences on other fields gave rise to increasing dissatisfaction, the large cultural differences between these two geographically distant regions. West Pakistan's political dominance and the economic exploitation of East by West Pakistan resulted in rising political discontent, culminating in the Pakistani Civil War (also called Bangladesh Liberation War).

One of history's most atrocious civil wars ended on December 16, 1971. When Pakistan's surrender gave birth to a new country that out of cultural nationalism was called Bangladesh (literally: land of the Bangla).

Bangladesh is located on the mouth of the Ganges-Brahmaputra estuary, one of the largest deltas but also among the most densely populated areas in the world: the People's Republic of Bangladesh has 160 million inhabitants on an area of 1,33,910 sq km (total country area is 1,44,000 with 1187 inhabitants /sq km). Bangladesh is divided into eight administrative divisions, each named after their respective divisional headquarters (Dhaka, Chittagong, Khulna, Sylhet, Rajshahi, Barisal, Rangour and Mymensingh). Each division is sub-divided in districts: Khulna Division comprises 10 districts with Khulna City as headquarter of Khulna District.

Khulna is located in western Bangladesh (figure 4.1), and has always been located in the hinterland of large metropolises Kolkata and Dhaka. This 'in-between' status of the divisional headquarters makes the Khulna's range of influence on its surroundings limited to the adjacent districts: Bagerhat, Jessore and Satkhira.

For instance, Khulna serves as a tourist gate-city for the attractions in its vicinity. Boat-journeys are arranged to the world's largest mangrove forest, the Sundarbans (literally beautiful forest), which is only accessible via water. This forest is a UNESCO world heritage site and a major tourist attraction in Bangladesh. It is spread over the southern part of Satkhira, Khulna and Bagerhat District. Another major tourist attraction in the surroundings of Khulna city is the historical town of Bagerhat. From this town, founded by Khan Jahan AH in 1450, Islam was later spread over Bengal. The most important remnants of Bagerhat city are the Shait Gumbad Mosque (literally 'sixty domes mosque) and Khan Jahan Ali's tomb.

Mongla port, some 40km south of Khulna, is the second largest seaport of Bangladesh. However, since the completion of the Farakka Barrage (a large dam in India, constructed in 1974-75 at 10km distance from the Bangladeshi border}, water current the Padma River slowed down and silting increased considerably in the whole south-western river-network of Bangladesh. The consequence of this siltation was / is the periodical need for closure and dredging of Mongla port since 1980, because it lost the proper depth required for oceangoing ships. Proposals of establishing a deep-sea port further south in the estuary (at Akram point) to avoid the dredging problem have been rejected.

Mongla Export Processing Zone is one of the eight export-oriented industrial enclaves set up in Bangladesh and is located less than a kilometre away from Mongla Port. It was established in 2001 with the aim of generating employment in the south-western part of the country.

While there have been notable successes in Dhaka, Chittagong and Comilla EPZ's. Others remained largely unused e.g. Mongla EPZ. Now, seven years after its establishment, only 11 factories are running and of the desired 22000 new jobs, only 250 have been created. Lack of decent infrastructure is the major deficiency.

Jessore, lying 50km northwest of Khulna, was the former regional headquarter and still remains the major communication node between Khulna and die rest of Bangladesh. It has an airport with military and domestic flights, and both Khulna's rail- and highways are branched from Jessore's.

Although there were intentions to solve this transport imbalance by constructing a new airport at Foila, in the centre of the Khulna-Mongla-Bagerhat triangle, the construction site that was targeted for completion in June 2006' seems to be interrupted, presumably because of lack of investment (Dudek and Evelyne, 2008).



Figure 4.1: Situating of Khulna region within Bangladesh; Source: Dudek and Evelyne

### 4.3. History of Khulna city

Khulna is the third largest and 2<sup>nd</sup> port blooming city of Bangladesh and surrounded by picturesque countryside, winding rivers, and a host of development centers. Although the history of Khulna City extends over more than a century (figure 4.2 and 4.3; history of urban

settlement pattern of Khulna city) its growth and development took place in the recent decades, particularly in the post partition (1947) post liberation (1971) periods. Since partition of British India in 1947, the city has been growing up as an important complex of trade, commerce and industries. History reveals that the city arose as a market town and the CBD (Central Business District) of Khulna city was found beside the bank of the river Bhairab since the first master plan worked out in 1961. Now it has been determined “Duck-Bungalow more/node”. But in accordance with the spatial growth with expanding roads,

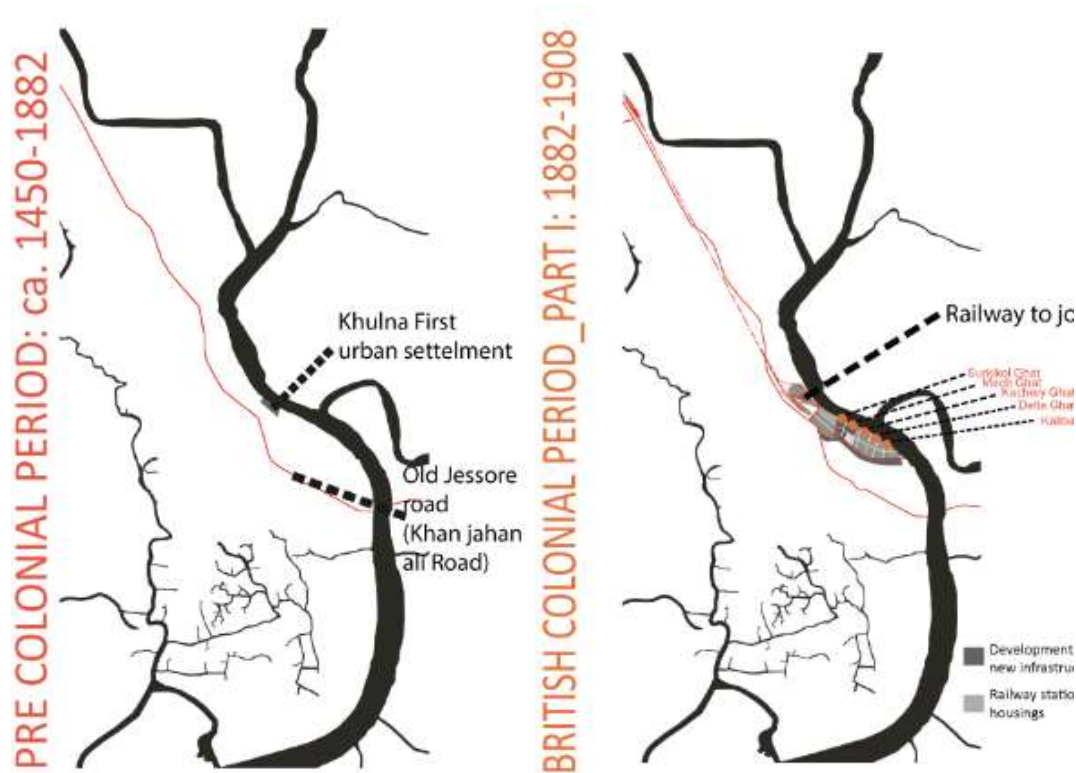


Figure 4.2: Urban settlement of Khulna city in different periods

integration core has been linearly shifted. The shift has been obvious from water to road and community to government. Road-based urbanism is still prioritized over water-based urbanism in the Khulna Master Plan. With Calcutta, trade of various goods like sugarcane and tobacco, was developed based on river route during early days. It has been observed that the main Integration Core was initiated by the side of the river bank area as the river transports were the main catalysts for the City. Then with the time it shifted to the Duck-Bungalow more/node, and now it has been found that the main vibrant nodal point is the Shib-Bari node.

Being the 3<sup>rd</sup> largest city in Bangladesh, Khulna is often referred to as Industrial City, which is considered as one of the important industrial and commercial areas of the country. The city



originated as a market town and array of administration from the past. Before being famous of Khulna city, it was recognized by focusing this marketplace. During the last of nineteenth century the marketplace established named as Charliegong (founder of the place “Charlie”) or Saheber Haat. At that time, he was the head of Nil kuthi (NK) of Khulna area. The market

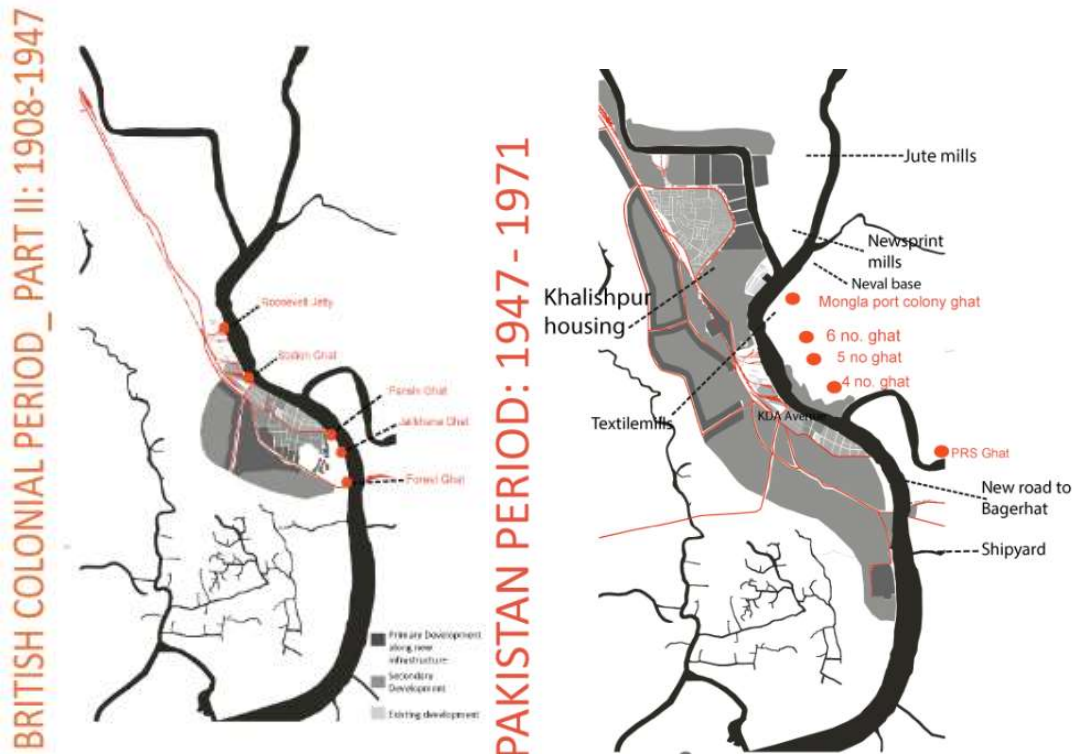


Figure 4.3: Urban settlement of Khulna city in different periods

was at the north side of his Kuthi (compartment) and in front of Rupsha - Bhairab River. Then being a river port, the importance of Khulna got increased and the significance of the market got improved. After that Khulna was recognized as a subdivision first then it was turned to a proper district. That created a high value of the place when government took the responsibilities by executing steamer service in 1880 and rail service in 1884 which was linked with Khulna and Kolkata (Mia. 2002). As a seat of administration and market, Khulna was able to attract people from surrounding areas. With all its growing prosperity Khulna was declared as a municipal town in 1884. Calcutta-Jessore railway line was extended up to Khulna in 1885 and the Khulna railway station was set up in 1908, which served as a major impetus for the growth of Khulna (Ahmed, 1991). The administrative activities in Khulna city were started or 25<sup>th</sup> April in the year 1882. Khulna was declared as a municipality on 8<sup>th</sup> September in 1884 (The Calcutta Gazette. 1884, p. 953). In 1984 Khulna was given metropolitan status by establishment of the Khulna City Corporation.—The first ever master

plan of Khulna city was prepared by a British Architects and Town Planning firm Minoprio, Spencely and McFarland in 1961. In the same year Khulna Development Authority (KDA) was created to execute the plan KDA put its effort to execute the plan whenever funds are available with limited manpower and expertise. However, a large number of plan proposals made in the 1961 plan document were not implemented, nor these plans retained their validity under the changed circumstances during this long period of time.

In 1947, when India was partitioned Khulna had a population between 10,000 to 12,000. Following partition large number of Muslims from India migrated to the then East Pakistan and many of them settled down in Khulna. In 1951 the population of Khulna City reached about 42,000. During 50s and 60s Khulna became an important centre for trading and industry, mainly, based on export of Jute and Jute goods. With the establishment of second seaport, of the then East Pakistan, at Chalna, about 20 miles south of Khulna town, the city's growth gained further momentum. Many new industries were set up and commercial activities increased and Khulna became one of the major focal point of trading and industries. The city experienced further growth following communal riot in Calcutta in 1965, when another influx of migrants settled down in Khulna.

From late 60s industrial growth of Khulna was falling due to dull export market. Following liberation in 1971, the population of Khulna showed sharp rise. But decaying industrial sector failed to absorb the new labour force. The city experienced a declining trend until 1990. From early 90s the economy started to show slow revival again based, mainly, on shrimp farming and processing activities.

#### **4.4. Morphological Development of Khulna city**

This section shows morphological development and several developments (figure 4.4) from early colonial period to present Khulna city.

##### Colonial Period; Early Phase (1700-1800)

- Business zone (subsisting farming) developed at west-delhi-bihar-urishya, murshidabad, hoogly.
- Kolkata was developed as a colonial capital. *Boro bazaar* was developed somewhere in khalispur naming shaheber hut (1795).
- By 1700-1750 shener bazaar, shenhati are assumed to be named under shen commercial farming was being developed.

##### Later Phase (1801-1947)

- In this time Khulna was made MAHAKUMA (administration under district containing

some sub-district under a district of Bangladesh) in 1842.

- *Boro Bazaar* (local market then known as firing bazaar to provide daily necessities) was shifted to the south (present location)
- Several Ghat (local name of river port) developed gradually (1850-1947) supporting *Boro bazaar* and for river crossing.
- Then big industries were not developed here.
- By 1884 railway line was established linking Kolkata & Khulna.
- Raw material was brought to Khulna by river from different region and then taken to Kolkata by rail.

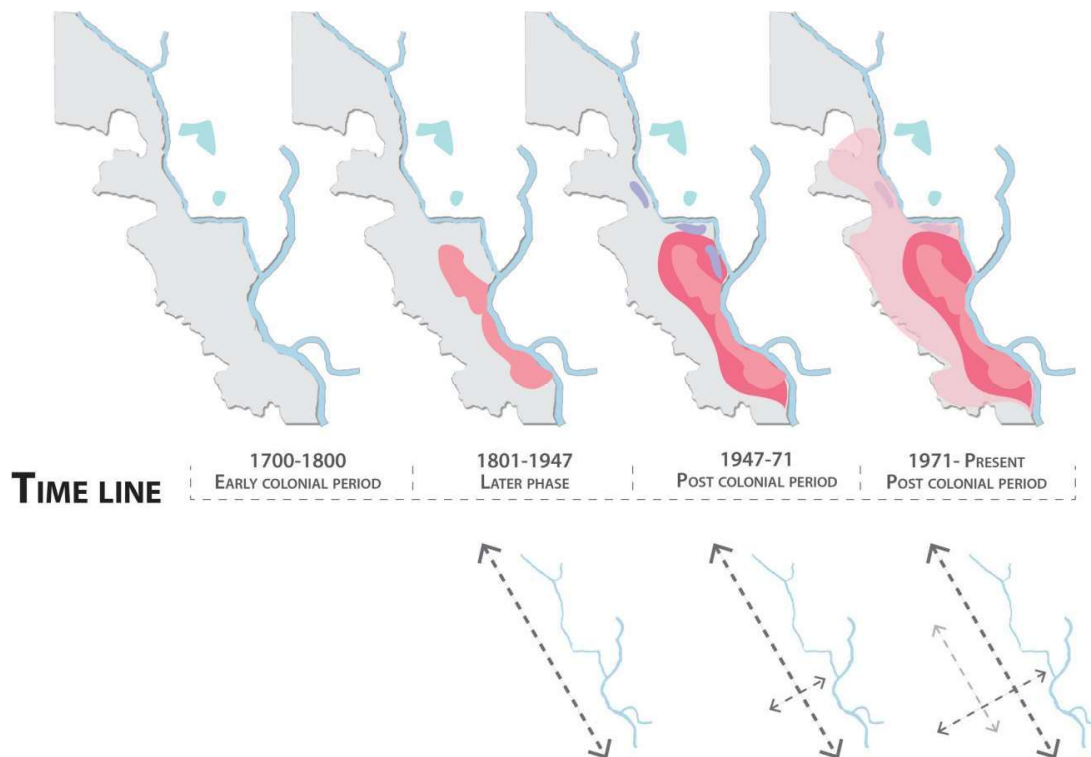


Figure 4.4: Morphological development from early colonial to present; Source: Rahat 2016

#### Post-Colonial Period (1947-1971)

##### Reason

- Political reason: partition of the subcontinent in 1947.
- Economic reason: rapid change in city development, largely because non Bengali Muslim business man invested on business because of suitable location.
- Several mills were developed gradually near Khalispur and Daulatpur and then 60-69 industries on that time was the peak of development (industrial revolution)
- By 1960 Khulna was made division.

- 2<sup>nd</sup> river port Chalna was established in 1950 and transferred to Mongla in 1954.

#### After Independence (1971-2015)

- Non Bengali Muslim shifted to Pakistan.
- Nationalization of the mills but most of industry decay their production
- By 90s terrorism made business men to shift to other places (nowapara, Dhaka)
- Development focusing main road, which was turning back to riverside
- Communication by road became major resulting in declining of river way communication.
- Shrimp and fish business developed near Mongla
- Some Ghats (river port) are already dead.

### **4.5. The Factors of Growth of Khulna city**

There are a number of factors, such as historical, physical, economic and social which ultimately shape up a city and its structure. Understanding of the city needs an elaborate explanation of these factors.

#### 4.5.1. Historical Factors

The patronage of the Hindu Zamindars who used to collect revenue for the British Government led to the spatial and demographic expansion of the urban centres facilitated by good river transport network. Coinciding with its administrative up gradation, Khulna was linked with Calcutta via Jessore by railway in 1885 allowing enhanced mobility of people and goods. With the formal opening of the Khulna railway station the town received a fresh impetus to grow demographically. Subsequently, during the partition of India and also after the liberation of Bangladesh there were big flows of migrants from India to Khulna. The rapid growth of the city is marked by these two events, which shaped the city in terms of growth. In the 1960s, however, industrialization of the city produced further impetus to grow. However, Khulna City has a long history. Between 1884 and 1947, it had a long journey with little prospects for growth. In 1947, a large number of Muslims from India had migrated to the then East Pakistan and many of them settled in Khulna. The impact of such migration was revealed in 1951 census, when Khulna population rose to about 42,000, nearly four times than it had just 5 years ago. The sequence of physical growth from 1945 to 1998 is shown in the figure 4.5.

During late 1950s, and early 1960s Khulna became an important centre for industrial development. With the establishment of a second seaport of the country at Chalna, just about 20 miles south of Khulna town, the city gained further momentum. Many new industries were

setup at Khulna and commercial activities increased manifold, and thus, the city became centre of jute industries and jute trade in Bangladesh.

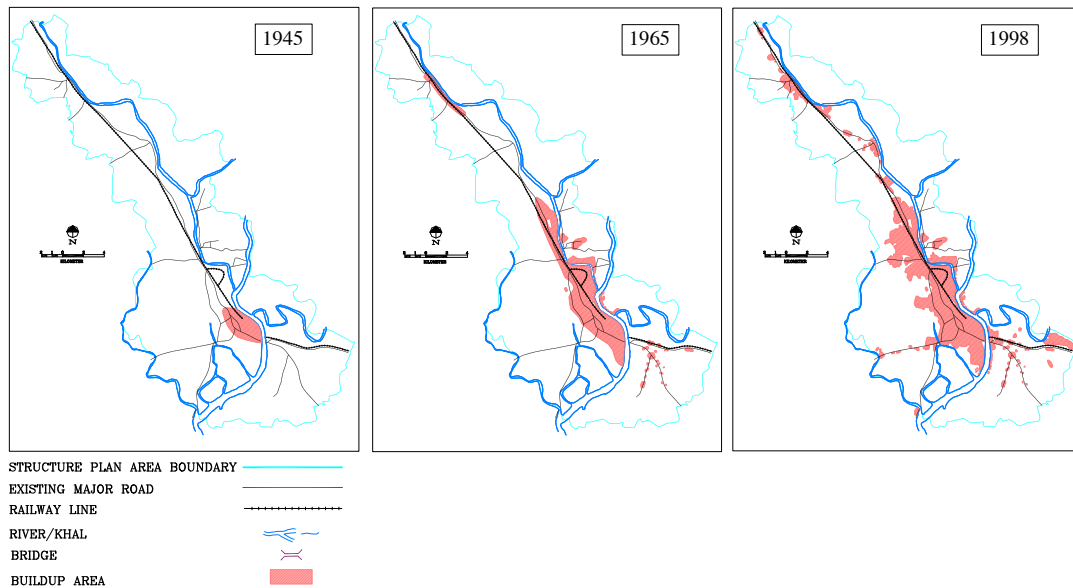


Figure 4.5: Spatial growth of Khulna city; source: KDA

Historically, Khulna has contributed to the national economy through jute manufacturing, jute bailing, newsprint industry and match factories, and shipyard and handling export goods through Mongla Port. Important industries during the British period were salt and sugar that gradually vanished after industrial revolution in Europe in that time.

During fifties and sixties mainly jute based industries, like jute processing and bailing factories developed. Industrialization created new employment and led to urbanization. However, after political changes after 1971 the industrial boom was no more, firstly, as the export market was lost, and second, most industries were abandoned as non-Bengali owners left the country. This brought about an economic decline in the local economy (Ahmed H.U., 1991).

After 1971, the population of Khulna continued to rise, but the industrial sector did not grow matching with its population growth. In fact, after 1968, the industrialization in public sector almost stopped and the huge labour force in the city were forced to seek alternative employment elsewhere. The city experienced a declining trend until the 1990s, when the economy started to revive again based mainly on shrimp farming and processing activities and the activities related to the establishment and development of a new University in Khulna and some other national level educational institutions.

Modern Khulna with industrial development is comparatively a new city although it has a long history of development. Situated on the river Rupsha and Bhairab, traditional Khulna town was known as a river port cum fishing centre since ancient times. However, with the modern industrialization Khulna held a unique position in the deltaic region of the Ganges and began to expand as economically a vibrant metropolis. The city suffered a setback with diminishing industrial activities. Nevertheless, it seems that an economic regeneration is taking place in the city based on services, business and fish processing activities.

#### 4.5.2. Physical Factors

With the characteristics of a moribund delta and tidal environment, Khulna City has some specific conditions, need to be considered for any spatial and physical planning exercise like the present one.

The physiography of Khulna region can be broadly characterized by the Ganges-tidal floodplain having lower relief and being crisscrossed by innumerable tidal rivers and channels. This physiographic unit is nearly flat and the surface is poorly drained.

The city and its surrounding areas landscapes are characterized by natural levees, floodplains old meander complex, bar, tidal marsh and back swamps. Natural levees are well developed along the Bhairab-Rupsha banks (mostly on the west bank) and are occupied mainly by the present built-up area of the city.

The surface physiographic of Khulna City is not perfectly level and can be characterized by various geomorphic units (Urban Strategy; Vol.1, Fig. 4.2, Page 16). Each of these units has different land levels. It can be observed that elevation of land decreases sharply to the east and west direction from the main city, or more appropriately, from the rivers Rupsha and Bhairab. However, along the north-south direction land levels moderately decreases towards the south. Contour lines show the terrain elevation in the Structure Plan area. The highest level of land in the Structure Plan area was found with elevation contour lines of 4.50 meters in some of mouzas of Noapara and Fultala, while the lowest lines of elevation contours with 0.50 meters were found in all thanas except Sonadanga, Khulna Sadar and Batiaghata.

By individual locations, Abhoynagar (Noapara) and Fultala, shows their highest levels of land elevation as 4.5 meters. Khan Jahan Ali thana upto 4.0 meters while Daulatpur and Khalishpur show the highest elevation up to 3 meters. Sonadanga and Khulna Sadar thana's highest elevation was found to be 2.50 meters. On the left bank of the rivers Bhairab-Rupsha highest elevation was found at Dighalia (4.0 meters) followed by Rupsha where such elevation was 3 meters. It thus shows that elevation gradually going down towards south.

Apart from the topographic conditions the city has the following natural peculiarities:

- Khulna City has a unique linear shape, extending from southeast to northwest along the Bhairab-Rupsha Rivers. Subsequently, railway line and Khulna-Jessore Road played a dominant role in shaping the city a linear one.
- Khulna City experiences high impact of salinity in its surface and ground water. This poses a problem because of a saline natural environment around the city.
- The city is almost free from natural disasters like flood, cyclone and earthquake. Both, frequency and intensity of disasters are also low in Khulna.

#### 4.5.3. Economic Factors

A linear economic corridor from Jessore to Mongla has been developed over the period due to transport network, road, railway and water. Following such condition, Khulna has emerged as a major jute processing and trading centre. This has played a significant role in the growth of the city during the 1960s. However, the City no longer depends on such important industrial base. Several new dimensions have been added to its economy. Khulna is emerging as a major shrimp processing and exporting centre in the country. Already the sector made a significant contribution to the regeneration of the city.

Traditionally, Khulna was famous for two basic industries Shipyard and Newsprint Mill. But in course of time both the industries declined to play an important potential role. Shipyard, however, has been taken over by the Bangladesh Navy for its regeneration but the newsprint mill is yet to be shown for its revitalization. Khulna still has the opportunity of having a major industrial location. Despite the closure of major nationalized industries in Khulna, the city still has a lion share of labor force in the industrial sector. Such basic characteristics indicate the potentiality of further growth of the city. Shrimp processing industry have grown profoundly in and around the city. This may be considered as resource base for the city. Low net density, but high gross density in Khulna City indicates a lack of open space and a large non- built up areas.

#### 4.5.4. Transportation Factors

Khulna is a major transit point in the south-western region. The whole south-eastern region is a natural hinterland of the city. At present its hinterland extends toward North West through Hardinge Bridge. In future, once the Pakshey Bridge is completed, the whole northwest region will be added to the hinterland of Khulna. Besides, a good number of south central districts, namely, Pirojpur, Gopalganj, Faridpur and Barisal are accruable from Khulna by road. Khulna City is located at terminal point of main western railway network. A new dimension of economic regeneration of Khulna City has begun with the renewed operation of

Khulna-Benapole railway service. The above characteristics help distinguish the city from other urban areas of the country, which consequently determine the existing and future structure of Khulna City.

#### 4.6. Demographic Characteristics

##### 4.6.1. Density of Population

Since 1960s there has been steady upward rise in the population and density in Khulna City. Table 4.1 shows year wise data on density of population in Khulna City. It is evident from the table that, following the war of liberation there was a sudden jump in the density concomitant with the rise in population. Density rose from only 7 persons/acre in 1961 to 38 ppa in 1974, a rise of about 542 percent. Then gradually the rate of migration fell down as the local economy lost its pace of growth. This situation continued till 1991, then the density was found moving upward again in 2001 the density was the highest with 75 persons/acre or 18424 persons/sq.km. Based on projected population density has been estimated by the consultant for the year 2013, which shows 89.05 persons/acre or 22004.72 persons per square kilometre. This is about 18.73% increase over 2001.

**Table-4.1: Density of Population in Khulna Municipality/Khulna City Corporation**

Year	Density of Population		% increase
	Density/Acre	Density/Sq.km.	
1961	7	1740	-
1974	38	9506	446.32
1981	49	12216	28.51
1991	58	14420	18.84
2001	75	18424	27.77
2013*	89.05	22004.72	18.73

*Source: Bangladesh Population Census, 1961, 1974, 1981, 1991 and 2001, Bangladesh Bureau of Statistics. \* Estimation based on projected population.*

##### 4.6.2. Past Population Growth in Khulna City

The growth rate of population in KCC area between 1991 to 2001 was 2.71%. In 1991, the population of KCC was 6, 63,340 that rose to 7, 70,231 in 2001. During a period of 10 years, the population of KCC increased by 16.11% (Table 4.6.2). Whatever the growth rate is, observation from projected data indicates that the absolute population of the Khulna City has increased moderately during the last two census periods. Based on population census



information, Table 4.2 shows the growth of population in Khulna City from the beginning of the last century till 2001.

**Table-4.2: Population of KM/ KCC Area-1901-2011**

Year	Municipality/ KCC Population	Growth Rate/year
1901	10,430	--
1911	18,170	5.55
1921	23,500	2.57
1931	28,000	1.75
1941	34,000	1.94
1951	42,220	2.17
1961	80,220	6.42
1974*	4,37,300	13.04
1981	5,61,950	3.58
1991	6,63,340	1.66
2001	7,70,231**	2.71
2011	6,88,881	-

*Source: Bangladesh Population Census, 1974-2001, BBS.*

*Note: \* The census of 1971 could not be held because of the Liberation War. The census was held in 1974 after liberation. \*\* New estimation as per BBS instruction in 2012.*

During the post-independence years, Khulna City experienced exorbitantly high increase in population following socio-political turmoil during 1971 war of liberation that led to massive rural-urban migration after liberation. Population in the study area was 13,01,266 in 2001 that rose to 17,69,233 (projected) in 2012.

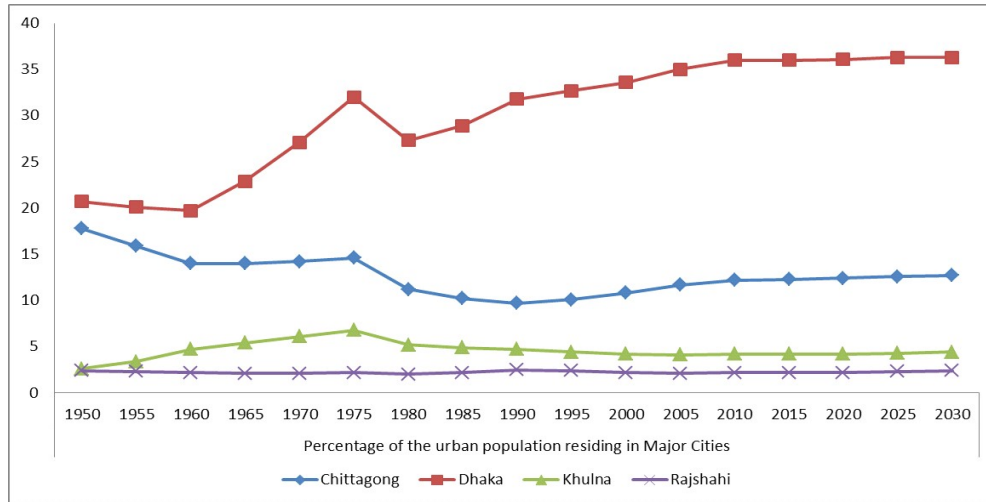
#### **4.6.3. Expected Economic Prospects in Khulna**

The urban areas of Bangladesh hold about 30% of the country's population but contribute up to 60% in the national GDP (Choe and Roberts 2011). This situation indicates the immense difference of productivity between the urban and the rural areas. This is the main reason why poor people from rural areas swarm into large urban centers. They want to take advantage of the more productive urban economy for earning their living.

Urbanization is generally defined as the rate of growth of urban population, however, the nature and extent of contribution of urbanization to national development is decided by how a city performs economically. Urban areas augment economic progress through economies of agglomeration. The prosperity of an urban centre depends on how efficiently the various resources offered in urban areas are utilized. Any development in the urban centre and its environs has direct implications to the regional economy. In south-western region of the

country, Khulna City has greater economic, social and administrative importance than any other urban centres in the region.

Khulna is not only the largest urban centre in the south-west region, but also gateway to the Mongla Port, the second sea port of the country. But despite all the advantages and facilities, the rate of urbanization in Khulna City is showing a declining trend over the years. As the



Source: Prepared from Raw Data from Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects

Figure 4.6: Urbanization trend and projections for four Major Cities in Bangladesh

figure 4.6 with real and projected data until 2030 shows, the growth of population in Khulna City maintains a stagnant rate compared to Dhaka and Chittagong, the two largest urban centres of the country. The population census data of 2011 shows that the population of Khulna has reduced by about 17 percent compared to the population of 2001. Such trend undermines the role of Khulna City as a development focus in the region.

The nature of expansion of Dhaka City clearly indicates the roles of some driving forces behind, that attract large scale immigration into the city. These driving forces are, nothing but the proliferation of employment generating manufacturing sector, large market and the advantages services and facilities not adequately available in other parts of the country. There is no such driving force to attract investment in Khulna leading to large scale immigration. Data shows that compared to the other divisions of Bangladesh, urban poverty situation has worsened in Khulna Division (Table 4.3). The rural migrants are attracted to urban centres for livelihood. But this not happening for Khulna City as there is not adequate opportunities for employment in this city that can't attract large scale immigration.

**Table- 4.3: Incidence of Poverty in the Divisions of Bangladesh 1995-2000 (Cost of Basic Need, CBN Method)**

1995–96	Upper poverty line (per cent)		Lower poverty line (per cent)	
	1995–96	2000	2000	2000
National	51	49.8	34.4	33.7
Dhaka	40.2	44.8	27.8	32
Chittagong	52.4	47.7	28.6	25
Khulna	55	51.4	36.4	35.4
Rajshahi	61.8	61	46.9	46.7

*Source: BBS 2001, Hossain 2011*

The poor migrants prefer Dhaka than Khulna, and so Khulna is declining in respect of urbanization. It is evident that the rural migrants bypass Khulna and go to Dhaka to try their luck in the job market.

#### **4.7. Urbanization and Settlement of Khulna city**

Urbanization is increasing thereby creating demands for housing and other infrastructures. The continuous urbanization has already made Khulna the third-largest city in the southwest part of the country. Khulna comprises of 46% built-up area, 15% industrial area, 5% commercial area and the rest is occupied by transport infrastructure, official buildings, community and defence, facility parks and water bodies (Aqua Sheltech, 2002 as cited in ADB 2010). More recent analysis of quick bird image revealed that the Khulna City Corporation area includes 52% built-up (40% without and 12% settlements with homestead vegetation), 4.7% industry, 8.5% open space, 5% transportation network (road 4.16% and railway 0.62%) and 1.87% slum areas (CEGIS estimate). So, there is already an increase of 8% built-up area within the last ten years. (Following figure 4.7: Khulna City Structure Plan Area; Detailed Land Use Map, 4.8: Generalized Land Use Map, 1998, 4.9: Structure Plan, Master Plan and Detailed Area Plan for Khulna City; Structure Plan and Master Plan Area Boundary, 4.10: Structure Plan, Master Plan and Detailed Area Plan, 4.11. Existing Road Network for Khulna City; Master Plan Land Use Zoning; source: KDA). However natural hazards, poverty and better job opportunities make people to migrate from the vulnerable coastal areas towards the cities like Khulna. If the impacts of climate change persist then, the number of migrated population will also increase. The urban poor end up in slums or squatter settlements. According to a study conducted by CUS, the 520 number of slums was identified

in the KCC area constituting 20% of KCC's total population in 2005. So the slum population was 189,000 living in 37,826 households. Even outside the slums, some areas were located where the urban poor continue to live (CUS, 2006).

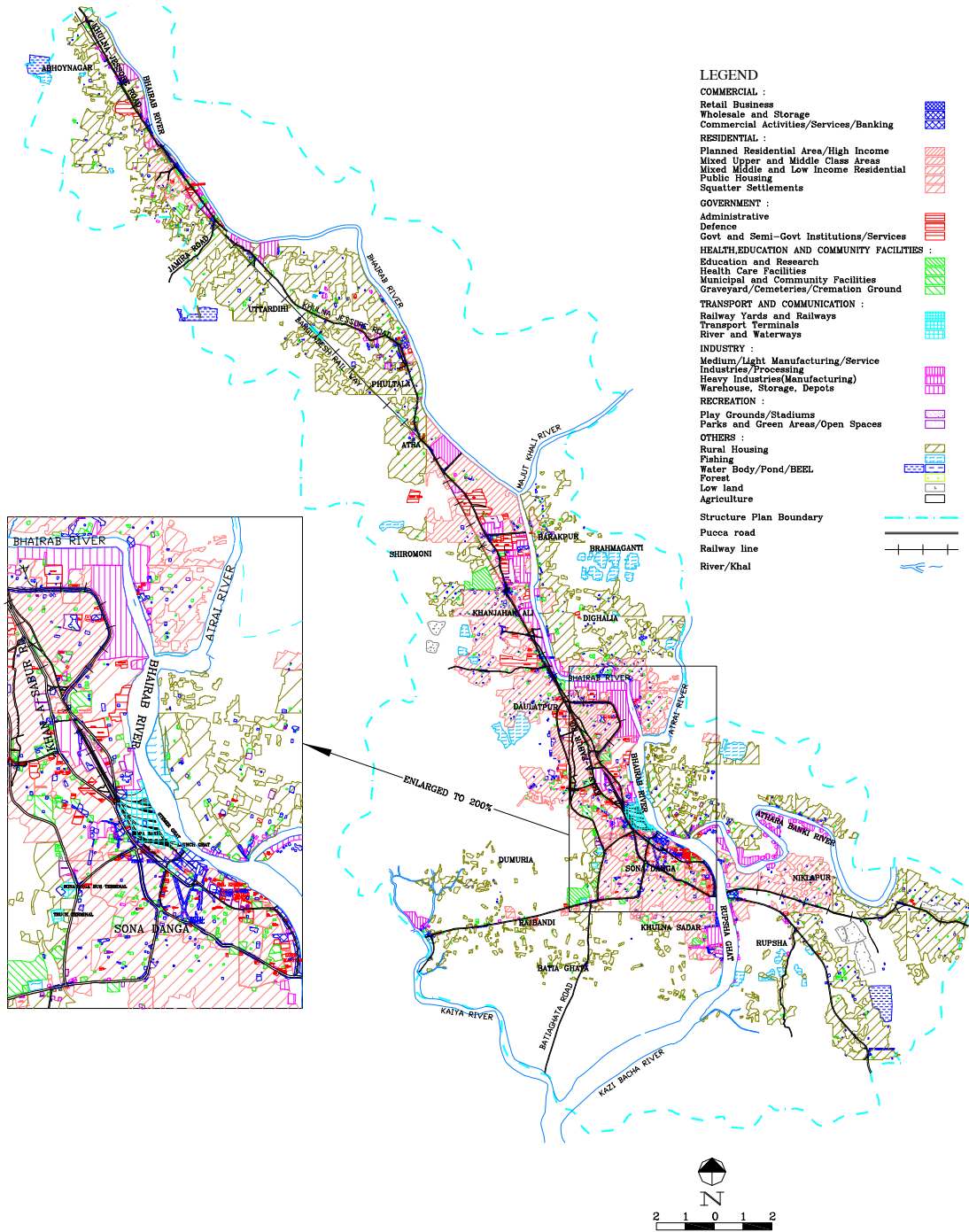


Figure 4.7: KHULNA CITY STRUCTURE PLAN AREA; DETAILED LANDUSE MAP, 1998; source: KDA

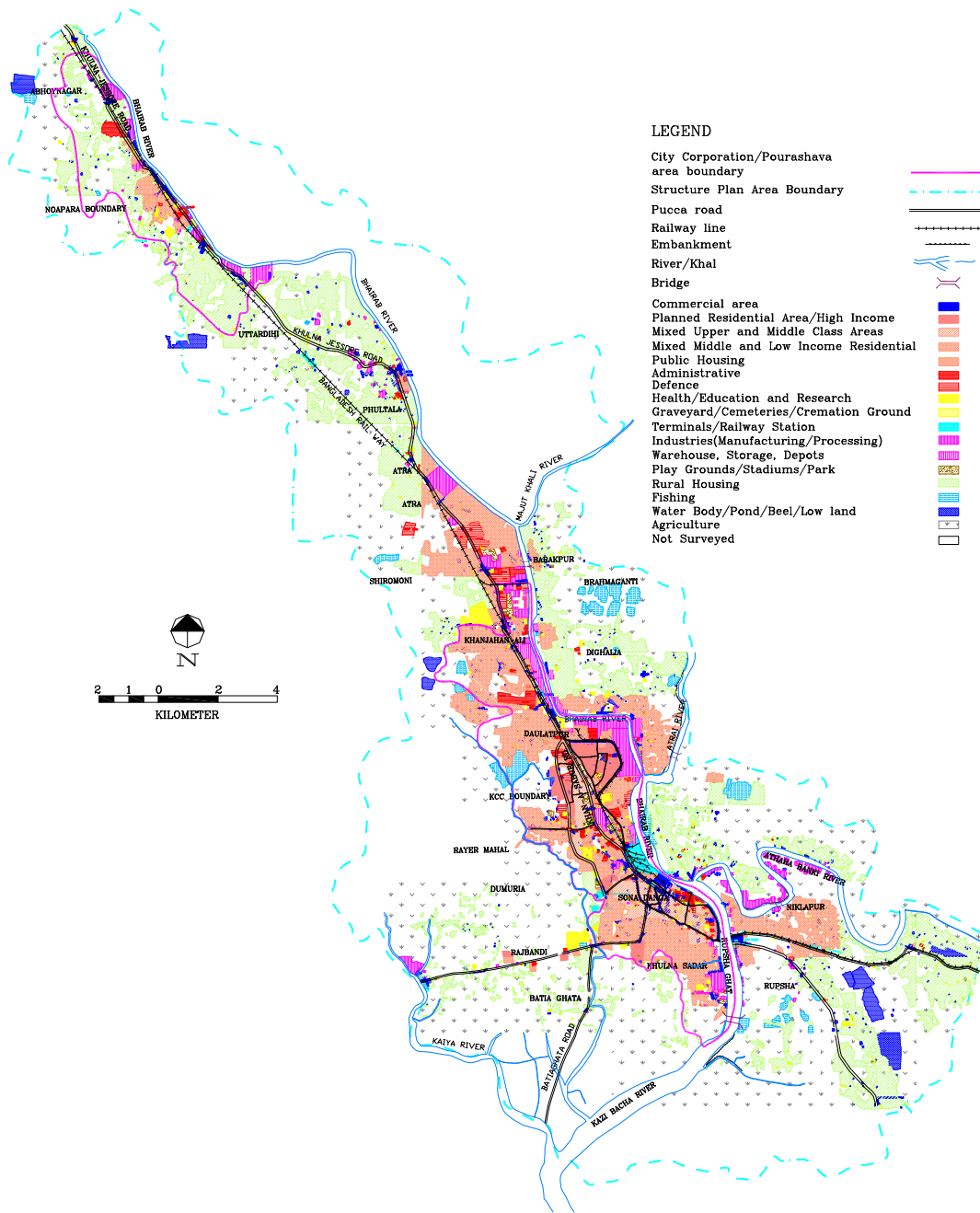


Figure 4.8: KHULNA CITY STRUCTURE PLAN AREA; GENERALIZED LANDUSE MAP, 1998; source: KDA



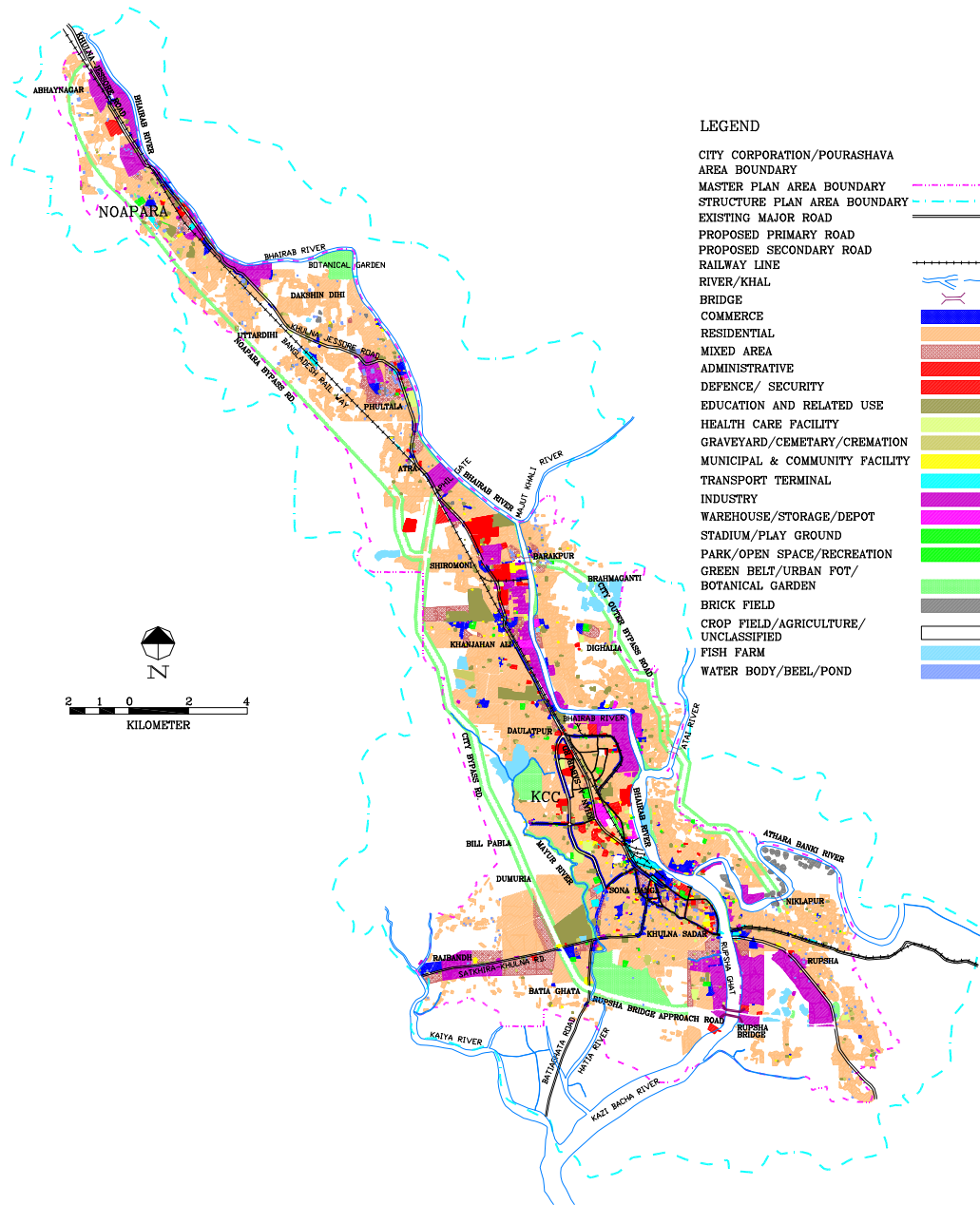


Figure 4.10: STRUCTURE PLAN, MASTER PLAN AND DETAILED AREA PLAN FOR KHULNA CITY; MASTER PLAN LANDUSE ZONING; source: KDA

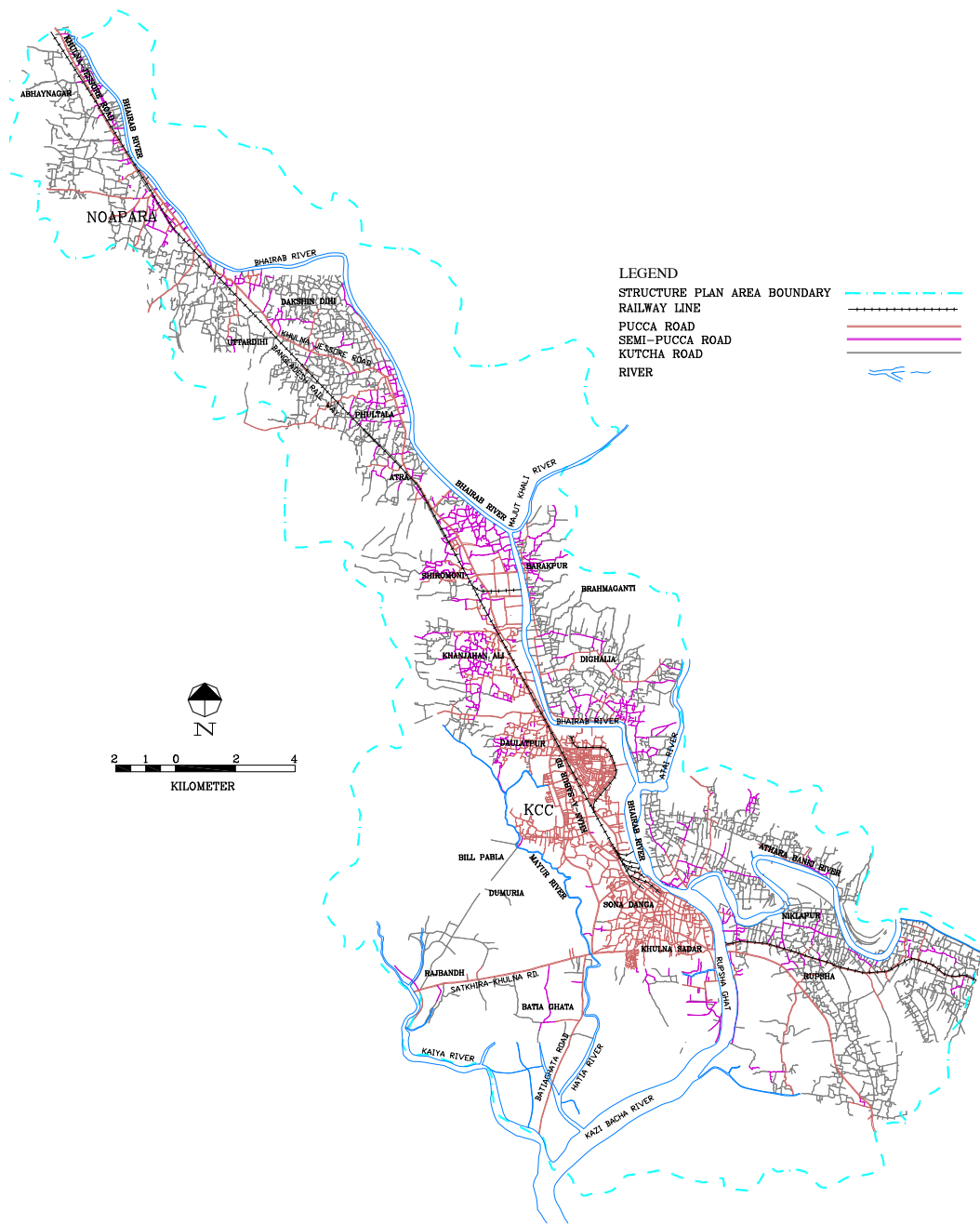


Figure 4.11: EXISTING ROAD NETWORK; STRUCTURE PLAN, KHULNA CITY;  
source: KDA



#### **4.8 The regional economy of Khulna**

Khulna was predominantly a city of industry and shipping. Although the city of Khulna serves the whole south-western region of the country in terms of providing transport and trade network, port facilities, extraction of raw materials for industries, health and education facilities, yet the core area linked to the city could be consisting of the districts of Khulna, Satkhira and Bagerhat. Other districts of Khulna division, like - Barisal division and greater Faridpur comprising the peripheral areas to the hinterland of Khulna. However, the city has economic linkage with the whole nation by the port of Mongla, inland port of Benapol, and an industrial base. A special attraction of the region is the Sundarbans, one of the world's largest mangroves, and the recent development of shrimp farming and shrimp processing plants. The silent features of the region, the districts of Khulna, Satkhira and Bagerhat in the national context is briefly described below:

- The region comprises of 8.30 percent of the total geographical area of the country, while it accommodates 4.70 percent of total population indicating substantially lower population density. This is mainly because of having the Sundarbans covering almost the whole of the southern half of the region. Effective density of the region is therefore, close to that of the national average. Hence, availability of agricultural land per capita is not very different from the national average.
- The region accommodates almost the whole of the mangrove forests of the country, the Sundarbans and covers 26 percent of the country's forest area.
- Khulna contributes to about 82 percent of shrimp production and 74 percent of shrimp area of the country. The remaining shrimp area and production are mainly located in the Cox's Bazaar district. It should be noted that, close to 8 percent of the nation's export earning comes from shrimp and frozen food which is mainly concentrated in Khulna region.
- The annual growth rate of regional GDP of Khulna during 1991-1995 was 4.4 percent. A current estimate shows that the regional annual GDP of Khulna at Tk.27.5 bn. during 1990-1995. In terms of sectoral share, agriculture declined from 37.4 percent to 33.7. (KDA Detailed, Area plan- 2003, Volume-II).
- Percent over the period of 1990-1995. Service sector remained more or less stagnant while the shares of both industry and manufacturing increased respectively from 16 and 9 percent in 1990-1991 to 19 and 12 percent in 1994-95. Although the sectoral composition of GDP is structurally more or less the same as the national situation, the share of manufacturing and transport and communication sectors are higher than the national situation and this is likely to continue in the near future.

- A significant proportion of the country's timber production comes from the Sundarbans.
- Khulna has tremendous tourist potentials, subject to provision of safe accommodation in areas like Heron Point and convenient transport facilities by fuel efficient, safe and speedy water craft between Mongla and Hiron Point and Khulna.

#### **4.8.1 The Metropolitan Economy**

Khulna is the third largest metropolis and the largest city of the south-western part of the country, which was explained before. The city with a population of 1.20 million serves not only the city dwellers, but also a large hinterland-the smaller towns and rural areas in the south-western region of the country.

The greater Khulna City comprising of Khulna city corporation Area; Rupsha area; the left bank of Bhairab River (Dighalia). In addition, Mongla Port area roles and services could also be considered as the part of greater Khulna City area. The city provides services: Serves as an inland river port connecting the river ports of the region to Mongla, Barisal, Dhaka, Chittagong and through these inland ports to the rest of the country and rest of the world; provides a link between railway, road, highways and water network; once grew as an industrial base mainly centering around the jute industries in Daulatpur and Khalispur, newsprint industry in Khalispur, Steel mill in Labanchara, Metal factory in Rupsha, and shipyard in Labanchar;

Khulna City traditionally contributes to the national economy through jute manufacturing, newsprint industry, match factories, shipyard and by handing mainly of all over the city. While the industries at the public sector have been suffering, it is only very recently that the economy of Khulna seems to be showing signs of improvement due to the emergence of shrimp processing activities. In addition, some of the new national level institutions like Khulna University, Medical College, BIT, etc are also contributing to its fragile economy.

#### **4.9 Existing Housing condition**

For the changing pattern of economic structure in Khulna city we can see that the housing area increase and many middle-man who dells with the project and get more interest. In the central city area, a substantial amount of land is occupied by public agencies, which is in most cases unused or underused.

There were 1,87,195 housing units in the proposed structure plan area in 1991. If the corresponding number households during the same period were compared, there were

shortages of 12,358 housing units (6.6percent). In the KCC area, such shortages of housing were 8 percent. This gives marginal shortages of housing units in Khulna, which is 7 percent. In other words, about 7 percent of the households were not properly housed. Thus, compared with the national situation, Khulna seems to be comparatively in a better condition.

There are five major housing delivery sub-systems in the structure plan area. These subsystems and their corresponding proportion of housing units (Department of Sociology University of Dhaka, 2012):

1. Private housing subsystem .....90 percent
2. Public housing subsystem .....1.50percent
3. Development authority’s sites and services schemes .....4.00percent
4. Squatter subsystem .....4.00 percent
5. Others (Floating, footloose etc) .....0.50 percent

The operation of private housing subsystem takes place in two ways: formal and informal, the size of the latter is overwhelmingly high. Private formal sector in Khulna is yet to come forward, although some real estate developers already provided a very few sites and services schemes.

Under public housing subsystems, public sector employees in the central city area were provided accommodation. In the context of total housing needs, even for the public sector employees, the supply is not adequate.

Various development authorities such as KDA and HSD (Housing Development) provided a limited number of plots under sites and services schemes. Khalispur, Sonadanga, Mujgunni, Nirala and Boyra residential area were developed. The lowest income groups of the city dwellers live in City’s 172 slums and squatter settlements (with minimum cluster of 10 households). The settlements are found all over the city.

#### **4.9.1 Planned residential areas**

Planned residential areas in the city are of two categories: public sector sponsored sites and services projects; apartment based staff housing of public sector agencies. The development of sites and services schemes in Khulna is quite remarkable. Although the plots were allotted in the housing estates long ago, the growth of structure and development is rather slow, particularly in low income housing areas such as Boyra. Lack of affordability, low demand for pucca housing, absence of HBFC loan are perhaps the major reasons for non-construction of structures in these areas. Situation in high-income areas are like Sonadanga and Nirala is comparatively better. The major staff housing areas belong to important local and national

level agencies. The staffs housing areas is mostly provided with all necessary utility and service facilities. The emerging third category is the private formal sector development. At the moment, several sites and services schemes are being promoted. However, the real estate developers have coordination with city development authority, KDA. (KDA Detailed, Area plan- 2006, Volume-II).

#### **4.9.2 Housing Quality**

In terms of building materials used in roofs, only 22 percent of the units were made of concrete in 1991. The remaining housing units were temporary in nature. In KCC area, the situation is however, comparatively better, where concrete houses were about 31 percent. There were 36 percent concrete houses during 1998. Room occupancy by household's shows room occupancy by household's shows the pattern of congestion in the living environment. In Khulna however, congestion is not that acute as usually found about 27 percent of the households occupy one room house, most of whom are poor living in slums or squatter settlements. The poor in slums and squatter settlements use up to 400 sq.ft. on average.

In general Khulna is a low height city. Most of the residential units are one storied and there is very little vertical expansion of even pucca buildings. Both physical and economic constraints are responsible for such low height development. The old residential areas, characterized by one and two storied structures of bricks and steel truss roofs, still shows reasonably good and most houses are well maintained. Semi urban settlement are common along either side of the rivers Bhairab and Rupsha and Khulna- Jessore railway line and road, except in the older part of the city. These settlements are characterized by low net density in terms of both housing as well as population. Housing structure is predominantly kutcha, but a good proportion of pucca and semi-pucca houses are also found in these areas. These settlements are predominantly occupied by the native inhabitants. The southern part of the city, where main residential areas have been developed, is characterized by such spontaneous housing development. The southern part of the city developed as residential zone where old residential areas like - Toot para, Ray para, Musalmanpara are situated. Side by side, new residential areas developed in Bagmara, BK Road, East Baniakhamar, West Baniakhamar, Banarganti and Gobor Chaka are old residential areas.

#### **4.9.3 Low income housing areas**

A large segment of Khulna urban population belongs to low income groups. It has already been indicated that there are 172 clusters (of 10 households or more) slums and squatter

settlements in the Khulna city corporation area in the year 1999. These settlements, in fact, do not follow any pattern within the city. However, it can be said that most concentrations of these settlements were found near the centers of employment.

Nearly 20 percent of the population of Khulna City Corporation live in these slums and squatter's areas. There is a marked difference between the numbers of slums and squatters.

An assessment by Department of Sociology (Dhaka University) shows that the members of slums are almost twice (106) the number of squatters (66). The 66 square settlements, as found in the survey are located mainly on public land in and around Khalishpur, Rupsha, Sonadanga areas. The slums 106 in number are located all over the city. Most of the settlements are very old. Slum improvement project (SIP) identifies 55 slums in the city of varying sizes where the city's poor people live and launched improvement programs. Other studies identified slums in the city of varying sizes. The major slum and squatter areas are: Rupsha slum at Rupsha area; Alamdanga slum at Khalishpur and Sonadanga slum at Sonadanga area.

#### **4.10. Planning in Khulna City: A General Introduction**

Before the introduction of a master plan in 1961, Khulna city grew haphazardly without any spatial control and regulation. Between 1900 and 1961, roads, business structures, housing units or any other constructions were aimed to meet the short-term demands of the city dwellers. In 1961, a tentative land-use plan was produced which tried to organize the city into different land use zones (figure 4.12). Following were the policies of previous master plan -

- The planning policies at that time did not make any extensive projections or surveys to come to decisions, rather, the decisions depended on the opinions of the planning consultants.
- It underestimated the urban population growth and failed to foresee the economic stagnation of the city. The plan predicted that the population would grow by 2.5%, but the actual rate in the next 20 years was 12%.
- Again, the document lacked clear directions on transport, housing, public buildings, industry, utility services, open space and land.
- The 1961 plan only considered a macro framework emphasizing the physical setting (KDA, 2002a, 200b).
- The planning document lacked detailed studies and an analysis of economic, social and demographic variables.

- Consequently, in 1998, the KDA ignored the previous proposals of the 1961 plan and introduced a four-tier planning system for Khulna city. The planning document was known as ‘Khulna Master Plan 2001’.

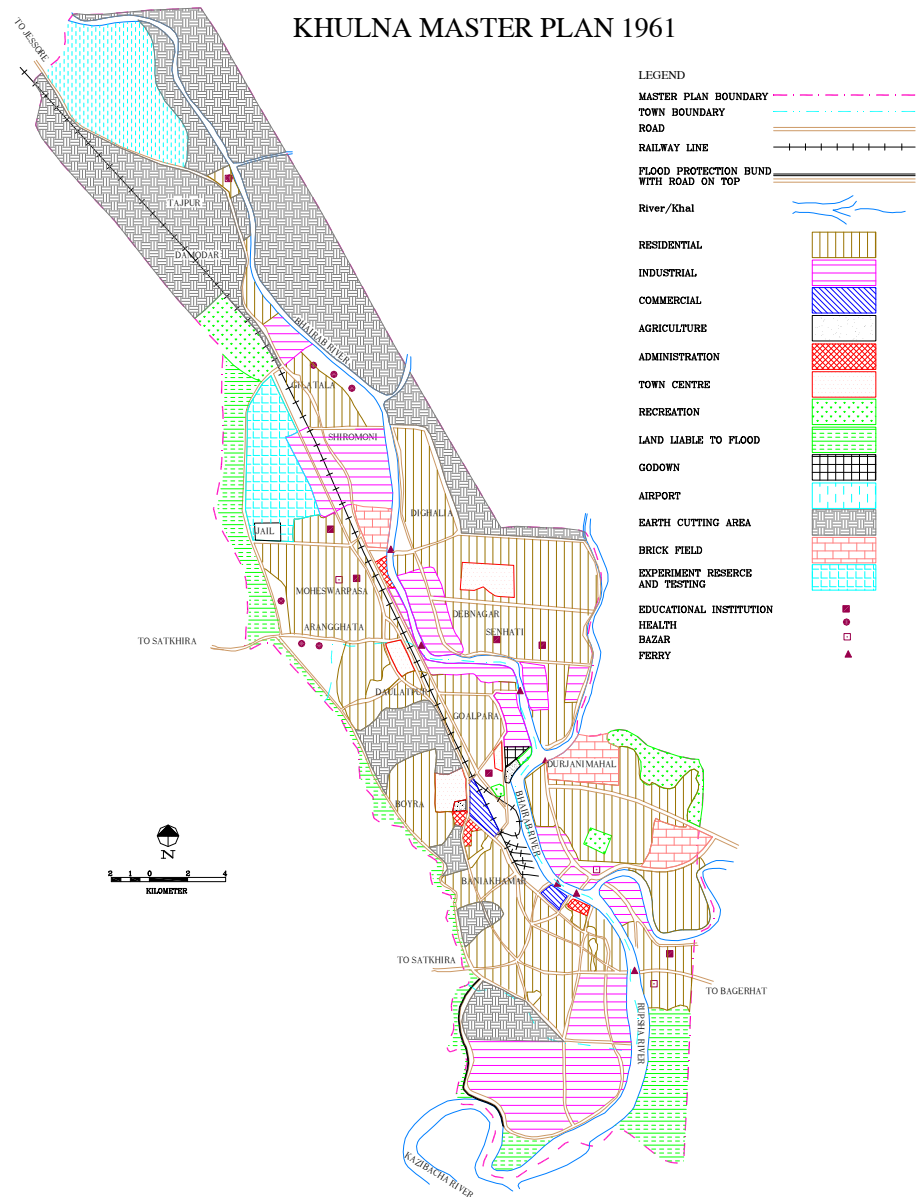


Figure 4.12: Khulna Master Plan 1961: source KDA

- Though the plan did not follow a conventional blueprint planning approach, the KDA retained the term ‘Master Plan’ for the entire plan package because of the wider familiarity and popularity of the term over several decades in the country (KDA, 2002a, 2002b).

#### **4.11. Institutional Arrangements for Urban Planning and Development**

A brief overview of the national-level institutional arrangements for urban planning can help understand where the city-level system falls within the current practice. There are seven administrative divisions comprising sixty-four administrative districts (Zilas) and 481 upazilas. Upazilas (also known as Thanas) are again sub-divided into 4,498 Unions (the equivalent of an urban ward); furthermore, the Unions are divided into 60,315 Mouzas. While there are seven divisional-level administrative headquarters to govern the national system, these units play a minor role in city development because their focus is on comprehensive rural development. Again, 211 upazila headquarters are designated as urban townships, but these towns are still under the regulatory procedure structured to govern rural development. Overall, the national-level administrative system mainly focuses on rural development and the establishment of rural-urban linkages to ensure efficient rural development. The national administrative system follows a combination of non-political and political administrative processes. On the one hand, the government appoints administrators to manage and distribute development budgets and works, while on the other, these development works are conducted by elected members at each level.

In urban areas, development authority's (5 authorities), city corporations (6 city corporations), municipalities (there are 308 municipalities), wards and Mohallas are the main administrative units. This system is almost disconnected from the existing national regulatory system and designed to govern autonomous city corporations and municipalities. Each of the city corporations has municipality or city corporation wards. These wards are again sub-divided into clusters of neighbourhoods known as Mohallas. Each municipality or city corporation ward has its own elected representatives chosen by the local voters. At the next administrative level, voters within their jurisdictions directly elect the municipality chairpersons or the mayors of city corporations. City corporations are autonomous bodies directly governed by the Mayors and connected to the national administration through the Local Government Division (LGD), whereas a municipality runs with the assistance of the Local Government and Engineering Department (This department is also a part of the LGD) and enjoys autonomy at the local level. In fact, city-level administration is more political than the rural administrative system. With less control and regulations by the national-level administrations, the development processes in the urban areas are the responsibilities of the elected chairpersons and mayors. Nonetheless, in parallel to the city corporation, four main cities (Dhaka, Khulna, Rajshahi and Chittagong) have unitary development authorities for producing urban planning strategies for these cities. Following tables 4.4, 4.5, 4.6, 4.7 and 4.8

explains different urban development and planning framework in Bangladesh and functions KCC, KDA and several agencies as well.

<b>Central Government</b>							
<b>Parliament of Bangladesh</b>							
Government Ministries	Ministry of housing and public works	Ministry of local government, rural development and cooperative	Ministry of communication	Ministry of environment	Ministry of planning	Other ministries	
Government departments	Public Works Department	local government, Engineering departments	Roads and highway departments	Department of environment	Department of planning	NGO Affairs Bureau	
Non-departments Public Bodies	Housing building Finance corporation						
	<b>Urban development Directorate</b>	Department of public health Engineering					
<b>Non-Government Bodies</b>							
Development Partners and Non-Gov Organization						World bank, ADB, DFID (UK) UNDP GTZ (Germany) United Nations Capital Development fund (UNCDF)	
<b>Local Government</b>							
Government Bodies Tier 1	<b>Metropolitan Cities Development Authorities</b>	<b>City Corporation</b>					Local NGO,s
Government Bodies Tier 2 (Non-Metropolitan)		<b>Municipalities</b>					Local NGO,s
Government Bodies Tier 3 (other urban areas)		<b>Small urban centers</b>					Local NGO,s

**Legends**

**Red** colored text-actively involved in the urban planning and implementation process

**Black** colored text-passively involved in the urban planning and implementation process

**Blue** colored text-very limited initiatives in the urban planning and implementation process

Table 4.4: Urban development and planning framework in Bangladesh; Source: Sowgat, 2012



**Table 4.5: Agencies involved in the urban management of Khulna city and their Roles**  
***Government department and non-department bodies***

Local Government Engineering Department (LGED) - Physical Infrastructure  
 Public Works Department (PWD) - Housing-related infrastructure  
 Roads and Highways Department (RHD) - Roads  
 Bangladesh Water Development Board (BWDB) - Flood Control, embankments  
 Department of Public Health Engineering (DPHE) - Water supply and Sanitation  
 Divisional Police Administration (DIG Office) - Law and Order  
 Bangladesh Railways - Railway Transport  
 Bangladesh Road Transport Authority (BRTA) - Road Transport  
 Directorate of the Environment (DoE) - Environment  
 National Housing Authority (NHA) - Housing for low- & middle-income groups  
 Bangladesh Small & Cottage Industries Corporation - Small & Cottage Industries  
 Board of Investment - Industry

***City-level public agencies***

KDA - Planning and development control  
 Khulna City Corporation (KCC) - Municipal Services

***NGOs***

NGOs - Slum up-grading, solid-waste management, sanitation for the poor, micro credit  
 Private sectors, communities and individuals  
 Different owners' associations (Business, transport owners) - safeguarding interests of owners.  
 Individuals.  
 Community-based committees - Slum improvement, Solid-waste management  
 Savings and loan groups - Saving and arranging loans for income-generating activities.  
 Real-estate developers - Housing and commercial development.  
 Entrepreneurs who invest in businesses.

Source: Sowgat, 2012, KDA 2002a

**Table 4.6: Functions of the KDA**

Main sections	Functions
Planning section	-Preparation of master plans and area development plans.
Authorization sections	-Giving planning permission for building construction. -Taking legal action against unauthorized development.
Project section	-Budgeting, implementing and monitoring different housing, commercial, industrial and road construction projects according to the guidelines in the master plan
Estate section	-Land acquisition and land development for the site and service schemes. -Allocation and transfer of developed land to third parties.

Source: Drawing on KDA, 2012

**Table 4.7: Functions of KCC**

Departments	Activities
Civil Works and Engineering	-Construction and maintenance of foot over-bridges, underpasses, public markets, roads, public toilets, public baths, gardens and parks and the drainage system. -Planting trees on public streets and places.

	-Lighting of the public streets. -Maintenance, administration and lease of public properties under the ownership of the City Corporation and the administration of municipal property and land.
Solid waste management	-Management of solid waste from domestic, business and hospital premises and from streets, public toilets and drains.
Health and Services	-Mosquito control and disinfection activities. -Immunization, health service hospitals, maternity centers and charitable dispensaries. -Registration of all births and deaths within the area of the city. -Sanitation and water supply.
Revenue	-Collection of tax for holding number, new buildings, transfers of property and amusement. -Collection of revenue through licensing trade, non-motorized vehicles, allocation of shops and rents from markets,
Slum development	-Housing and sheltering the urban poor for the slum and squatter dwellers. -Improving sanitation, drainage, footpaths, street lightings, solid waste disposal, education and micro-credit provisioning in the slums.
Social welfare	-Management and maintenance of social spaces including graveyards, community centers, welfare homes and libraries. -Organizing social events to celebrate important days.
Urban planning	-Implementation of development plans. -Planning permission for buildings over six stories.

Source: Drawing on KCC, 2010 and www.dhakacity.org accessed on April 2010

**Table 4.8: Planning policy framework for Khulna city**

Plan	Mapping scale	Duration of the plan
Urban strategy	Not Applicable	20 years
Structure plan	1:10,000	20 years
Master plan	1:3,960	10 years
Detailed area plan	1:1,000-1:2,000	5 years

Source: Sowgat, 2012 after KDA, 2002a

#### 4.12. The Planning Process

Planning in Khulna city adopted a one-directional and three-stage planning process for preparing the KMP 2001. The major stages in planning comprise the conceptualization of issues, the understanding of detailed problems and plan preparation (Figure 4.13). At the beginning, planning consultants gain an insight into the issues through preliminary surveys and secondary materials. Then, at the inception, reports and detail strategies for further studies are set. In the second stage, consultants appoint surveyors to conduct different surveys to obtain quantitative information.

At this stage, a community consultation meeting takes place to canvass opinion about different urban issues. Findings from the surveys and consultations are accumulated along

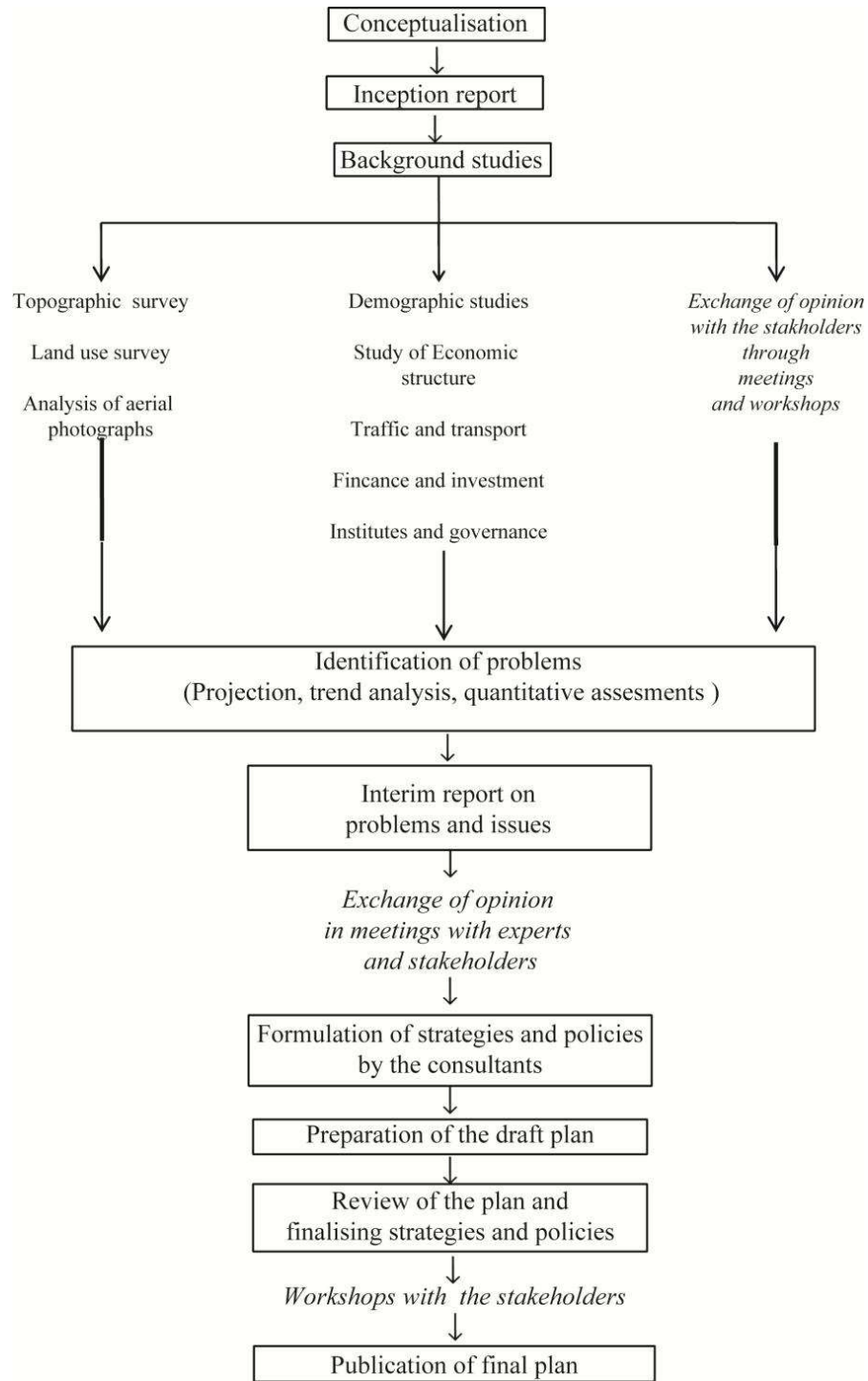


Figure 4.13: Planning process applied for preparing KMP 2001, Source: Sowgat, 2012 after KDA, 2002b

with available secondary statistical data to perform scenario analysis. Identified issues are compiled in the interim reports. In the third stage, consultants prepare strategies and proposals. Different alternative proposals are outlined while preparing drafts and, finally, the planning consultants decide on the best proposals and the plan is finalized.

#### 4.13. Urban Planning and Governance

The Khulna city governance or metropolitan management is dominated by the elected body of urban local government – Khulna City Corporation (KCC) and government constituted Khulna Development Authority (KDA). While KCC is primarily responsible for delivering municipal services, KDA is charged with the development, improvement and expansion of Khulna town and areas in its vicinity. In short physical development, KDA has a larger physical area to take care of than KCC.

Other important institutions and government field agencies such as Mongla Port Authority, Bangladesh Railway, Roads and Highways, Power Development Board, House Building Finance Corporation Local Government Engineering Department (LGED), Public Works Departments, Housing and Settlement Directorate, Bangladesh Inland Water Transport Authority, Bangladesh Water Development Board (BWDB), Bangladesh Telephone and Telegraph Board, Facilities Department and Bangladesh Railway also perform certain physical development influencing the Khulna's urban form. Besides these, the private sector and NGOs also play an important role in shaping the spatial development of the city.

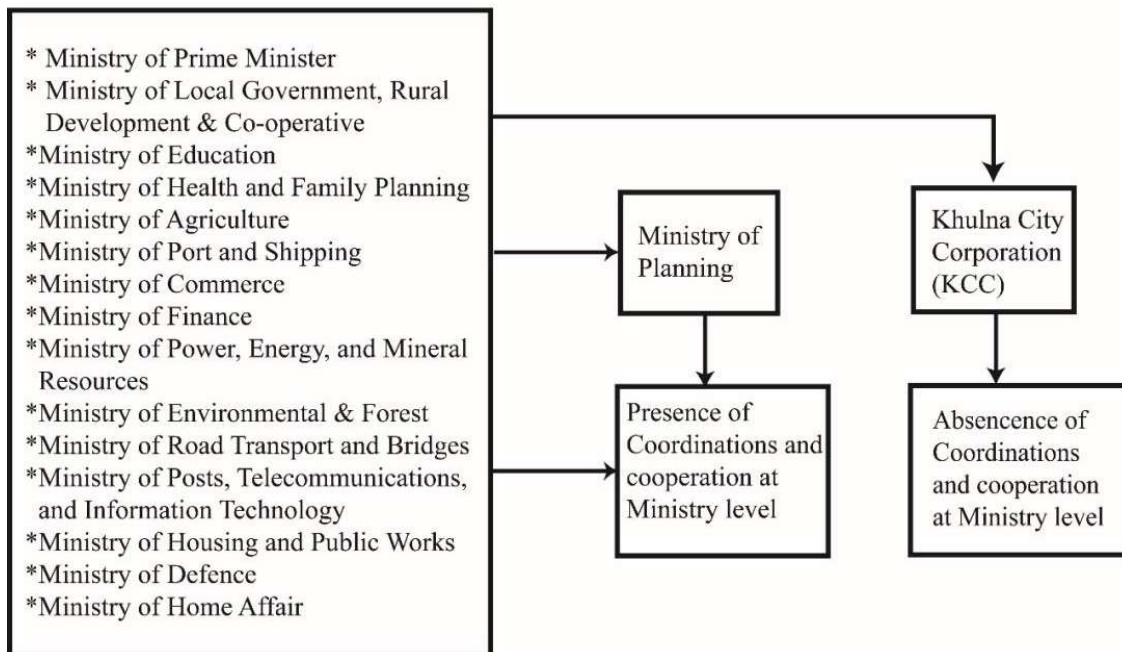


Figure 4.14: Coordination and cooperation system (Murtaza, 2014: 83-99)

It is obvious that Khulna City governance, especially planning and service delivery management is fragmented and works in an uncoordinated fashion resulting in duplication and waste of scarce resources. Both the leading institutions (KCC and KDA) have tended

either to languish as weak institutions or have evolved into a sectoral implementation agency (truer for KDA).

However, Murtaza (2014) pointed out; Khulna has approximately 36 governments, semi-government and private organizations. As they are different bodies, their thoughts and ideas for improving the city are different according to the uncoordinated rules and regulations that govern their actions. Sowgat (2012: 1) expressed a similar view: ‘many actors are active in the spatial development of Khulna, but their efforts are uncoordinated, with public agencies playing a limited plan-making role’. As Murtaza (2014) explained, the main problem is that although the various ministries are coordinated by the central Ministry of Planning, there is a lack of coordination of these ministries at city level (Figure 4.14). Due to the absence of an active governance process, KCC lacks legal authority to oversight or control other organizations. For this reason, there are inequalities found in allotment of funds for construction, maintenance and other purposes, and ultimately in opportunities for citizens. As a result, the gap between expectations and outcomes is increasing day by day.

#### **4.14. National Urban Strategy of Bangladesh**

In order to achieve the planning objectives of national urban development, what are the national urban strategies, already undertaken or planned? It has been argued that policies centering on urban land, housing, transport, governance and finance have major ramification for services, housing and the nation as a whole. The essential elements of a sound urban strategy for Bangladesh, according to World Bank are to respond to challenge of improving efficiency and quality of urban life by assisting and creating conditions that enable the nation's various urban region for become liveable, competitive, financially sustainable and well-managed cities (World Bank, 1999). The key components of Bangladesh Urban Strategy are:

- a. Building a national public opinion about the future course of urban development in the country;
- b. The evolution of a consistent and widely supported national urban strategy is likely to be slow, contentious, incremental and evolutionary in nature;
- c. The Bangladesh national urban strategy will be founded on a number of pillars:
  - (i) national urban strategy and specific sub-sectoral strategy, (ii) city development strategy for specific cities, (iii) scaling up of successful program to provide services to the poor; and (iv) assistance for capacity building for city management.

A major component of urban strategy in Bangladesh is to reduce urban poverty by (a) increasing employment opportunities, (b) achieving more equitable distribution of resources and (c) empowering the urban poor. This makes sense to believe that in the next two decades, more than 95 percent of the total population growth will be occurring in urban areas, especially in the large cities (ADB, 2000).

The second component of urban strategy is physical planning and infrastructure development. The third component consists of providing some basic urban services.

#### 4.14.1 Aims of urban strategy at National Level

The policy objectives for the Urban Strategy of Khulna City were derived from national development goals spelt out in the national plan document (Five Year Plans, for example). The goals are a continuum from the Second Five Year Plan through Fifth Five Year Plan where decentralization of development activities was emphasized with focus on participatory planning.

#### The National Objectives of Urban Development are:

- a) Determining a long term distribution of population to achieve a desirable rural-urban balance and an optimum pattern of urban growth;
- b) Framing policies for the best use of urban land (or rural) and its control from misuse;
- c) Formulation of policies and plans for gradual nucleation of rural settlements and with policies and plans for rural growth centers and key villages;
- d) Setting provision and plans for the growth of economy, employment and the development of housing, social and environmental conditions.

These broad national objectives of development are common for all cities and towns throughout the country. The underlying aim is to develop cities in a manner so that these cities and towns become complementary to the rural areas through appropriate linkages along with the improvement of quality of life both in cities and rural areas.

#### 4.14.2. The Planning Vision

In the light of the national development objectives mentioned above, and the development problems and issues of the city discussed earlier, the planning vision for Khulna city has been framed so as to remove long stagnation of the city by revitalizing its growth and to make it a poverty free, liveable and economically vibrant city.

#### 4.14.3. Specific Goals and Objectives

Considering the above vision, the following long term goals have been formulated for Khulna City:

- a) Making contribution to national and regional development and reducing pressure from the capital city by serving as:
  - Agro-industrial base;
  - Manufacturing base;
  - Trading/commercial base;
  - Export base; and
  - As a hub of transport network;
- b) Regeneration or revival of Khulna's stagnant economy;
- c) Spatial revitalization and re-organization;
- d) The development of some strategic infrastructures;
- e) Making a balance between the growing population and employment;
- f) Provision of urban basic services with due consideration to equity and distributive justice; and
- g) Alleviation of poverty.

The present planning exercise for Khulna City is basically an exercise in spatial planning and guidance for the development of the city over a longer term. Economic regeneration, income generation, creation of employment opportunities and alleviation of poverty, etc. are its primary tasks. However, the plan has been designed in such a manner so that it can provide a framework and overall vision to achieve these broad objectives.

#### **4.15. Urban planning strategy in Khulna city**

Evolved by the British, master plan approach to urban planning was introduced in the subcontinent during 1950s; however, within a decade it faced challenges about its ability to tackle the dynamic nature of the problems of urban living environment. In Bangladesh, first master plan was initiated in late fifties, but with no commendable success. A new phase of planning initiative began in early 80s in line with British Development Planning concept. But the old system of master plan still continued within the new plan package as the age long practices of urban planning and development control could not be replaced with a compatible system. But, after liberation in 1971 there had been substantial changes not only in the politics but also in policy and administration, in addition to amid deteriorating quality and skill in the bureaucracy, some new ideas were imported into the urban planning by international experts (Chowdhury, 2005).

After this adjustment the four tiers of planning documents are urban strategy, the structure plan, the master plan and the detailed area plan were introduced. The first tier is a 20-year strategic plan that outlines nine key strategies for planning and development in Khulna city. The second tier is a 20-year structure plan that focuses on sector-specific spatial strategies based on the urban strategies. The plan contains composite maps drawn at a scale of 1:10,000, which illustrate various spatial planning areas and proposals at the city-level. The master plan is for 10 years and sets strategies for the structuring of future urban growth. The fourth statutory level is the detailed area plans based on uniform physical characteristics or functions or problems. The Khulna structure plan identifies 14 development and planning zones within its boundary. The zones of various land-use areas require either development or improvement. Consultants have selected three areas as priorities: the redevelopment of a spontaneously developed residential area, slums, or squatter rehabilitation in the Rupsha area and the revitalization of Railway Land as a civic centre and commercial space. This section will explain about the detail of these plans, objectives and policies.

#### **4.16. Evaluation of Khulna Master Plan**

In 1961, when Khulna was declared a divisional headquarter and the KDA was established, the first master plan for Khulna city was made. By 1998, the development authority decided that a revision of this master plan was desirable. The new master plan was published in 2001 and is still in force. It comprises four parts, defined in the reports as follows:

-the **urban strategy** is a strategic basis for policy options to be adopted in the structure plan of Khulna city. It is based on the analysis of strategic national and regional aspects that can influence the future growth of the city.

-the **structure plan** is the spatially translated policy framework for the future metropolitan Khulna. It treats the interrelationship of different structural elements of the city in terms of their efficient functioning. Its major components are traffic networks (road, rail, water) and built-up areas of the city (divided into broad zones according to land use and density). The boundary of the structure plan coincides with the jurisdiction area of the KDA. The urban strategy and structure plan are conceived for a period of 20 years (2001-2020).

-the **master plan** of Khulna is conceived for the area within the Structure Plan where urban growth during the next ten years (2001-2010) is most likely to occur. The master plan is a land use-zoning map that also contains the planned development of urban infrastructure and services from the Structure Plan. It acts as a guiding tool to control future development of the



city. However, for the execution of development schemes, detailed area plans have to be prepared.

-the **detailed area plans** are action plans for the comprehensive treatment of an area that has been selected for intensive change over a shorter period of time (2-5years). In the detailed area plan report only 3 sample areas are discussed in detail.

#### 4.16.1. Khulna Master Plan 1961

The first Khulna City Master Plan was prepared in 1961 for Khulna City and its environs for an area of 70 sq. mile (181 sq.km). The plan was marked by four basic sets of proposals:

- Land Use Zoning
- Development
- Basic Infrastructure Development and
- Administration and Implementation of the plan

The entire set of proposals was prepared in a macro framework emphasizing on the physical setting of the plan area. Stated in simplified form, the plan does not go for detailed analysis of the situation and background of the proposals. Most proposals were set in the form of outline instead of programs and projects. Following are the major features of 1961 Master Plan of Khulna city:

- The plan made a 20 year forecast of Master Plan area population and proposed various urban services and development projects.
- The future city area was demarcated on buildable land and the entire area was grouped into major land use zones divided by hierarchy of road networks.
- The plan proposed recommendations on such services and facilities as - Open space, Road network, Site for health and education facilities, Market centre, Waste disposal points, Drainage.
- Legal and administrative measures were set forth for implementation of the plan provisions.

This land use allocation of the 1961 Master Plan served as one of the major guides to Khulna Master Plan 2001 as many parts of the city and its infrastructure were developed based on this plan. However, since this plan expired in 1981, it has little significance to the current planning exercise.

#### 4.16.2. Khulna Master Plan 2001

The 2001 Khulna Master Plan titled ‘Structure Plan, Master Plan and Detailed Area Plan for Khulna City’ was launched in 1997 and was approved in 2001. The plan comprised of three hierarchical Plans-Structures Plan, Master Plan and Detailed Area Plans. Structure Plan was

the apex plan that laid down development policy proposals for 20 years in outline form. Master Plan proposed land use and infrastructure for the main city and its environs for a period of 10 years. Three Detailed Area Plans were prepared as samples for subsequent preparation of Detailed Area Plans. Detailed Area Plans, prepared under the framework of Structure Plan and Master Plan, are local level plans that are more detail in format and aims to address local problems and issues. The 2001 Master Plan serves as the higher level plan to guide the activities of the current plan.

#### 2001 Master Plan Policies

The Structure Plan component of the Master Plan laid down some policies regarding urban area land development, particularly relating to housing. Structure Plan, in its housing part proposed the following policies relevant to housing area land development.

- Policy - 01 the development authorities to play the role of facilitators of housing development apart from their existing role.
- Policy - 02 providing assistance to the government agencies in the development of housing schemes.
- Policy - 03 providing assistance to undertake housing schemes under the private sector.
- Policy - 05 providing necessary infrastructure to facilitate land and housing development.
- Policy - 06 planning interventions in the spontaneously developed areas.
- Policy - 07 Promotion of participatory development process in the housing sector.

#### 2001 Master Plan Development Proposals

The Master Plan report starts with anticipated growth assumptions followed by sector wise development proposals as stated below.

#### Transport Sector Development Proposals

1. The plan called for effective traffic management to ensure proper road transport function.
2. The plan proposed to develop a multi-modal transport system in the city combining road, railway and water way.
3. It proposed second bridge on the river Bhairab to connect Dighalia and bridge gap between the city and its eastern fringe.
4. The plan identified some areas of traffic congestion in the city.
5. To increase efficiency of the highways the Master Plan proposed to develop service road along highways to channelize local and slow moving traffic.

6. The plan proposed extension of railway up to Mongla. The alignment was to start from Bajerdanga station and proceed east across Bhairab through Athanarobanki river and Rupsha towards Mongla Port.
7. It proposed to expedite STOL airport development at Foila, Mongla.
8. In the waterway sector the plan proposed river training for stability in the river through development of some embankment, guide banks, groynes, artificial cut off, pitching of bank and dredging.

#### Housing Sector Development Proposals

1. The plan called for involving private sector in housing development and suggested to promote private real estate in developing local infrastructure and services to help real estate development.
2. Develop local infrastructure and realize cost of development from the local beneficiaries.
3. Development of site and services projects for low income groups near employment centers.
4. KDA in collaboration with public sector agencies could develop housing for their staff.
5. KDA could undertake housing for the poor living in slums, particularly in city's khas lands.
6. It suggested KDA to prepare and implement improvement plans for unplanned and spontaneously developed areas.
7. Development of infrastructure to enable housing development by land owners in new or fringe areas.
8. Develop planned housing areas in the form of neighbourhood unit.
9. Promote organized or planned housing.
10. Proposed development of planned housing at Dhopadi and Amdanga-Laxmipur in Noapara, Teligati, Samaganj and Thikrabandh.
11. Proposed streamlining and promote plot based housing development by real estate with the introduction of new rules.
12. Promotion of private cooperative housing.
13. Community based housing development in the fringe areas with cost sharing by the land owners using the concept of guided land development.
14. Creation of resettlement area for people affected during implementation of Master Plan 2001.

### Town Centre Development Proposals

1. Developing 8 new town centers.
2. Proposed a town square near railway station to be developed with a comprehensive plan to accommodate retail and wholesale market, shopping and business precinct.
3. It also proposed another town centre at Doulatpur with stadium, park, hotel, exhibition, education and medical activity.

### Proposals for Commerce

1. development of commercial hubs at Gallamari-Krishnanagar, Rupsha, Rajapur of North Rupsha, New Market-ShibBari, Fulbari Gate, Shiromoni, Noapara;
2. Ribbon commercial development along major roads with parallel service road;
3. Commercial development around proposed town centers.

### Proposals for Industry

1. Creation of special tax holiday facilities for designated industrial areas within the Master Plan boundary.
2. Development of basic infrastructure facilities, particularly in privately owned areas that have been earmarked as industrial zone in the Master Plan.
3. Improved transport and communication facilities with the capital city that will reduce travel time.
4. Creation of a congenial environment for foreign investment through establishment of industrial processing zone.
5. Provision of encumbrance free credit facilities at reasonable rate of interest.
6. The plan also proposed total 4173.24 acres of industrial zone that included 1568 acres of new industrial zone apart from 2607 acres of existing industrial area.
7. Designation of areas for particular industries,
  - for service and processing industries the plan selected Rupsha Strand Road-north and south, Rupsha area, Daulatpur area, Soandanga Bus and Truck Terminal area for service and processing industries.
  - The study team earmarked 61.25 acres of land on the northern confluence of the Rupsha-Atharabanki rivers for establishment of noxious industries.
  - for large and medium scale industries, Noapara, Daulatpur, Mirerdanga, Khalishpur, Debnagar, Chandnimahal, Bhadragati and Labanchara areas were selected.
  - Small scale industries were placed at BSCIC and KDA Industrial Estates at Shiromoni, Rajapur, Ramnagar and Jabusa areas.

- the study team proposes to develop an IT Village at existing storage and godown site of KDA, west of KDA New Market on an area of about 1.63 acres.

#### Proposals for Open Space and Green

The Master Plan 2001 made proposal for about 2008.00 acres' open space that included park, play field, green space, river and road side green space and botanical garden, highway forest.

#### Proposals for Social Services

The Master Plan 2001 first carried out an overview of all available the social services facilities and then made assessment of the future need of services. Standard provision of respective services was followed next. Then for each category of social services, the necessary proposals were set as following two categories -

- Health Care Facility
- Education Facility

#### Proposals for Administration

1. The plan suggested allocation of unused vacant land of about 30.00 acres at Boyra area to various ministries for construction of office blocks for accommodating their respective departmental offices.
2. The plan recommended relocating the present jail to a more spacious area and the planning selected a large site of 48.31 acres on the west of Gilatala mouza in between the railway line and proposed City Bypass.

#### Proposals for Municipal Services

Under municipal service category, before making proposals for various municipal services, the plan first reviewed the current situation and made assessment of future need. After that the following recommendations were made.

#### Water supply

The plan made the following proposals for water supply:

1. Construction of one Surface Water Treatment Plant using water resources from rivers and storage reservoir/retention basin. The plan saw possibility of extracting fresh water from Majitkhali River and carried it up to Gilatala across the river Bhairab.
2. Package type piped water supply system was proposed in Fultala and Rupsha area considering them as growth centres.
3. Surface water Treatment Plant at Shiromoni, using surface water from the nearby rivers was proposed.

#### Sanitation

The sanitation improvement proposals of the plan were:

1. Production and supply of components of single and twin pit latrines;
2. Construction of public toilets in the public places like, markets, shopping areas, bus stations, bus and truck terminals and river ghats to give wider sanitation coverage to the growing needs of the people.
3. The following guidelines were proposed to be followed for sanitation improvement programme.
  - Provide pit latrines to poor families.
  - Undertaking programme for upgrading unsanitary latrines or conversion of katcha latrine to sanitary latrines.
  - Introduction of hygiene education programmes for the residents and school children from primary level. Efforts through NGOs may be made to motivate people for this purpose.
  - Public latrines with biogas plant may be set up to supply gas to the local area only in small scale for cooking.
  - Open excreta disposal system to be controlled/stopped in areas like river/khal banks; stop deification in drains in low income and slum areas.
  - To ensure effective cleaning, operation and maintenance, the public toilets may be leased out to the private parties/NGOs on contract basis. Annual maintenance cost may be funded from the contract fees received from the lessee who will collect the money through a nominal user charge.
  - Introduction of small bore pipe sewerage system.

Proposals for Solid Waste Management

1. Setting up Controlled Dumping System for final disposal of the solid waste.
2. Adoption of Sanitary Landfill System for final disposal of waste.
4. Introduce common package type incinerator for disposal of clinical and hazardous waste.
4. Recycling of waste for resource recovery and reuse of waste.
5. Adding new vehicles and logistics in the KCC conservancy department.
6. The plan recommended community participation and public awareness campaign for better management of solid waste.
7. Plan also called for privatization of solid waste management.

Proposals for Drainage

1. Construction of additional drainage sluices at Tutpara and Helatola;
2. Construction of link drains in Boyra, Rayermohal, Nodal point of Khan Jahan Ali

and KDA Avenue, end point of Daulatpur, Torun Sena Sarak, Khapara, Anjuman road, Dattabari slum, Mistripara.

3. The plan proposed the responsibility of protection of khals under the threat of encroachment protecting on KDA and KCC.

#### Proposals for Graveyard

The plan recommends additional land for graveyard, one at Moheshwarpasha on an area of about 38 acres and the other at Sirajkathi, Noapara on an area of about 10 acres.

#### Proposals for Slaughter House

The plan suggested abandoning the present slaughter house and relocating it on a better site away from the core area of the city. For this purpose, the plan has recommended a new site at Thikrabandh, south of Gallamari Bridge, on an area of 2.40 acres.

#### Proposals for Fire Service

- west of weather station near Khulna University on an area of about 2.35 acres;
- east of proposed Rupsha satellite Town (KDA) on an area of about 4.13 acres;
- Durgapur, Noapara, on an area of about 2.98 acres.

#### Proposals for Postal Service

- south of Khulna University on an area of 0.58 acre;
- north-west of proposed Satellite Town at Rupsha on an area of 0.73 acre; and
- North of proposed Town Centre at Goakhola, Noapara.

#### Proposals for Police Outpost

The plan recommended police outposts at strategic locations. The study team recommended that KDA its housing estate plans should reserve space for police outpost. Space for police outpost should also be reserved at important locations during preparation of the area specific Detailed Area Plan.

### **4.17. Strategic Plan**

The Strategic Plan is a development strategy consisting of a comprehensive package of physical, economic, social and environmental policies regarding urban development for the next 20 years with land use planning (figure 4.13). This plan formulated development policies in the light of national perspective plan to develop the area in a coordinated manner. The broad aim of the Strategic Plan is to formulate a spatial or physical guide to improve the life and working conditions of the people living in the plan area. The most important policy areas are -

- the growth of population,

- the future extension, shape,
- size of the city,
- employment and investment,
- Land, infrastructure, transport, housing and social services.

The important policies assigned in the plan are the development of

- strategic infrastructure,
- creation of employment opportunities,
- revitalization of stagnant economy,
- densification of existing urban areas,
- lateral physical growth,
- poverty alleviation and promotion of spatial equity,
- regional integration,
- rural urban linkages,
- Provision of public utilities and services etc.

#### 4.17. 1. Objectives of Structure Plan

The main objective of Structure Plan is to explain spatially with substantial elaboration of the strategies set in the Urban Strategy (Volume 1). The Structure Plan usually has the following objectives:

- a) Interpretation and elaboration of national urban strategies and policies for local authority;
- b) Establishment of inter-sectoral goals, policies and general proposals for urban spatial development;
- c) Identifying the development options that offer maximum benefit to the people;
- d) Proposing suitable urban standards that minimizing the cost of public infrastructure;
- e) Providing framework for the next hierarchy of plans, in this case, for the Master Plan and detailed area plans;
- f) Justifying policies and proposals for urban development;
- g) Indicating the basis and procedure for implementation of plans and coordination among major stakeholders;
- h) Ensure that the main planning issues and decisions are brought before the people.



#### 1.17.2. Functions of Structure Plan

The Structure Plan will perform some specific functions to promote the development of Khulna City. These are as follows:

- a. The Structure Plan will interpret the Urban Strategy and development policies to create the context for Khulna City development.
- b. It will identify and establish objectives, policies and broad-brush proposals for long-term growth and development of Khulna City.
- c. It will serve as a framework for development within the Structure Plan boundary by all public and private agencies.
- d. It will work out a mechanism for coordination and prioritizing development activities by public sector agencies.
- e. It will expose and disseminate the key planning issues and draw attention of all concerned interest groups including government and private agencies.
- f. It will set the context for detailed area plans by identification of development needs of specific areas and the time period for action.
- g. It will provide the framework and basis for management of development by setting forth policies for items of strategic and structural importance

#### 4.17.3. Other Policies in Structure Plan

##### 1. Policies on Population Density

##### 2. Economy and Employment Policy

##### 3. Housing Sector Policy

- the concerned development agencies should serve as facilitators in housing development;
- KDA to assist public sector agencies for development of their housing schemes;
- KDA to provide assistance to undertake housing schemes under the private sector;
- KDA to provide affordable housing to the low income groups;
- KDA and other agencies to create necessary infrastructure to facilitate land and housing development;
- planning intervention to be made by KDA in the spontaneously developed areas;
- upgrading of slums and squatters;
- monitoring of land and housing market;
- facilitate finance and investment in the housing sector;
- develop participatory programmes in the housing sector;
- Innovation of appropriate technology in low income housing development.

- promotion of high rise buildings to attain maximum efficiency of municipal services provision
- Creating options of community facilities in different planned and unplanned residential areas.

#### 4. Traffic and Transport Sector Policy

- incremental development of proposed road network;
- introduction of efficient city bus service and open new routes;
- construction of new bus terminal/station;
- development of new truck terminal;
- introduce road network standard;
- develop hierarchical road network at neighbourhood level;
- widening of existing narrow roads;
- introduction of commuter train service;
- waterway *Ghat* development;
- development of transport stands;
- improvement of air transport;
- locating transport terminals close to major roads of the City;
- proper regulation of rickshaw and rickshaw van;
- coordination of transport system;
- Develop footpath on all city roads.
- designing user friendly footpath for easy and convenient movement of pedestrians;
- designing safer and efficient intersections;
- developing cycling tracks and popularizing cycling in the city
- promotion of street arboriculture

#### 5. Drainage Policy

- preparation of storm water drainage improvement plan;
- phase-wise implementation of drainage improvement plan;
- environmental improvement through improved drainage system;
- non-structural measures to protect right of way and other aspects;
- regular operation and maintenance of the drainage system;
- NGOs, CBOs and civil society involvement in drainage system management.
- retention of natural drainage systems
- protection of canals and rivers through providing walkways, boundary fencing and plantation along the banks

6. Water Supply Policy

- rehabilitation of existing piped water supply system;
- exploration of new sources of ground water;
- exploration of new surface water sources;
- creation of new independent agency for water supply;
- investigation on ground water quality;
- protection and restoration of existing surface water sources
- Ensure surface water quality.

7. Sanitation Policy

- production and supply of adequate number of pit latrine components;
- promotion of public toilet facility throughout the city;
- creation of awareness about healthy sanitation at school level;
- Development of network based integrated sanitary system with treatment facility.
- promotion and introduction of innovative, appropriate and sustainable sanitation technologies
- Promotion of community managed sanitation facilities for the lower-income group.

8. Solid Waste Management Policy

- improvement of collection efficiency;
- separate management of medical waste;
- recycling of solid waste;
- increase the role of NGOs and CBOs in solid waste management;
- introduction of controlled dumping method;
- monitoring of solid waste collection, disposal and recycling;
- devising appropriate solid waste management method for areas beyond KCC;
- Formulation of solid waste management guidelines for different kinds of stakeholders (e.g. households, commercial usages etc.)

9. Health Sector Policy

- improvement of general health infrastructure;
- creating poor's access to health services;
- primary health care at the neighbourhood level;
- strengthening preventive health care services;
- health awareness building;
- Location of public health care facilities as per need.

*10. Education Sector Policy*

- establishment of quality primary and nursery schools at neighbourhood level;
- sufficient space to be reserved in schools for play field;
- All categories of schools including vocational, to be provided in the Master Plan.

*11. Open Space and Recreation Policy*

- creation of waterfront green areas;
- creation of urban forest;
- creation of highway forest;
- establishment of botanical garden;
- development of public park;
- development of playground/stadium;
- provision of open space in public/private housing estates;
- Creation of recreation facilities.

*12. Industrial Sector Policy*

- creation of industrial incentive zone;
- relocation of hazardous enterprises;
- organize footloose industries;
- encouragement to small scale industries;
- reorganization and restructuring of large scale manufacturing;
- Control of industrial location and standard.

*13. Conservation of Urban Heritage Policy*

- conservation of old and prestigious areas;
- listing all heritage sites and old historical buildings;
- restriction on incompatible and alteration of old historical buildings;
- eviction of unauthorized and incompatible uses of heritage/ historical buildings;
- old historic buildings and sites to be conserved for the tourists and visitors;
- development of Khulna Tower (or it can be named as Millennium Tower);
- All sites of Liberation War depicting the glorious history of our independence should be preserved and developed properly.

*14. Environmental Management Policy*

- proper treatment of waterlogged areas and enforcement of relevant laws;
- protection and maintenance of surface water bodies;
- relocation of hazardous and red industries from high density residential areas;
- Enforcement of environmental laws.

#### 15. Plan Implementation and Governance Policy

- Functioning of existing multiple authorities with coordinating bodies;
- KCC as the only city body abolishing KDA;
- Creating a new city organization abolishing KCC and KDA.
- Mobilization of resources;
- Capacity building of urban development agencies;
- Introducing MIS and GIS systems in KDA;
- Inter-agency conflict resolution;
- Partnership development for plan implementation;
- People's participation in urban development.

#### **4.18. Detailed Area Plan (DAP)**

The approach to preparation of the current detailed area plan is based on the idea of promotion of infrastructure with minimum interference with the existing structures. The inherent concept behind the planning is to apply the idea of enabling strategy, where the role of the public authority is to facilitate private development through the creation of infrastructure. Such an approach has the following advantages:

- It reduces the responsibility of the authority to provide housing.
- It relieves the authority from spending huge capital in the form of compensation, if developed through acquisition of entire land.
- Such project will be favoured by the local public, as it does not involve land acquisition.

##### 1.18.1. Objectives of Detailed Area Plan

The following are the objectives of the current detailed area plan.

- a. To open up the site by creating physical accessibility internally and with other areas.
- b. To increase housing land supply by additional providing infrastructure.
- c. To create better living environment.
- d. To promote community services and facilities.

##### 1.18.2. Purposes of Detailed Area Plan

The component of DAP has been brought into the planning stream with the primary aim to render the development plans more pragmatic and realizable. It has some common purposes to serve.

- a. Unlike previous plans, it aims to understand every details of local problems

- b. Enable local people to understand the problems of their own locality and share and support development authority's efforts in resolving the same
- c. Improve efficiency of the problem area to serve as a better place of living, working and enjoying.
- d. Promote organized development of new expansion areas and improvement of existing problem areas.
- e. Enable develops housing and shelter for various income groups.
- f. Promote business, trade and amenities to make the functionally effective and more revisable.

1.18.3. Selection of Detailed Area Planning Zones

Detailed area plans would serve as guidelines for KDA planners to develop more DAPs for other zones. Before choosing sites for DAPs the Study Team has selected three areas as priority fields for intervention. These areas:

- a) Redevelopment of a spontaneously developed residential area,
- b) Slums or squatter rehabilitation in Rupsa area, and
- c) Revitalization of the Central Area: Development of Railway Land as Civic Center and Commercial Area.

1.18.4. Proposed List of Priority Projects within DAP Planning policies

1. Rehabilitation of Water Supply System
2. Rain Water Reservoirs
3. Surface Water Treatment Plant
4. Dual Water Supply System
5. Piped Water Supply Project in Noapara, Fultala and Rupsa
6. Squatter Resettlement Project
7. Sonadanga Housing Project (Third Phase)
8. Mirerddanga Low-cost Housing Project
9. Land Development for Housing through Public-Private Partnership
10. Khulna City Bypass Road / Development of Khulna Orbit
11. Construction of Footbridge at Different Points in Khulna
12. Construction of Rupsha Bridge
13. Khulna Zoo
14. Construction of a Children's Park and Riverside Park
15. Assessment of Urban Poor in Khulna City
16. Rehabilitation of Informal Sector Workers

17. Capacity Building for Personnel of KCC and KDA
18. Solid Waste Management Disposal, Construction of Sanitary Landfill and Environmental Dev. Projects including Recycling of Solid Waste
19. Solid Waste Disposal Site Development
20. Improvement of Existing Drain and Construction of New Ones
21. Construction of Storm Sewerage System
22. Development of Sewerage Network for KCC Area
23. Improvement of Khulna Bazaars
24. Supply and Installation of Cremation Furnace
25. Integrated Development of Railway Land at the Bank of the River Rupsha
26. Development of Sea Food Processing Zone
27. Conservation of Cultural Heritage

#### **4.19. Critical Expression and Final Explanation**

This section has been discussed critically about the limitations of Khulna urban planning process, strategies and policies which were implemented by local authority. In the beginning to find out the planning and implementation process the present study conducted a detail assessment with expertise in different fields. Although it was a very new question for some of them - *what about present sustainable urban design planning process of Khulna city?* Following table 4.9 (explained in chapter 6) again illustrates details about different group of expert participants along with their experience in urban development of Khulna city. In this phase the experts explained about the present limitations and gap of Khulna urban planning process and policies which describe in the following:

<b>Group of participants</b>	<b>Total interviewed</b>	<b>Years of experience</b>
Khulna city corporation (KCC)	2	18
Khulna development authority (KDA)	3	32
Academic (KU, Urban Planner and Designer)	5	21
Local Consultant	3	14

#### *Limitations between Strategies and implementations of the planning process of present Khulna city*

Evolved by the British, master plan approach to urban planning was introduced in the sub-continent during 1950s; however, within a decade it faced challenges about its ability to tackle the dynamic nature of the problems of sustainable urban living environment.

Following are the 14 (fourteen) limitations which are collected from the experts concerning the present development, planning and implementation process of the Khulna city -

1. Being an industrial city in 1960, Khulna city had the potentials to act as an economic hub in the regional economy. To foster economic growth, in 1960 an attempt was made for metropolitan planning in Khulna City by introducing a master plan. The content of that plan was merely land use planning and with no economic and social appraisal, therefore the plan failed to ensure coordination and contextualization, which lead to failure of the plan (Chowdhury, 2005).

2. After the expiration of that plan in 1981, strategic planning was introduced for Khulna unlike other metropolitan cities of Bangladesh. The plan is called Khulna Master Plan 2001. It is a three tier hierarchical plan contains structure plan, master plan and detailed area plan. The planning period of the plan is twenty years. The plan was considered as strategic as the structure plan was formulated as a strategic plan which lays down future development policies and shows directions of spatial growth and major development proposals in indicative form. It does not attempt to specify detailed lot by lot land use or local road configurations. It identifies where growth and change need detailed local and action plans. Unfortunately, the new strategic planning hardly had any implications on metropolitan development except being used as instrument of planning permission and development control.

3. Though more than 34 organizations (KDA, 2002a) are active in the urban management process, their efforts are not well coordinated. KMP (2002a, 2002b, 200cd) proposed the coordination of different authorities, but this proposal never became a reality. Whatever the argument against merging these two organizations, the reality is that both the KCC, KMP and the KDA need to work jointly to make planning effective for Khulna city and this is not happening.

4. The Khulna city plan is merely a land use plan thus the attempt was to solve complex problem by practicing development control mechanism. The approach was arbitrary rather than evidence based. The 'common sense' and international standard techniques were adopted for policy making without considering the local context. Although it is a demanding task to represent the complex dynamics of urban land use changes that are consistent with observable data, significant progress has been made in recent years in forecasting and evaluating land use change on the basis of dynamic and causal relationships between factors such as transport and land use, and built environment and socio-economic processes (Bari, 2009).



5. The planning region of Khulna City plan was divided into 14 zones but prior to dividing the area, no attempt was made to coordinate spatial linkage among different zones. There are nine strategic options in the plan, none of these option was elaborated through local context neither there were subsequent policy measures to implement those policies. So the plan is merely a research report without effective recommendations in terms of public action that considers local context as an underpinning principle.
6. In terms of the process of participation of all stakeholders, the Khulna city plan fails to achieve urban sustainability. The planning process was merely expert-led and failed to ensure the participation of community. The participation was restricted to a process of generating wish list from the representatives of privileged communities. Therefore, it fails to address the issue of the urban poor.
7. The process was very much based on the principle of tokenism and later also failed to promote organizational coordination to implement the planning proposals. In terms of collective problem diagnosis, the planning process fails to develop an institutional platform to engage the community and other stakeholder. There was no citizen development committee or any other form of coordinating mechanism that can enhance the notion of collectiveness in the planning process.
8. The plan also suffers to identify common goals and interest that leads to equity. The plan has no provision to address informality in terms of employment opportunity of the urban poor.
9. In terms of infrastructure, housing and service provision the plan fails to articulate a single policy for the urban poor where the proportion of poor households in Khulna can be calculated at 58.9 percent living in 5080 poor settlements (UPPRP, 2011).
10. This plan also fails to create an enabling environment for employment and income considering environmental issues. It has been observed that industrial layoff is now a common phenomenon for Khulna city and the growing shrimp industries alongside the river is accusing huge environmental threat.
11. Moreover, the plan also fails to recognize the employment opportunities for the rural urban migrant who are pushed towards Khulna city by different climatic event. In terms of alternative choice for equitable service delivery the plan fails to recognize the role of NGOs for providing health services in the poor settlements. Therefore, the health policies are restricted to selecting suitable sites for hospitals only.
12. Similar situation can be observed for water supply, sanitation and other services. In terms of long term vision for environmental management, the plan also fails to identify the

impact of different climatic event which is now evident through the decreasing level of ground water, frequency of natural disaster and increasing temperature.

**13.** As Murtaza (2014) explained, the main problem is that although the various ministries are coordinated by the central Ministry of Planning, there is a lack of coordination of these ministries at city level. Due to the absence of an active governance process, KCC lacks legal authority to oversight or control other organizations. For this reason, there are inequalities found in allotment of funds for construction, maintenance and other purposes, and ultimately in opportunities for citizens. As a result, the gap between expectations and outcomes is increasing day by day.

**14.** The City of Khulna also faces the challenge of developing an inclusive system of city governance to overcome the proliferation of organizations, all with their own ideas for transforming the city, and to foster ‘democratic decentralization’ of local communities involving transfer of decision-making powers and resources. As Massuanganhe (2014: 63) noted, ‘programmes of decentralization accompanied by efforts to promote greater power and autonomy in decision-making for local communities can offer genuine opportunities to improve outcomes’.

However, by the exceeding discussions it is obvious that evaluation of the status of implementation of the master plan like Khulna city is an extremely difficult task. There are many elements of the plan implementation process that cannot be quantified which restrict determination of an overall status of either individual sector or overall level of implementation of the plan proposals. For example, in housing sector the proposals call for maintaining certain density of population per acre. The plan earmarked certain areas for residential development, but did not mention how the housing would be developed in those areas, through private residential development on individual effort or by public sector housing projects based on compulsory land acquisition. Same applies to commercial and industrial development. Therefore, the implementation of the Structure Plan, Master Plan and Detailed Area Plan for Khulna Metropolitan City needs an institutional framework with sustainable capacity, an institution which can cope with increasing demand for efficient delivery of infrastructure and services with reasonable managerial efficiency. The major issue is to identify the lead institution and also a framework, where other related institutions and government field agencies, private sector, community and NGOs can also participate and cooperate in the plan implementation. The other expected objective to be achieved is the coordination of policies and activities of different stakeholders.

Virtually, the new series of plans hardly had any implications on metropolitan development except being used as instruments of planning permission (except Dhaka and Chittagong) and development control. The recommendations of the plans are hardly taken care of during city development by various urban development agencies except the custodian planning authority. By city plan, most people mean a piece of drawing or map only. The recommendations incorporated in the plan report are ignored even by most decision makers in the government. Khulna Metropolitan Development Plan recommended land use proposals, interim rules and regulations but so far, after a period of many years, very few of those have been executed.

Observation of the overall situation in urban planning in Khulna city reveals that the discipline is still maintaining a low profile in the country. It has failed to draw sufficient attention of the decision makers and the citizenry in general to uphold its position as a necessary tool for sustainable urban development.

In a situation of an enormous constraints (such as limited financial resources, lack of adequate trained manpower and uncoordinated development, etc.) choosing appropriate strategies is extremely difficult. Apparently, it seems that all the strategies are relevant and perhaps it is necessary to take account of all the possible strategies. But there are difficulties.

- The first difficulty is undertaking all these strategies together. Neither resources nor the capability will permit to do so.
- The second difficulty is to assess the implication of a particular strategy in the growth and development of the city, where a substantial amount of scarce resources will be invested.

Finally, it can be concluded that the plan is irrational in terms of urban sustainability rather it is a mere replication of blue-print approach which assumes the planning process as a process of modernization; and the planning decisions are the outcome of rationality without having the reflection of people's needs and aspirations.

#### **4.20. Chapter Summary**

Studying the history and present strategy of urban development and planning process of Khulna city as described in this chapter, and following this with the problem analysis (Chapter 6) and design recommendation (Chapter 7) will provide approaching that will be useful for predicting the future problems, future implementation processes and challenges for the next sustainable concerns for Khulna city.

However, the main purpose of this chapter was to develop a comprehensive understanding of the history and present urban planning and development process of Khulna city and to

provide insights into strategic initiatives towards sustainability that have been proposed throughout before-after liberation and present period. After a brief review of the history and urban planning and development in present period was reviewed, taking in consideration the objectives, main concerns and policies. This was followed by identifying the hierarchy of urban planning in terms of levels: strategic plans, master plans, structure plans and detail area plans.

# **CHAPTER 05: DEMOGRAPHY, BACKGROUND AND ANALYSIS OF BORO BAZAAR AREA**

## **5.1 Overview**

This chapter is projected to commence *Boro Bazaar* area as a commercial place within a few contextual dimensions including its historical, physical, economic, environmental, cultural and social context. Again this chapter explained all the preferred fundamentals and criteria related with the following three strategies within the theories of sustainable urban development and planning approach and considering the proposed research objectives for the present and future development of this area.

1. To recognize the historical change of morphology of *Boro Bazaar* area.
2. To recognize and comprehend the present organic built forms and open space relationships surrounded the *Boro Bazaar* area.
3. To explore the economic, environmental, cultural and social context in *Boro Bazaar* area in relation to their ability in serving people's need at functional and aesthetic level.

However, to explain about the proposed objective above, the study organized a detail survey within the study area. This detail survey participation was again by the local people because the study considered their perception was another important thing over this issue. Though most of the people do not have proper theoretical concept about sustainable urban development, still the study found that this method has been better to realize the comprehensive idea about the area from the participants.

A review of background, physical condition of the study area is given in section 5.2. The analysis of the study area is outlined in section 5.3, followed by the analysis the study then explained land use pattern, economic situation, built form, building structure, etc. in next section and a summary of notable problems and findings of the study area in section 5.6.

## **5.2. Background and Physical Context of *Boro Bazaar* area**

### **5.2.1. Historical Background of *Boro Bazaar* area**

Khulna city is an ancient city of Bangladesh. The city is situated in the south-western part and is the fourth largest district of Bangladesh. The administrative activities were started on 25<sup>th</sup> April in the year 1882 and declared as a municipality on 8<sup>th</sup> September in 1884 (The Calcutta Gazette, 1884, p. 953). Then Khulna city corporation (KCC) was formed in 1990. Under the KCC authority, presently there are 31 wards and the study area, *Boro*

*Bazaar* (Big Market Place) is located within the ward no. 21. Before being famous of Khulna city, it was recognized by focusing this marketplace, present *Boro Bazaar* area and the surroundings. During the last of nineteenth century the marketplace (present *Boro Bazaar* area) was established as a new name - "*Charlie Gong (area)* or *Sahener Bazaar*" (figure 5.1) which was reallocated from previous location "*Shener Hat*". The founder of the place was *Chalrie* who was appointed as the head of *Nil Kuthi* (Employer of British East-India Company) of Khulna area of British Colonial period. In that time the market was located at the north side of *Charlie's Kuthi* (compartment, Photograph 5.1) which was situated in front of present Rupsha-Bhairab River. History showed that being a river port, the importance of Khulna got increased and the significance of the traditional market like *Charlie Gong* or

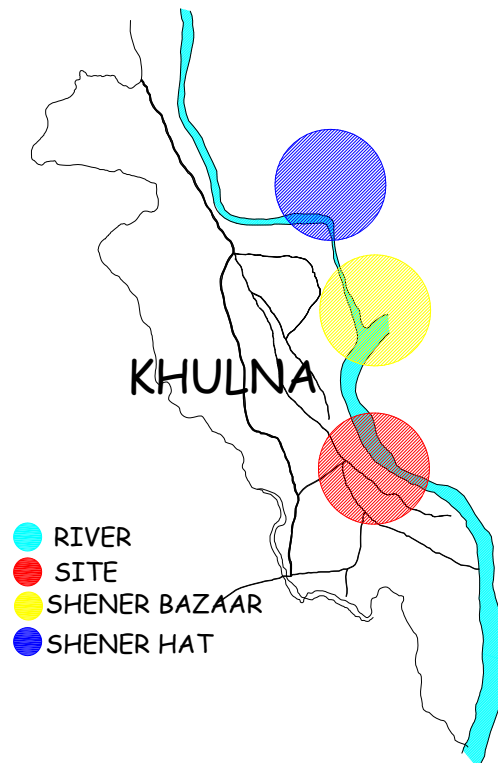


Figure 5.1.: Location map of *Charlie Gong* or *Sahener Bazaar* and *Shener Hat* in the Colonial Period (1700-1800) with present site area. Source: URP Department, Khulna University

*Sahener Bazaar* and *Shener Hat* areas were improved from the colonial period. Afterward Khulna was recognized as a sub-division first then it was turned to a proper district, which created a high value of the place when government took the responsibilities by executing steamer service in 1880 and rail service in 1884 which was linked with Khulna and Kolkata (Mia. 2002).

All these circumstances and the advent of both native and foreign merchants made this ancient place more vibrant as a center place of commerce and business from the history. Once again the *Madoaress* (*inhabitants from India*) came from Kolkata (India) for business purposes and then this further adjacent created these areas as a large business center. The *Madoaress* established new infrastructure with many shops, store-house for their business purposes within this area. Subsequently the physical environmental features like roads, streets, and buildings were revised companionable with the newly established district town (Samsuddin, 1986).

Gradually these business activities and further development got huge acceleration by both British company and then *Madoaress* people within this historical place which previously named as "*Charlie Gong (area) or Sahener Bazaar*". The ancient market place is still existing



Photograph 5.1: Charlie's Kuthi Bari (the first established building of Khulna city which was founded near about in the year 1801. Charlie was the founder of *Boro Bazaar*, which is situated at the northern part of his house)

(Source: Miner. 1922; Samsuddin, 1986 and Mia. 2002)

with its previous appearance within this area which later named as "*Boro Bazaar*" the big market place. Presently so many business organizations are running and most of these are wholesale organizations by which local authority earns a lot of money in every year. By these huge amount of goods is transacted every day and it has become a great marketplace within the city area.

### 5.2.2. Physical Context of Boro Bazaar area

Khulna Division is one of the eight divisions of Bangladesh and is located in the south-west of the country. It has an area of 22,274 sq km. and a population of 14.47 million. It is a linier city along two big rivers - Rupsha and the Bhairab and city is depending highly on river based trade market. It was developed as an average level industrial city since 1950s because of its suitable location and the availability of raw materials for industrial development. The second largest seaport in Bangladesh is also in Khulna region to support this industrial development and trade. It was converted to a municipality from a formal township in 1884 during the British colonial regime. Following figure 5.2 shows the map of Bangladesh with Khulna division and Khulna district area respectively.

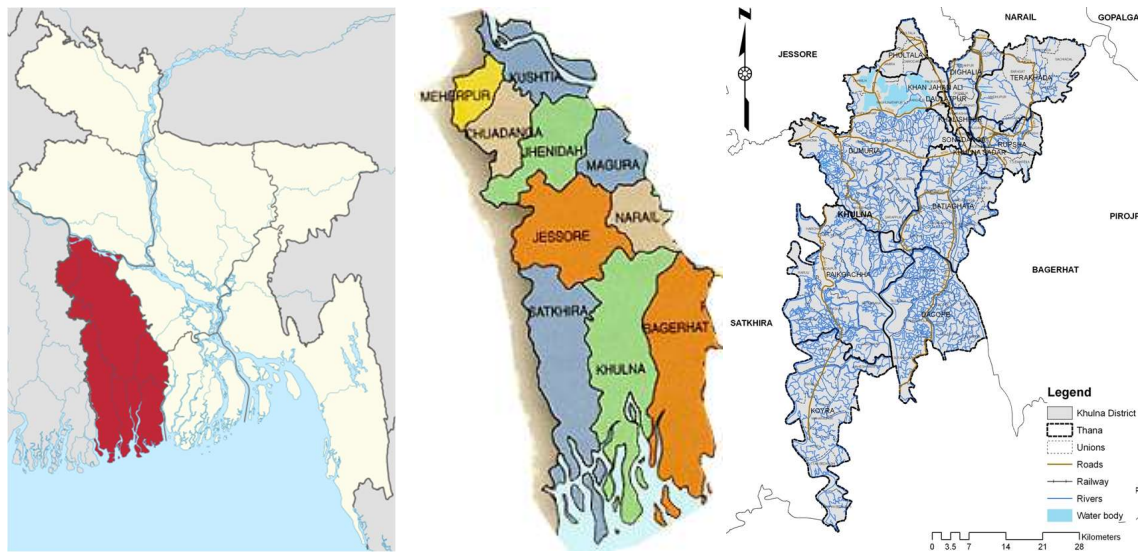


Figure 5.2: Map of Bangladesh (red colored location is Khulna), Khulna Division and Khulna District

Between 1950s and 1960s, this Khulna city came to focus as an industrial hub with many industries like newsprint mills, shipyard, jute mills, match factories, jute bailing presses, hardboard mills, etc. In that period Khulna was the backbone of the East Pakistan's main foreign currency by these industrial revolutions which were all established besides two big rivers – Rupsha and Bhirab and developed it as a linier city along these two big rivers. In this time period trade activities, rapid industrialization and urban growth of this region transformed it further as an industrial zone rather than commercial city. Previously it was converted to a municipality beginning a formal township in 1884 during British regime and subsequently city was depending highly on river based trade market. Then city and trade market was developed around the river port locally named “Boro Bazaar” which means large market where trade activities were mainly characterized by wholesale and retail shops.



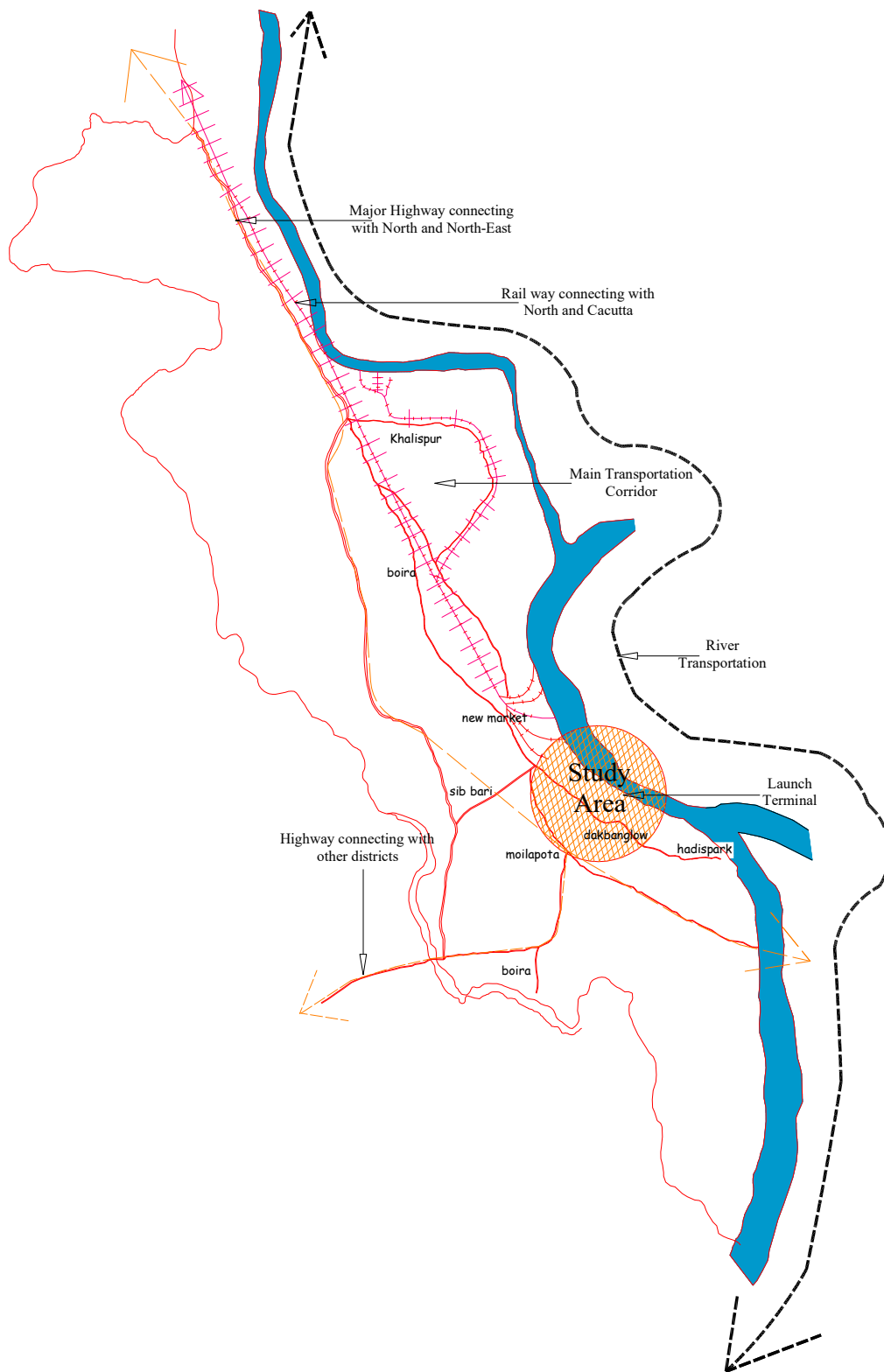


Figure 5.3: Location Pattern of *Boro Bazaar* area; source: Ahsan & Rahman, 2005

Still now as a city center and main financial hub the trade units in *BB* handle a huge amount of financial flow and provide both direct and indirect employment for the urbanites and generates revenue for the local government through income taxes and land taxes and leases the river port areas to export and import goods within the country and to the neighbouring India. The international highway between India and Bangladesh, the divisional highways, railways, inter district water ways crossing over *BB* area and their trade links make it highly potential and important for both national and international trade and commerce. Figure 5.3 shows the location pattern of *BB* area which describes the importance of the study area with other location.

### 5.2.3. Boro Bazaar - Khulna's first settlement grew to dense CBD

During the late 1950s, and early 1960s Khulna became an important centre for industrial development in Bangladesh. The city was called to be the industrial city of the country. But presently, the city is losing such name because of the recent laying off of major industries and lower production of existing industries. According to the Bangladesh Population Census of 1991, the total population of Khulna city was 6, 17.304 (BBS. 1991), which is more than one million in 2003 (BBS, 2001). The population, trading and economic activities, administrative and educational activities in Khulna city have been increasing tremendously causing alike increase in the motorized and non-motorized vehicles as well as pedestrians in the city. The city has grown in a linear shape influenced by a physical barrier - the river Bhairab on the east and unavailability of build able land on the west. Although the city is growing spatially in a substantial scale, the city's most functions have been found to be highly dependent on the city center (Rahman, 1999: 28).

Although the vehicles, pedestrians, economic and commercial activities, official and administrative activities are increasing rapidly in the Khulna city particularly in the CBD area but the transportation facilities including pattern of road, road width, management systems etc. are not increasing and management measures are not being upgraded as per the increasing demand.

The CBD area of Khulna city comprises of the areas of Duck Bungalow, *Boro Bazaar*, Picture Palace, Hela Tola, Clay road, arid KD Ghosh intersection. The location of the largest wholesale market of Khulna region, the inter district bus terminal, launch and train station, baby taxi or tempo stand, the Khulna stadium, the circuit house, the judge court, office of Deputy Commissioner and other government establishments, office of the Khulna City Corporation (KCC) as well as most of the retail markets and shopping centers of the city,

parks, cinema halls, hotels and restaurants, electronics and other goods etc. all contributed to the activities pattern in the CBD area of Khulna city.

The area is predominantly commercial or business activity based, with more than 65 per cent of land used by commercial use (Billah. 2000: 29). Among the roads considered for this study, the Lower Jessore road passes through mixed shopping areas, cinema hall and business areas leading to administrative zone of the city. Clay road from Duck Bungalow intersection leads to the city" largest wholesale market *BB*, and contains a huge number of retail shops and markets in its both side.

The K.D.Ghosh road passes with a high degree of congestion containing most wholesale shops, hardware shops, book stalls, hotels, watch shops etc. The Sir Iqbal road extends from picture palace crossing to *Boro bazaar* and contains banks, hotels and shopping centers in both sides. The Khan-E-Sabur road connects the northern side of the city with the CBD and a number of retail shops, markets, bus terminal, tempo stand, banks, etc. are located by the side of this road.



Photograph 5.2: Low structures dominate *Boro Bazaar's* commercial fabric; Source: Dudek and Evelyne

However, the city's dense commercial heart has a strong longitudinal direction, parallel to the riverfront. The few transversal links therefore receive a large traffic pressure. The area's fabric consists of low (mainly semi-permanent, ground floor) structures with very high density. *Boro Bazaar's* riverfront is densely built-up with stilt wholesale structures and transitions into an industrial dockside at the head of the main transversal spine, Sher-E-Bangla Road.



Photograph 5.3: Katcha-structures encroached on Boro Bazaar's riverbank; Source: Dudek and Evelyne



Photograph 5.4: The very crowded West-Meckot Road; Source: Dudek and Evelyne

*Boro Bazaar* (which literally means big market) is the central business district of Khulna city. It originated 550 years ago as a trade centre for products from the Sundarbans and was completely dependent on river transport. Situated on a natural levee on Bhairab's riverbank, it was suitable for dense development. This square only shows a small fragment of the now densely developed *Boro Bazaar* area, which covers a longer strip of land on Khulna's riverfront. This specific square was chosen, because it comprises dense wholesale/retail-tissue, residential neighbourhoods and historical remnants. The growth of the city parallel to the river, as discussed in the historical morphological analysis, is also clearly visible on

smaller scale in this square. Photographs 5.2, 5.3, 5.4 and 5.5 show the present situation of the area.



Photograph 5.5: Semi-pucca structures along Station Road and the southern side of Clay Road seems a wall towards the dense CBD area. Source: Dudek and Evelyne

The different commercial building typologies that appear in this square are very site-specific and change almost with each parallel shift further from the river. At the riverfront, the katcha (temporary) stilt structures encroach on the river to combine wholesale at the street side and storage and unloading at the riverfront. They are built on maximum packing forming a closed wall towards the river, which is sporadically pierced by narrow ghats. The other side of Kalibari road and both sides of West Mecot road are bordered with the Asian Shop house typology. The ground floor commercial activities mostly exceed the space that is foreseen, which makes the streets too narrow and causes traffic problems. The top floors of this typology are used for residences, storage or motels for tradesmen. The narrow longitudinal structures located between West Mecot Road and Station Road form Khan Jahan Ali Market, which is built on top of an old British railway track. This explains its morphology being a strip pasted into existing city fabric. However, this shop typology doesn't really work: the narrow access alleys discourage shoppers from visiting the shops at the rear (further away from Clay Road), which are therefore solely used as storage space.

Station Road, in colonial times the main access way from the colonial quarter (photographs, section 5.3.2.10) to the station, is at both sides built up with semi-pucca structures that are used as godowns (Store House), with wholesale at the street side. They are easily accessible via the wide Station Road.

Similar structures can be found north to Khan Jahan Ali market and between Station and Hospital Road, where they are used as small scale mills (flour, mustard oil, peanuts, etc.) or

godowns (storage buildings). The open space between these bigger structures is mostly filled up with slums of their employees.

The longitudinal strip between Station Road and Khan-A-Sabur Road is divided in two by Hospital Road, a secondary connection between the station and a planned residential neighbourhood (built in the colonial period to house the railway staff, (photograph, section 5.3.2.10). Several green pockets are perceivable, which are used for mainly public functions (schools, health care centre). Slums and semi-pucca retail structures fill up the space between these pockets and the high-rise shield alongside Khan-A-Sabur Road, which houses prestigious functions such as banks and offices.

In the most southern tip of this square, on the triangular plot between roads, the British colonial remnant 'Duck Bungalow' was located. It originally was a cottage (bangla/bungalow) for the post office staff. But this historical building has been removed for commercial extensions. The peculiar plot shape resulted from rebuilding the existing infrastructure, but at the same time conserving this historical building that is now called the zero-point of the city.

Clay road is one of the few transversal roads in *Boro Bazaar* and is an important commercial spine. On its north side, KCC built a longitudinal retail market that foresees entrances to the retail markets behind it. On the south side, a totally different morphology starts: multi-storied, mixed-use buildings form a densely packed neighbourhood, acting as a wall towards the low-rise north side of Clay Road. The dense block's core is only accessible via very narrow alleys between the buildings.

### **5.3. Analysis of the Study Area**

#### **5.3.1. Introduction**

*Boro Bazaar* area is one of the oldest parts of Khulna city. Though absence of planning provision now the marketplace is running very smoothly since the last of nineteenth century. But it's a matter of sorrow that there are many problems bounding this area. One of those is river bank erosion. Due to this event, many shops are destroyed at the river side and many are in a threading condition. Besides narrow roads, old and vulnerable buildings are making negative impact for this area. The urban design and planning condition of the area is important in the sense of sustainable city. Sustainable urban development planning under the urban design criteria have been fixed to assess the existing condition. All those issues are selected by an investigation visit as well as theoretical perspective.

Existing movement framework of the area including the connection with the city is very essential for physical permeability. The area is very well connected with existing city road network. Nevertheless, the internal road network of *Boro Bazaar* is good though there is some vagueness of visual permeability. Different types of land use and commercial activities are commonly seen in the study area. However, there are various buildings which have very much amount in robustness. Kalibori mad and K. D. Ghosh road are very robust by vehicles and pedestrian uses. Trucks are always busy with goods loading and unloading which create a huge congestion, noise and great difficulty for passersby to move and cross the road. There is no separate zone for the goods unloading and people movements. Again this area is situated besides the Rupsha-Bhairab River, which has several Ghats for transportation and passengers. But these Ghats are not well planned to maintain these purposes properly.

The marketplace which has a long historical background and grown in natural process must have some benefits, furthermore, it has sustained over more than hundred years without change its activities. Apart from those issues, it became the core and vital commercial hub of Khulna city. Everyday huge amount of money is transacted in that marketplace. Because the entire local market of Khulna city is directly or indirectly connected by *Boro Bazaar*. Without the existence of this marketplace the economic condition could not be geared up. Everyday most of the economic transaction of Khulna city is occurred here. With the association of location advantages *Boro Bazaar* has become a vital commercial area of Khulna city.

The large infrastructural investments in the south of Khulna are definitely the start of an evolution of the city towards a more decentralised condition. The railway land and *Boro Bazaar* have lost their relative importance in the city, but through the following analysis it becomes clear that both areas are strategic sites, which' intrinsic characteristics are an impetus for the development of an intelligent design on their location.

### **5.3.2. Analysis**

The same way the city tissue samples were investigated, the study has been looked at our site tissue: from the (inverse) figure ground, vegetation, present functions, built height and structure type, to later schematise what the study has been perceived on site.

#### 5.3.2.1. Figure Ground and Inverse Ground

Looking at the density of the urban fabric and the present open space the historical growth of our site and its surroundings can quite easily be read (following figures). The British map of 1929 (p. 45) shows that *Boro Bazaar* was a commercial hinge between the industrial railway



Figure 5.4: Figure ground of *Boro Bazaar Area*



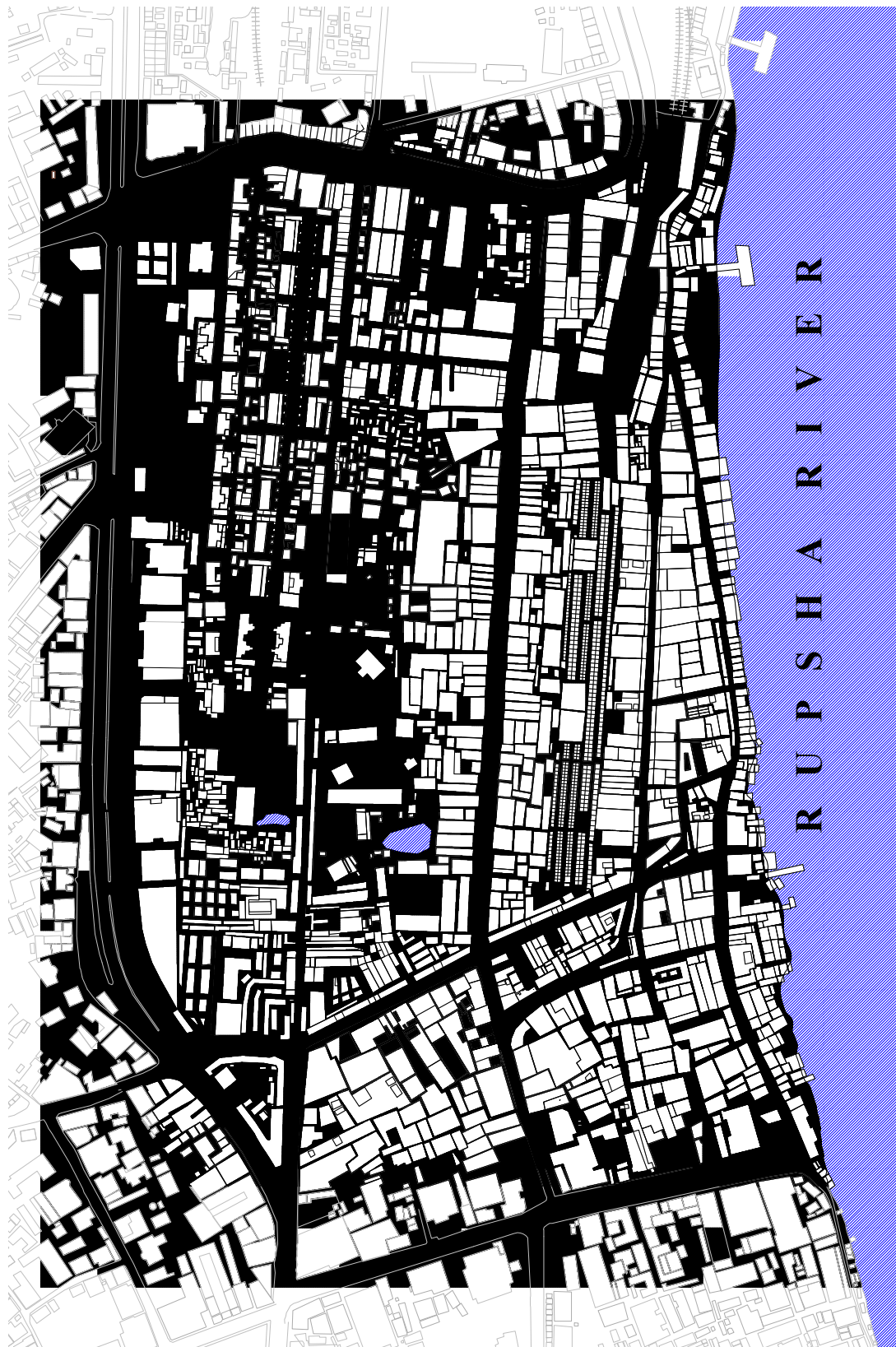


Figure 5.5: Inverse figure ground for *Boro Bazaar Area*

land that was located in the outskirts of the city, and the developed urban cluster. The area around the railway land was merely urbanised. The industrialization of Khulna made it a polarized city, therefore the areas closest to the industries were more densely urbanised first (Khalishpur, Rupsa), with the location of planned residential quarters in the city centre in later times. The tissue to the west of *BB* is clearly older (cf. structure type) and has been developing and densifying since British times. The tissue on the west side of the railway land however is much less dense and also presumably younger (cf. structure type). This last tissue has provided the necessary open space to locate new community functions which have major importance on city scale. Although open space is clearly abundant on this map, the obsolete railway land is the only publicly accessible ground in this area, except for the space around the major community functions. The access of the railway land is however hampered because of water bodies, railway tracks and the strip of development along Jessore Road.

#### 5.3.2.2. Functions

From the colonial age this study area was built mainly as an area of commerce and business. Then *Boro bazaar* established as a mixed use area and functions are activated based on various business activities. Presently a large number of commercial (figure 5.6) (wholesale market, retail shops), mixed-use activities dominating this area and 12% of residential facilities and 8% office activities create this area more vibrant than other city area. Again this area also has slum area (figure 5.7) within the residential, mix used and commercial activities. A study conducted by K.M. Mokit Billah on "Parking Demand Analysis of CBD Area in Khulna City" demarcated the land use pattern (Table 5.1) of the CBD of Khulna city as presented in the following table 5.2 and next table shows the land value of the study area.

**Table 5.1: Existing land use pattern of CBD area of Khulna city**

Land use	Area (in sq. ft)	% of total
Residential or mixed	60,260	6
Commercial	64, 9240	64
Administrative	33.460	3.2
Recreational	39,440	3.8
Streets	24, 0301	23
Total area	10, 2701	100

Source: Billah, 2000. pp. 28



Figure 5.6: Functions of the study area; source field survey, 2018

**Table 5.2: Land value within the study area and surroundings**

Location	Value / Katha (720sqft)	Size
Court Road	3 Lakh-5 Lakh	According to the size of shops
Jailkhana Road	3 Lakh-5 Lakh	According to the size of shops
Sir-Ikbal-Road	12 Lakh-15 Lakh	According to the size of shops
Helatola Road	8 Lakh-12 Lakh	According to the size of shops
Clay Road	15 Lakh-18 Lakh	According to the size of shops
Kali Bari Road	10 Lakh-12 Lakh	According to the size of shops
West Mocot Road	5 Lakh-10 Lakh	According to the size of shops

Source: field survey,2018

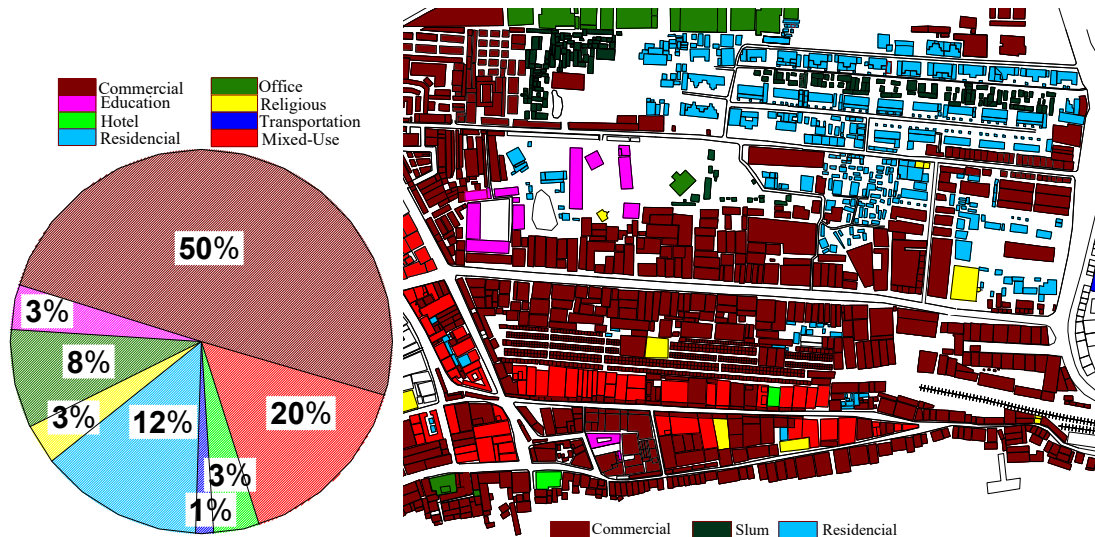


Figure 5.7: Percentage of land-use area and slum area within the study area

As already mentioned, both sites may have lost their relative importance, but even so, recent investments illustrate their central and strategic location.

- the construction of a new, large central mosque next to Khulna’s main higher-class shopping centre (New Market) has recently been completed;
- a new people’s station will be constructed next to Jessore Road;
- Zia hall and the city’s museum are located on the head of the important Sibbari node.
- KDA office is built as a hinge between Jessore road and KDA Avenue on Sibbari node.

The use of the other side of the river is clearly linked to the functions located on the railway land and *Boro Bazaar*: Industries and storage are built up close to the node on the railway land and residential areas are located close to the commercial city heart.

### 5.3.2.3. Building Heights

Again it becomes clear that the overall height of buildings in Khulna city is rather low. Next to the high rise residential part of *Boro Bazaar*, the major high buildings are the new city landmarks around Sibbari node and the offices along the important roads. In *BB* and around the study area, there are different heights of buildings (figure 5.8); low structures dominate *Boro Bazaar's* commercial framework (Photograph 5.9) and most of them are one storied. Presently a small number of high-rise buildings (banks and offices) towards the clay road and upper jessore road take over urban fabric (Photographs 5.6, 5.7, 5.8, and 5.10).



Photograph 5.6: View from upper jessore road, source: Google map



Photograph 5.7: High rise building towards upper jessore road, source: Google map



Photograph 5.8: High rise building towards clay road, source: Google map



Photograph 5.9: Low structures dominate Boro Bazaar's commercial fabric



Photograph 5.10: two high rise building towards upper jessore road, source: Google map

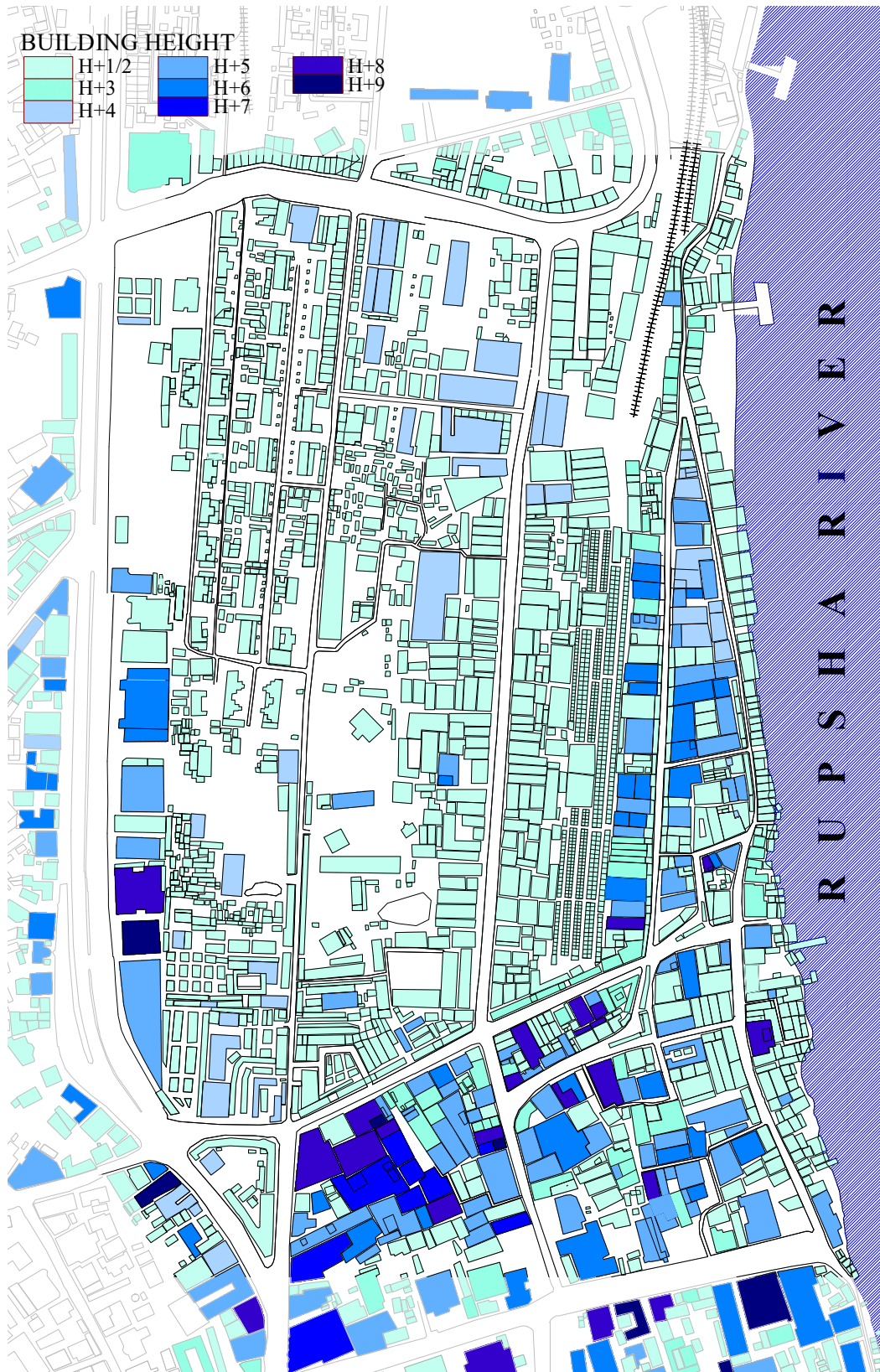


Figure 5.8: Building Height of the study area; source field survey, 2018

#### 5.3.2.4. Building Structure Type

Initially the study area was a mixed commercial with residential area (section 5.2: Photograph 5.1; Charlie's Kuthibari, 1801) and gradually it transferred into a mainly commercial area that is evident in the present build environment. Presently most of the building structure in this area is semi-pucca (Figure 5.9). The aforementioned historical pattern can be read in this map (Figure 5.10). The older areas, *BB* and the organic neighbourhood to the west of it, contain more semi-pucca and pucca buildings (photograph 5.11) that have been upgraded in a phased way. The area to the southwest of the railway land is an organic tissue that contains more katcha and semi-pucca buildings and is therefore in an earlier stage of development comparing to the area at the south of it. The planned residential neighbourhood to the northwest of the railway land was probably a major housing investment made in the Pakistani period; therefore, most of the structures are pucca. On the other hand, within the study are most of the buildings having commercial activities within the ground and first floor and maximum portion of second floor uses as residential use. The transformation of the initial residential into commercial area was not planned from the beginning. In most cases, the transformation took place incrementally and was planned by individual plot owners on plot-by-plot basis. In this reason there is also presence of land locked plots with inefficient accessibility.

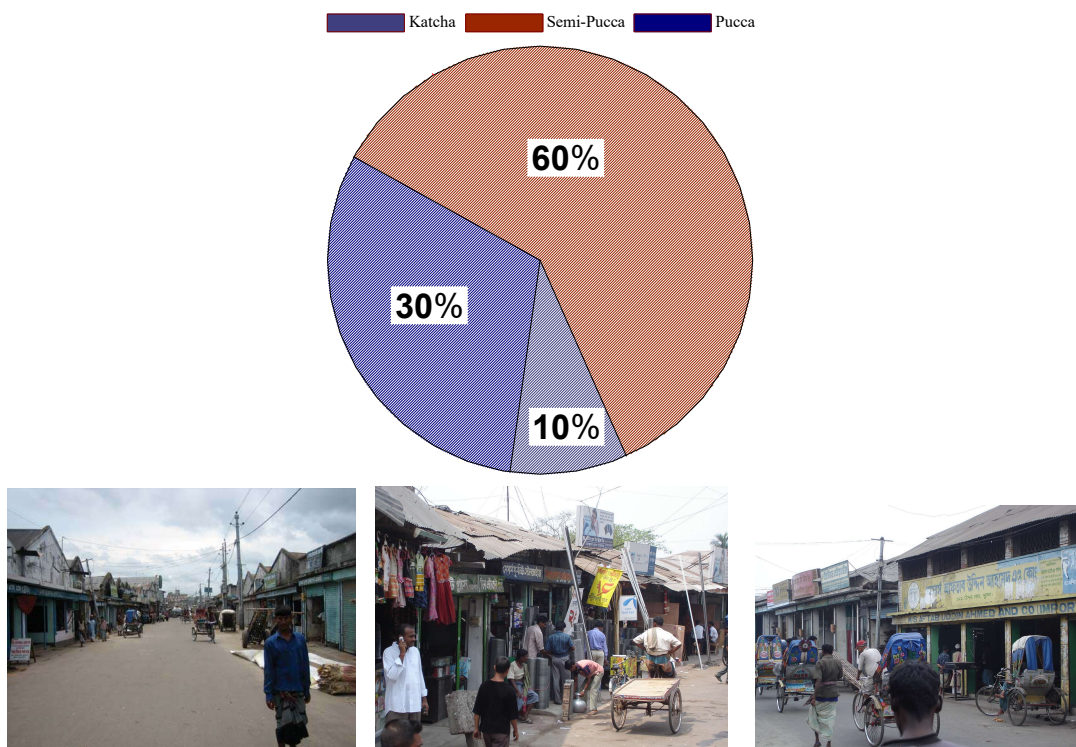


Figure 5.9: Percentage of structure type and Photograph 5.11: Semi-Pucca structures along Station Road



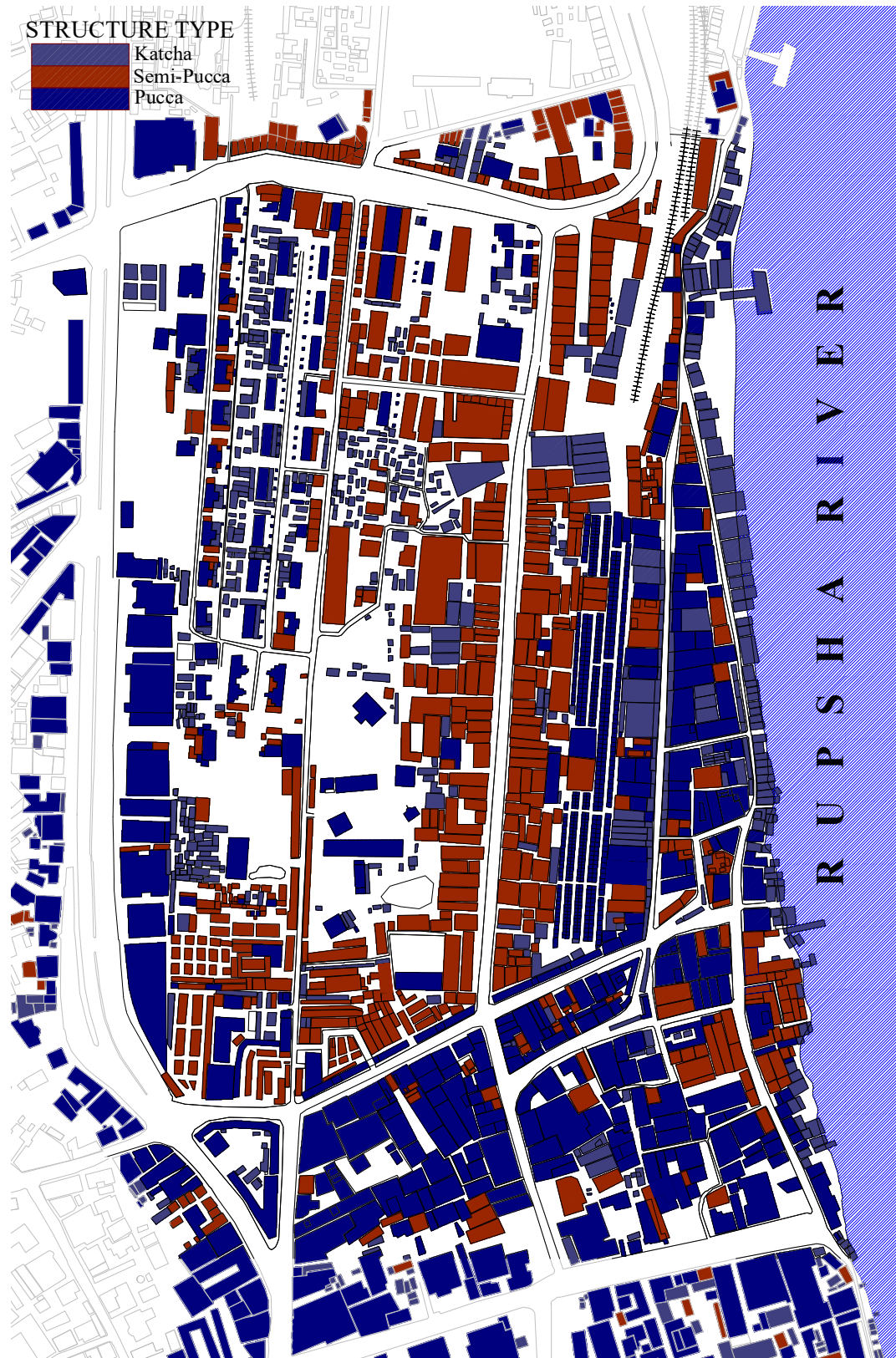


Figure 5.10: Structure Type of the study area; source field survey, 2018

### 5.3.2.5. Built form and open space

The estimation of the amount of built form and open-green space is an important part of this research. Figure 5.12 shows the distribution of urban open, water and green spaces, built form and road within the study area. The figure was created by overlaying the visual analysis and classification of built form and open space map created from the interpreted satellite image, over the city's neighbourhood typology. Figure 5.11 shows that the percentage of the built form is very high compare to open space which is 60% and 10% respectively within the study area. The multi-functional use of open space on the railway land (outside study area) and its mono-functional use of buildings (residential) are in clear contrast with *Boro Bazaar's* multifunctional building use and almost inexistent open space. This clearly marks the potentials for further development of the study area.

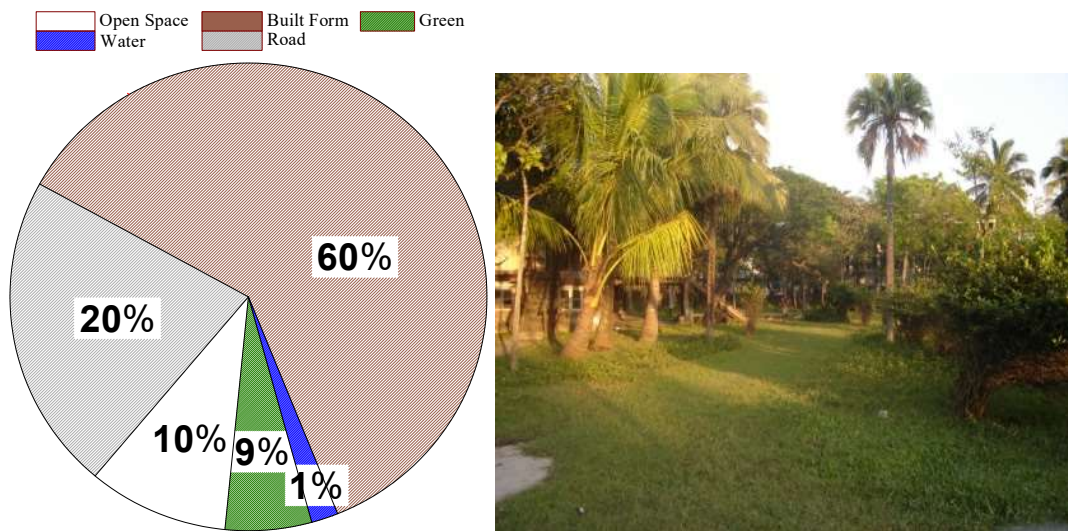


Figure 5.11: Percentage of Built form and open space and Photograph 5.12: Open space within NK along Station Road



Photograph 5.13: Open space within along Upeer Jessore Road



Figure 5.12: Built Form and Open Space of the study area; source field survey, 2018

### 5.3.2.6. Street Network of *Boro Bazaar* Area

Street network of *Boro Bazaar* connects the whole area. There are lots of major streets including access roads and lanes which are very important for people's movement. The street network offers enough permeability for users. All roads are easily connected with the one. Other than the roads width is not satisfying for the area as a marketplace. Some roads like the Bhairab Stand is very poor condition both in width as well as accessible to other roads. Moreover, the roads are occupied by shopkeepers with their stuffs that decline physical permeability. All the roads width is mentioned in the next table 5.3 and next figure 5.13 shows that the study area has 3 types of road network – mud, brick and pitch road.

**Table 5.3: Different roads names in the study area and their width**

Road Name	Type	Width (in meter)
Khan-E-Sabur	Primary	17
Station Road	Primary	11
Railway Approach Road	Primary	10
West Macot Road	Local	4.25
Bhairab Stand Road	Access	1.80
Clay Road	District	8.33
K. D. Ghosh Road	Primary	11.16
Sir Iqbal Road	District	10
Kalibari Road	Local	8
Helatola Road	Local	4.10

Source: Field Survey, 2018

#### *Boro Bazaar* Area with Connections to the City as a Whole

In association with the connecting city road network the study area is very well connected with Khulna as well as the other side of Rupsha-Bhairab River. The entire main point of Khulna city is closely and easily linked with the area and no problem to go to *Boro Bazaar* area through the city road network. From the road network map (Figure 5.13), it can be seen that all the important junctions, nodes and hub of Khulna city with percentage of road types (figure 5.14) within the *Boro Bazaar* area. The CBD area of Khulna city encompasses Duck Bungalow and adjacent area, which is comprised of eight intersections including the zero-point intersection, Clay road intersection, Picture place intersection, Hadis park intersection and *Boro bazaar* intersection. Various retail and wholesale shops, banks, huge road side activities, huge traffic gathering, many restaurants and hotels, park and cinema hall are found in area.

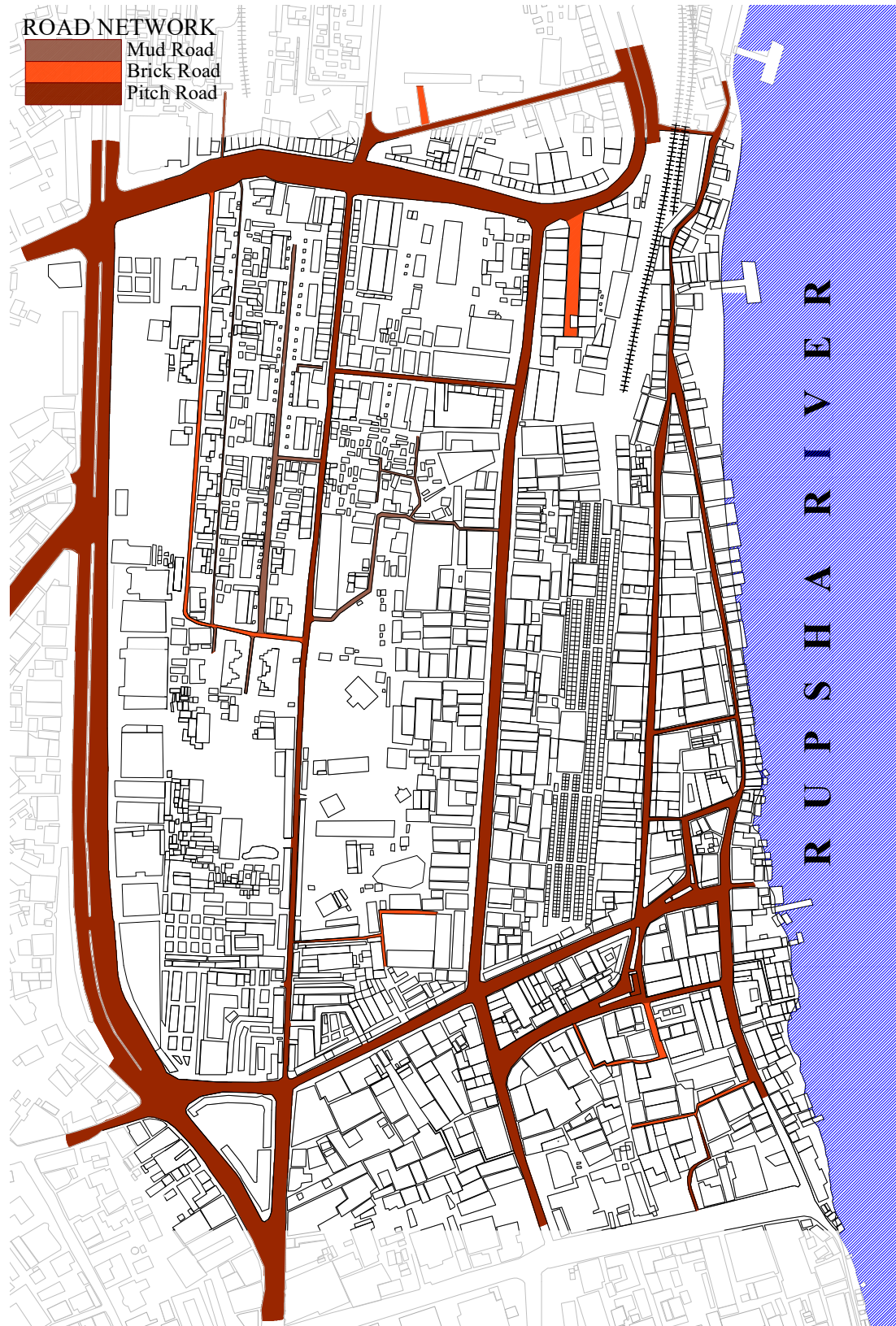


Figure 5.13: Road Network of the study area; source field survey, 2018

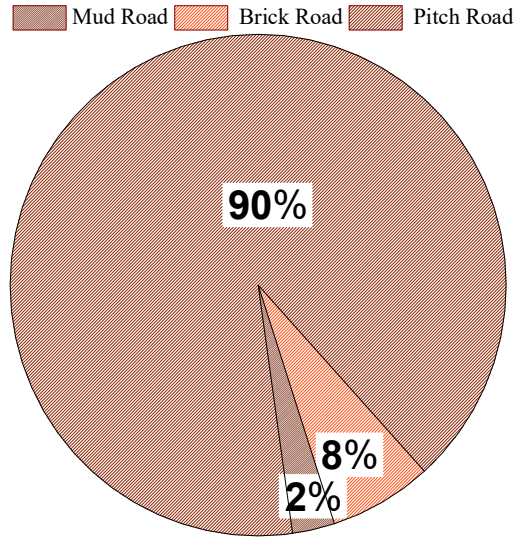


Figure 5.14: Percentage of three Types of road within the study area



Photograph 5.14: Pitch road, Upper Jessore Road

Existing Transport Infrastructure

The transportation infrastructure in the Khulna city general and Khulna CBD in particular includes road way or carriage way, pedestrian way, traffic management facilities and devices, cross walk, intersections etc. The roads under consideration of this study suffer from a lack of pedestrian way. Many roads in the study area don't have adequate carriage way even. The following table represents the actual width and rights of way of roads in the Khulna CBD.

**Table 5.4: Carriage way and Pedestrian way width in the Khulna CBD**

Name of the road	Right of way (ft)	Width of Carriageway (ft)	Width of Pedestrian way (ft)
------------------	-------------------	---------------------------	------------------------------

Khan-E-Sabur	72	60	12
Lower Jessore road (seg-I)	41	31	10
Lower Jessore road (seg-II)	60	50	10
Old Jessore road	30	30	0
Sir Iqbal road	33	27	6
K.D Gosh road	45	25	20
Clay road	30	20	10
Kali Bari road	38	25	13

Source: Rakib, 2003. pp. 51

The above table shows that except Khan-E-Sabur road and Lower Jessore road there is no way specifically designed for pedestrians in the roads of Khulna CBD. The Sir-Iqbal road has a pedestrian way of only 6 feet width, which is very low as compared to the pedestrian flow of the same road. Although the Old Jessore road, Clay road and KD Ghosh road are mostly retail and commercial land use oriented but the fact that there are no footpaths with these roads. It is universally accepted that shopping and commercial activities largely benefits economically through the provision of adequate pedestrian way. In the study area, in almost all road, pedestrians are left with the vehicular traffic with congestion on roads, which is further worsened by huge informal occupancy of footpaths and even carriage way.

#### Vehicular Space / Parking Space

Vehicular space and parking is very important issue for *Boro Bazaar*. On a working day there creates tremendous congestion. Those vehicles create hassle over the pedestrian user. Some banks have their own parking space in their ground floor. Although most vehicles park on street which much affect the other movement activities. Sir Iqbal road is busy with more corporate offices, which have their own parking space under their building. On the other hand, there is little tendency about to park the private vehicles at the *Boro Bazaar* area. Most of the parking vehicles are truck. Those trucks are used for unloading the commodities for the marketplace. There is huge occupancy in Station road. Sir Iqbal and Kalibari road always use for on street parking space. However, the study area is presently suffering for acute shortage of parking facility both on street and off street parking. For an instance, some important nodes of the study area have been found to be troubled by irregular parking of non-motorize vehicles, such rickshaws, push cart, truck, van as these nodes are out of having any parking facilities though there has a high demand of rickshaw stand.

Traffic Flow

Road encroachment is one of the prime reasons for traffic jam and chaotic movement of traffic in *Boro bazaar*. There are no parking spaces on the roads whereas all roads are used for loading / unloading purposes (Syed Shahriar Amin). This area is well known as a most busy place in Khulna city due to huge commercial activities and various traffic flows all through the day and the entire activities start from early morning to late night. Recently a study about categories of vehicle and their frequency within the study area by Rakib Hasan

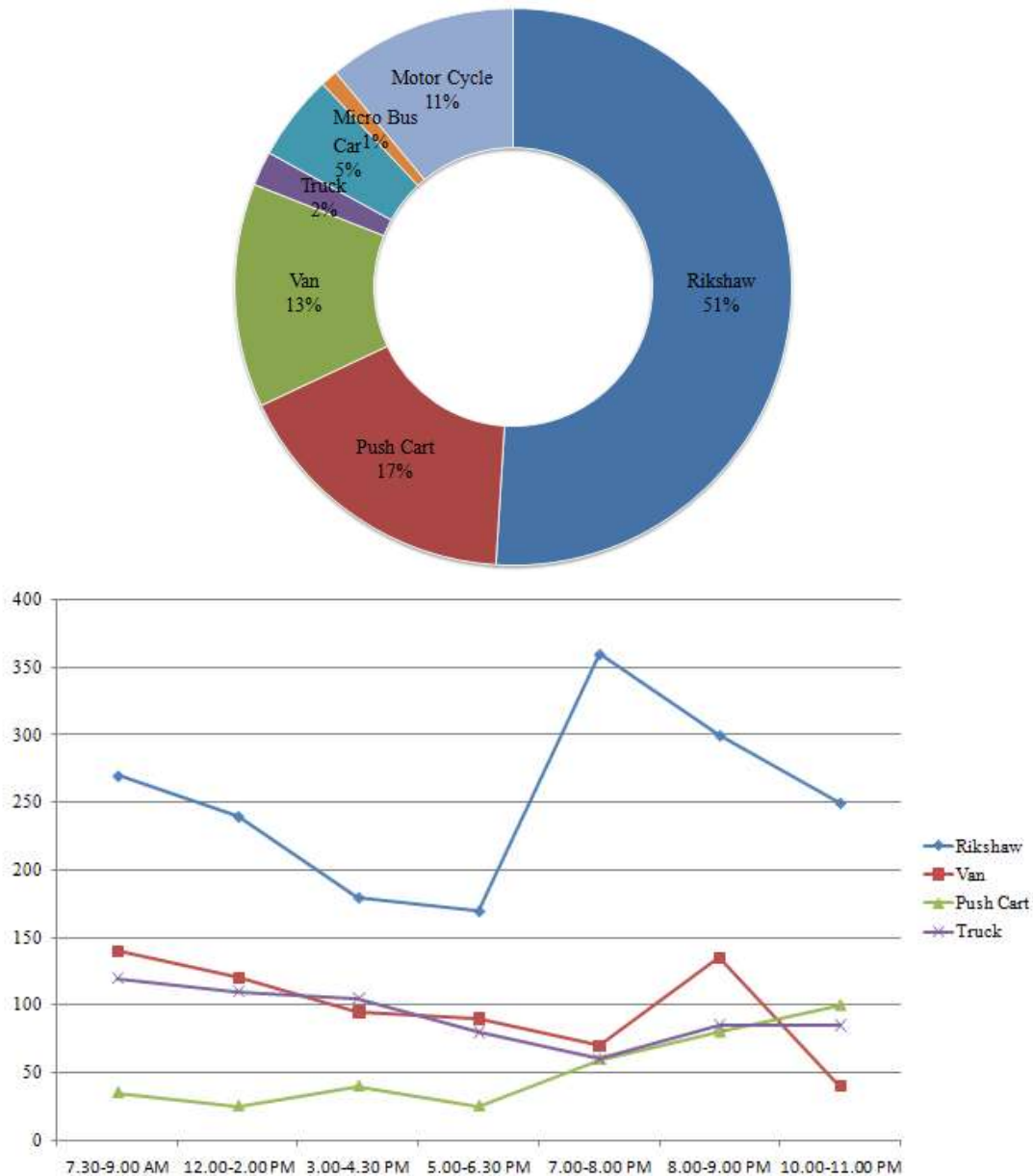


Figure 5.15: Percentage of all vehicle of the study area; Source: Rakib



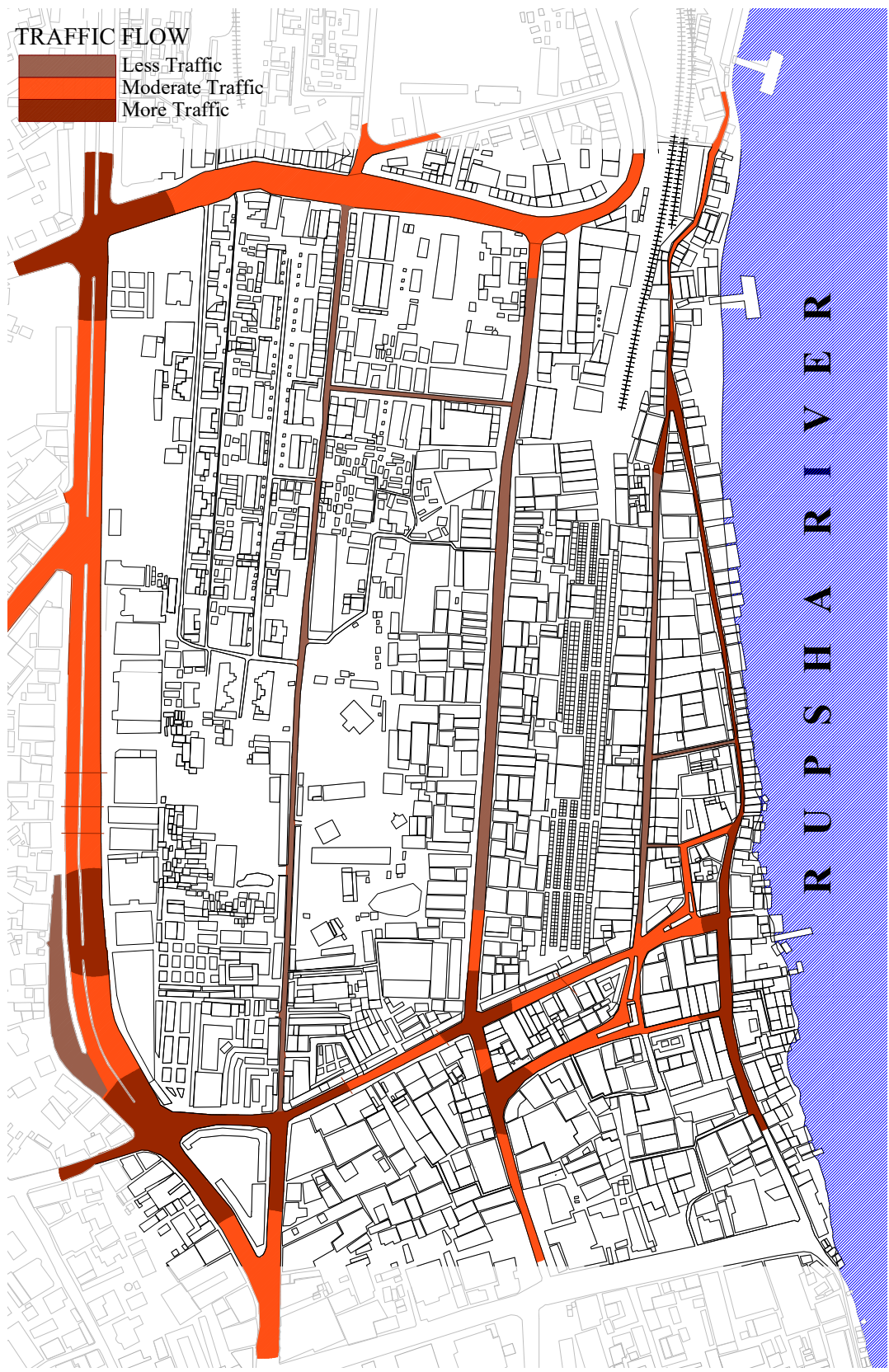


Figure 5.16: Traffic Flow of the study area; source field survey, 2018

explained (figure 5.15) that the presence of rickshaw is 51% which is higher than other vehicles. The study also explained that 7.00 am to 8.00 pm is the highest pick time for traffic to carry passengers and other goods within the study area. Over again figure 5.16 shows that this area has less, moderate, more types of traffic flow. Another study by Amin in 1999 shows (following table 5.5) the average traffic flow in different times of the day within the study area.

**Table 5.5: Average Traffic Flow in Different Times of the day, Source: Amin,1999**

Transpor tation	Time	KD Gosh Road	Kalibari Road	Sir Ikbal Road	Helatola Road	Clay Road	West Mecot Road
Truck	7am-10am	3-5	3-6	20-25	10-15	8-10	-
	10am-12pm	1-2	5-8	8-10	10-15	10-15	-
	12pm-2pm	-	5-6	10-12	-	-	-
	8pm-10pm	5-7	8-10	25-30	15-20	8-10	-
	10pm-12pm	10-12	8-10	35-40	10-15	8-10	-
Van	7am-10am	10-15	10-15	40-50	20-25	10-20	20-25
	10am-12pm	15-20	10-15	45-50	20-25	10-15	20-25
	12pm-2pm	15-20	5-10	15-25	10-15	5-10	10-15
	8pm-10pm	20-25	20-25	50-60	10-15	10-15	10-15
	10pm-12pm	10-15	15-20	-	-	-	-
Puch Cart	7am-10am	10-15	5-10	40-50	5-10	5-10	15-20
	10am-12pm	20-30	8-15	35-40	15-20	10-15	20-25
	12pm-2pm	15-20	8-15	15-25	10-15	10-15	10-15
	8pm-10pm	25-35	15-20	45-50	15-20	5-10	8-10
	10pm-12pm	30-35	20-25	30-35	10-15	5-10	5-10
Rikshaw	7am-10am	200-225	20-30	175-225	175-200	200-250	-
	10am-12pm	200-250	60-80	100-125	150-175	150-200	-
	12pm-2pm	175-200	85-105	100-150	100-125	125-150	-
	8pm-10pm	100-150	50-65	20-25	75-100	150-200	-
	10pm-12pm	50-75	40-60	10-15	50-75	75-100	-

### 5.3.2.7. Economy of the study area

Although KCC, KDA, BR (Bangladesh Railway), BIWTC (Bangladesh Internal Water Transport Corporation) and BIWTA (Bangladesh Internal Water Transport Authority) earns government revenue within the study area by rented shops and markets. Besides these government authorities the study area has various private organizations who earns huge amount of revenue all through the year. In the last two years only KCC collects 20% tax from the rentable building within the study area and following table 5.6 shows Tax assessment of the last two years and government earns app. 25,00,000 TK in the following fiscal years.

**Table 5.6: Sample of Tax Realization rate of KCC from Study area**

Year	Demand/Collectable Amount (TK)	Actual Collection Amount (TK)	Realization Rate (%)
2015-16	50,00,000.00	15,00,000	30.00%
2017-18	55,00,000.00	13,00,000	23.64%

Source: KCC

BR (Bangladesh Railway) also earns revenue 16TK/sqft for shops and 3TK/sqft for storage space. In the last two years BR collects app. 42, 00,000.00 TK (27, 00,000.00 TK from shops and 15, 00,000.00 TK from storage space).

BIWTC (Bangladesh Internal Water Transport Corporation) also lease their area for shops and Ghats (river port). Previous year, BIWTC collects revenue 15TK/sqft for shops and 15, 50,000 TK from Ghats (except panshi, hospital, cargo-handling and nimtoli ghats).

BIWTA (Bangladesh Internal Water Transport Authority) collects revenue from passengers who transfer river by ferry. Previous year, BIWTA collects revenue app. 3, 75,000.00 TK from passengers.

Again two different studies in relation to the economic condition and per day sale of four different markets within the study area which were conducted by the Architecture Discipline (Khulna University) has explained in the following -

- Firstly, the study divided this area in two different locations concerning its zoning and location – *Boro Bazaar* (figure 5.17) and railway market (figure 5.18). This explained that kacha bazaar (daily market - vegetable, rice, fruits, etc) area has the best economic condition within *Boro Bazaar*. Followed by within railway market area, among five types of shops, cloth market earns the highest amount of money.
- Secondly the study finds other private / public shops and markets within the study area and divided this area in four different market places (figure 5.19) concerning it's per day sale.
  - o Figure 5.20 (Photograph 5.15, location 1) shows that this area has eight types of shopping area with different names. Results shows that among these area Railway Market has the highest per day sale around the area.



Figure 5.17: Economical condition of Boro bazaar; source: K U Architecture Department



Figure 5.18: Economical condition of Railway Market; source: K U Architecture Department

- Figure 5.21(Photograph 5.16, location 2) shows that this area has five types of shopping area with different names. Results shows that among these area, Station Road Market has the highest per day sale around the area.
- Figure 5.22 (Photograph 5.17, location 3) shows that this area has three types of shopping area – BIWTA, Grocery and Khan-Jahan-Ali with three different names. Results shows that amongst these area, Khan-Jahan-Ali road market has the highest per day sale around the area.
- Figure 5.23 (Photograph 5.18, location 4) shows that this area has two types of shopping area – Vashani and Jabbar Sharani with two different names. Results shows that along with these area, Khulna-Shatkhira / Sher-E-Bangla road market has the highest per day sale around the area.

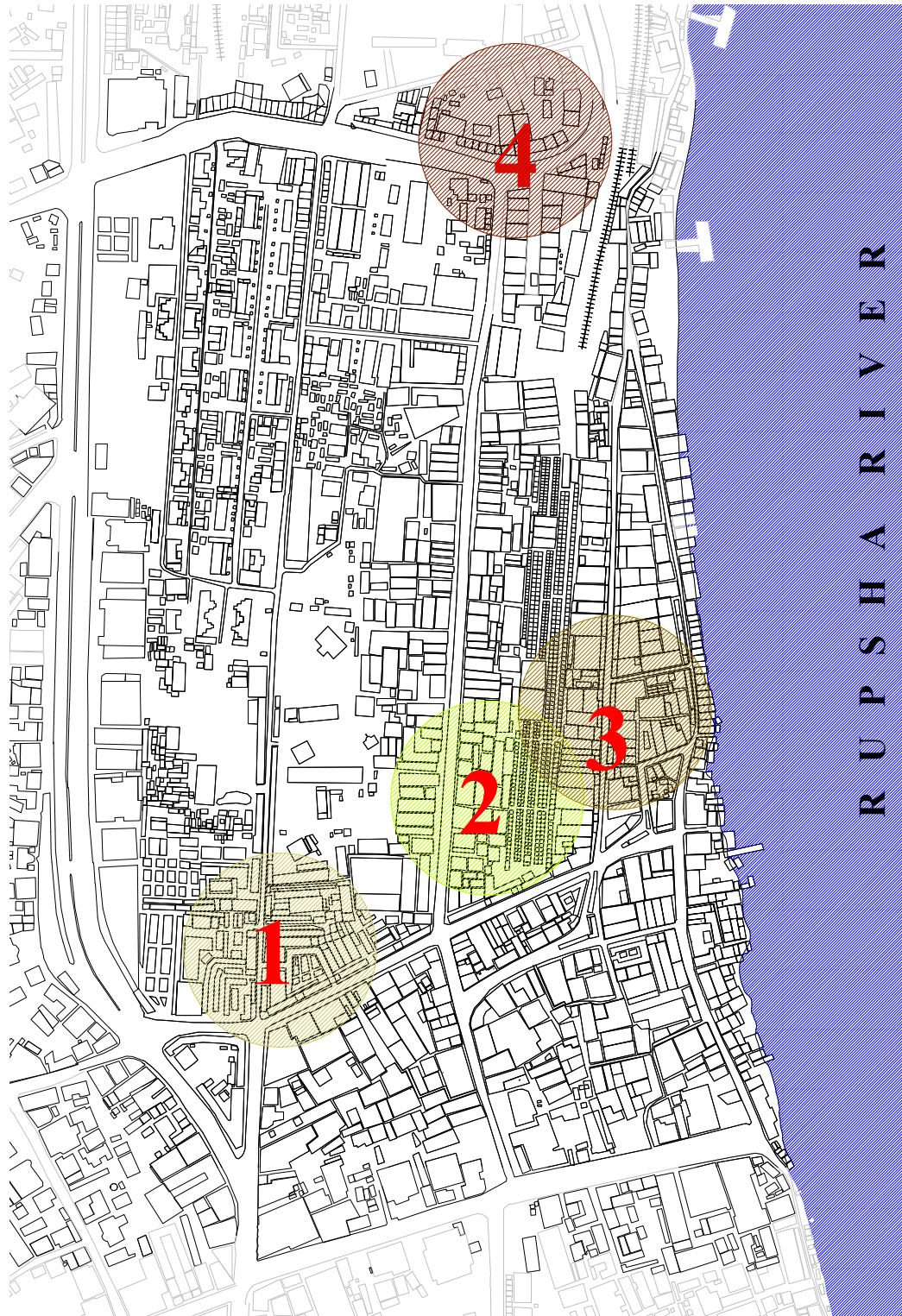


Figure 5.19: Location of four different market places; source: Architecture Discipline (Khulna University)

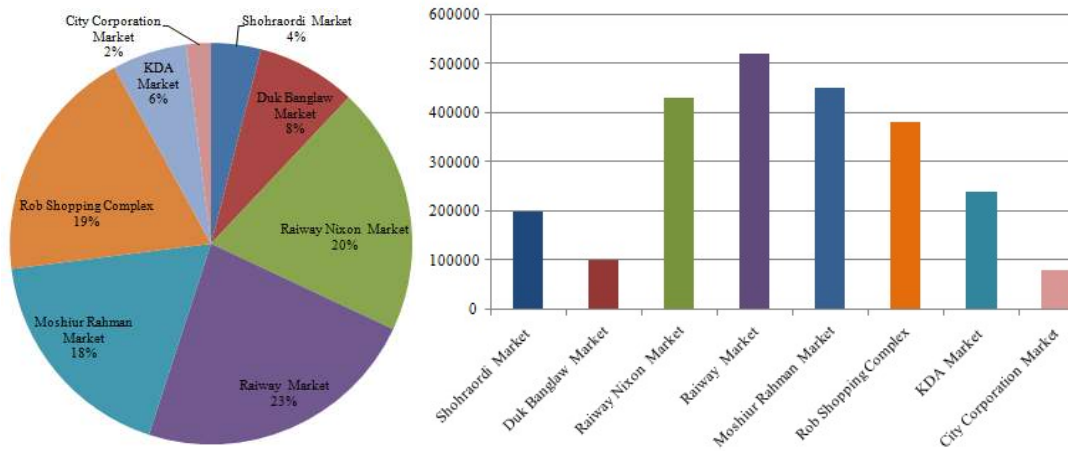
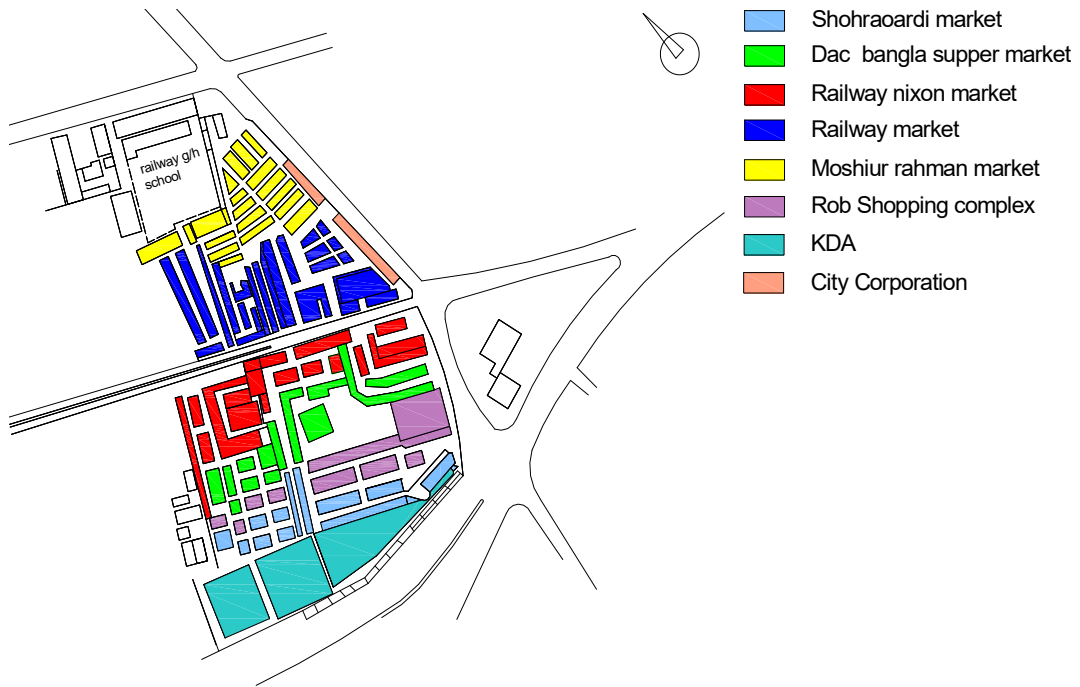


Figure 5.20: Percentage and per day sale of Railway Market (Location 1)



Photographs 5.15: Railway Market - Location 1, Author 2018

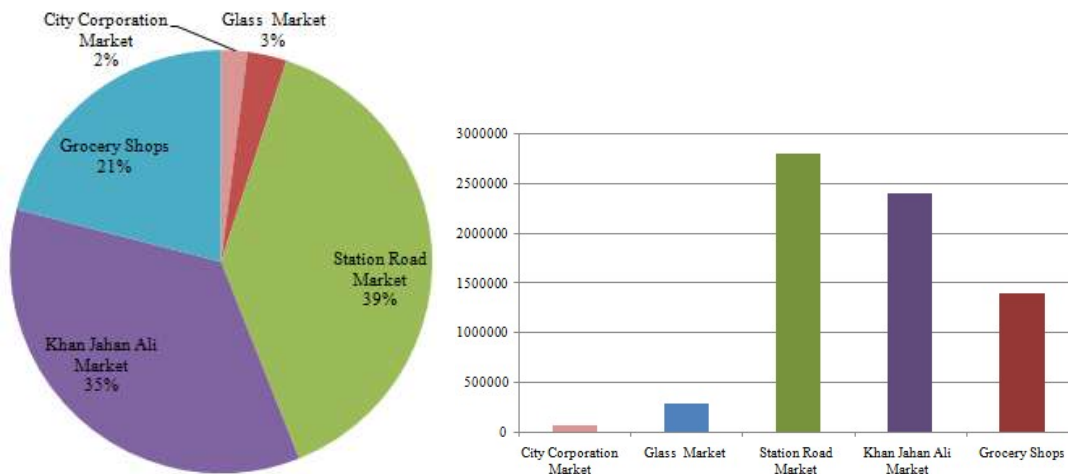


Figure 5.21: Percentage and per day sale of Station Road Market (Location 2)



Photograph 5.16: Station Road Market - Location 2, Author 2018

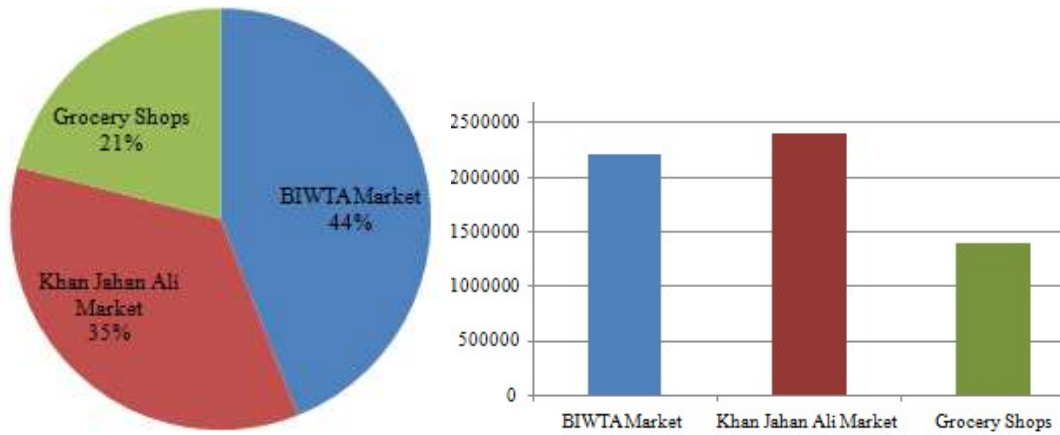
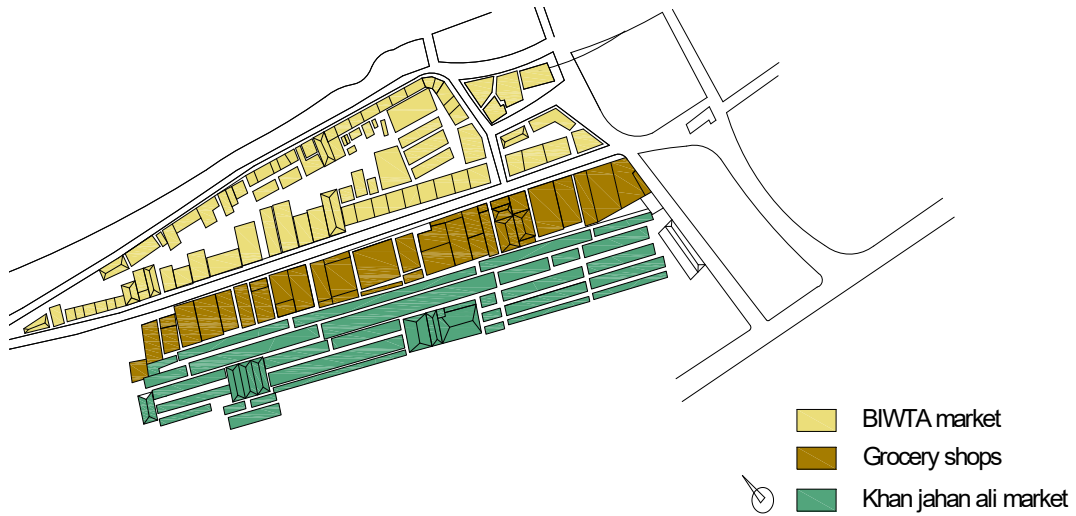


Figure 5.22: Percentage and per day sale of Khan-Jahan-Ali road market (Location 3)



Photograph 5.17: Khan-Jahan-Ali road market - Location 3, source: Google Map



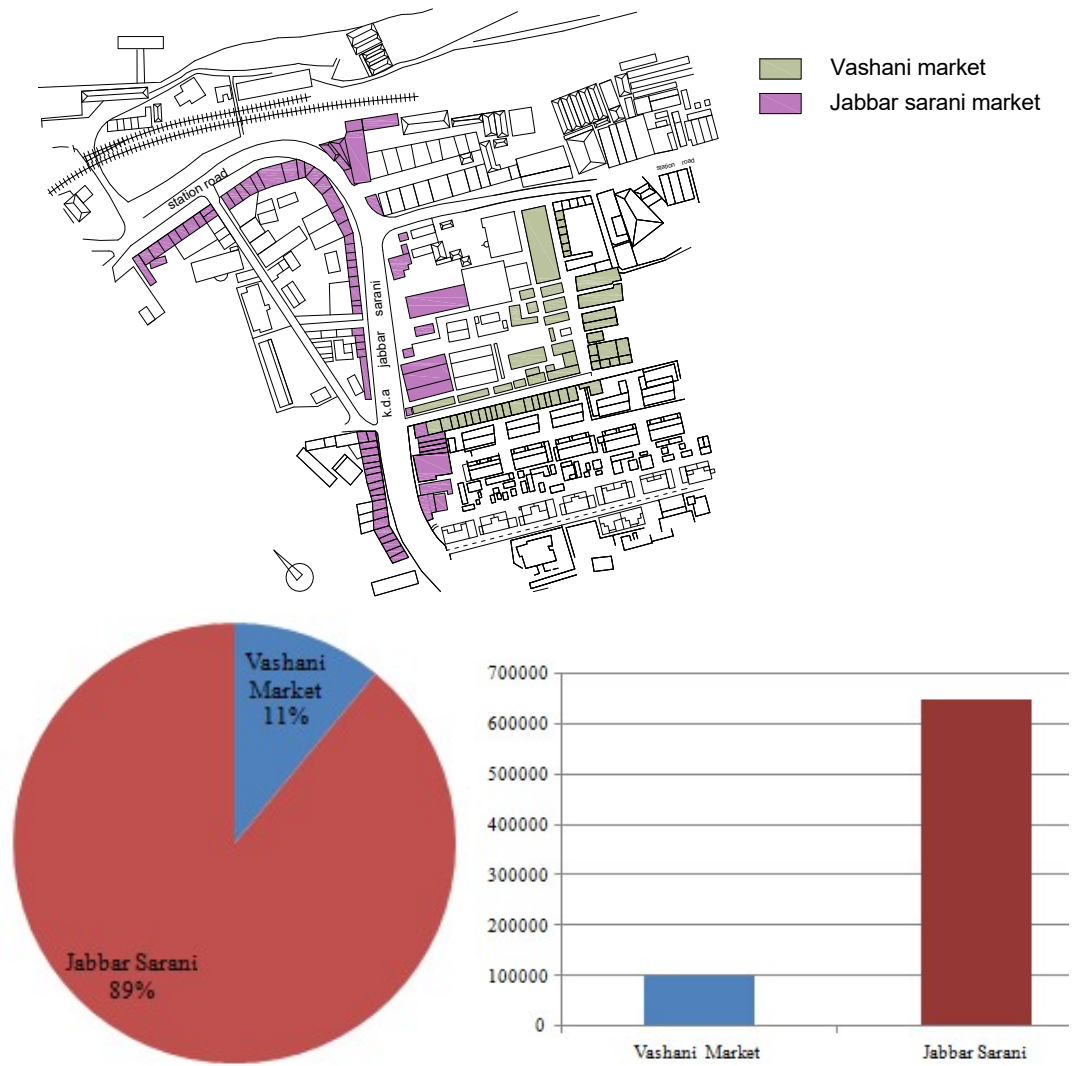


Figure 5.23: Percentage and per day sale of Khulna-Shatkhira / Sher-E-Bangla road market (Location 4)



Photograph 5.18: Khulna-Shatkhira / Sher-E-Bangla road - Location 4, Author 2018

The study area has 15 numbers of market places with different names and different owners. Everyday these market places earn huge amount of money and creates this location an important commercial zone. Figure 5.24 shows different locations for commercial activities within study area and figure 5.25 shows that among these areas, Station Road Market have the highest per day sale with busy commercial activities all through every single day.



Figure 5.24: Different locations of commercial activities within the study area, Source: Khulna University

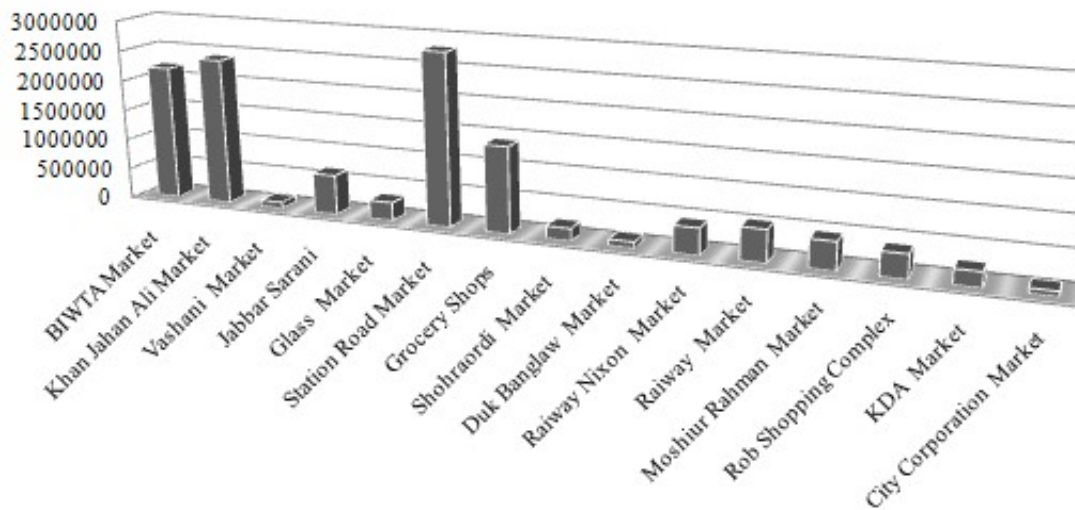


Figure 5.25: Total per day income analysis within the commercial zone, Source: Khulna University

### 5.3.2.8. Building Owner

Here the figure 5.27 shows that mostly two types of building owner belong within this area and figure 5.26 explains that – private (lease or rental) owned building is 63% and public owned building is 36%. There is also some illegal build form which is in between Station Road and *Boro bazaar* Road. Yet again the area south west of the figure 5.27 towards upper jessore road comprises most of the public building. The public buildings along this area range in height between ten to four floors. Again near left side of hospital road where a group of public owned building named "railway colony" has been dominated the neighbourhood. The architectural merits of this area show the British colonial period and their construction systems. However, this neighbourhood has some small amount of illegal slum area (figure 5.7). In front of this area there is another antique building with boundary named "NK" (Nil Kuthi) is located. But this area is now used as BIWTC authority. However, this old building (Nil Kuthi) within this area has totally misplaced because of conserve with proper technique and management.

Even though the public and private area was zoned as a mixture of commercial, mixed used and residential land use, the area was developed as two separate areas; one area was developed as commercial (public building) while another area was developed as residential and mixed use (private building) zone. The commercial buildings along the clay road range in height between four to six floors. While The residential buildings within the study area mostly range in one or two floors with office in ground floor and dwelling unit in second floor. Other than most of the area belongs to KCC, BITWA and Railway authority who leased and rented the land and earns revenue monthly or yearly basis. On the other hand, the study area has different age of building construction. Following figure 5.26 shows the building age according to its construction which has been explained by Nusrat Chowdhury.

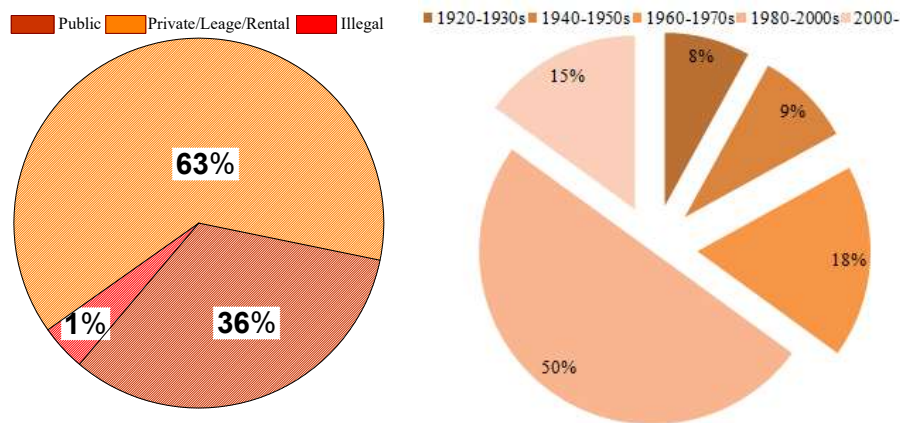


Figure 5.26: Percentage of Building Ownership and age of Building of the study area.

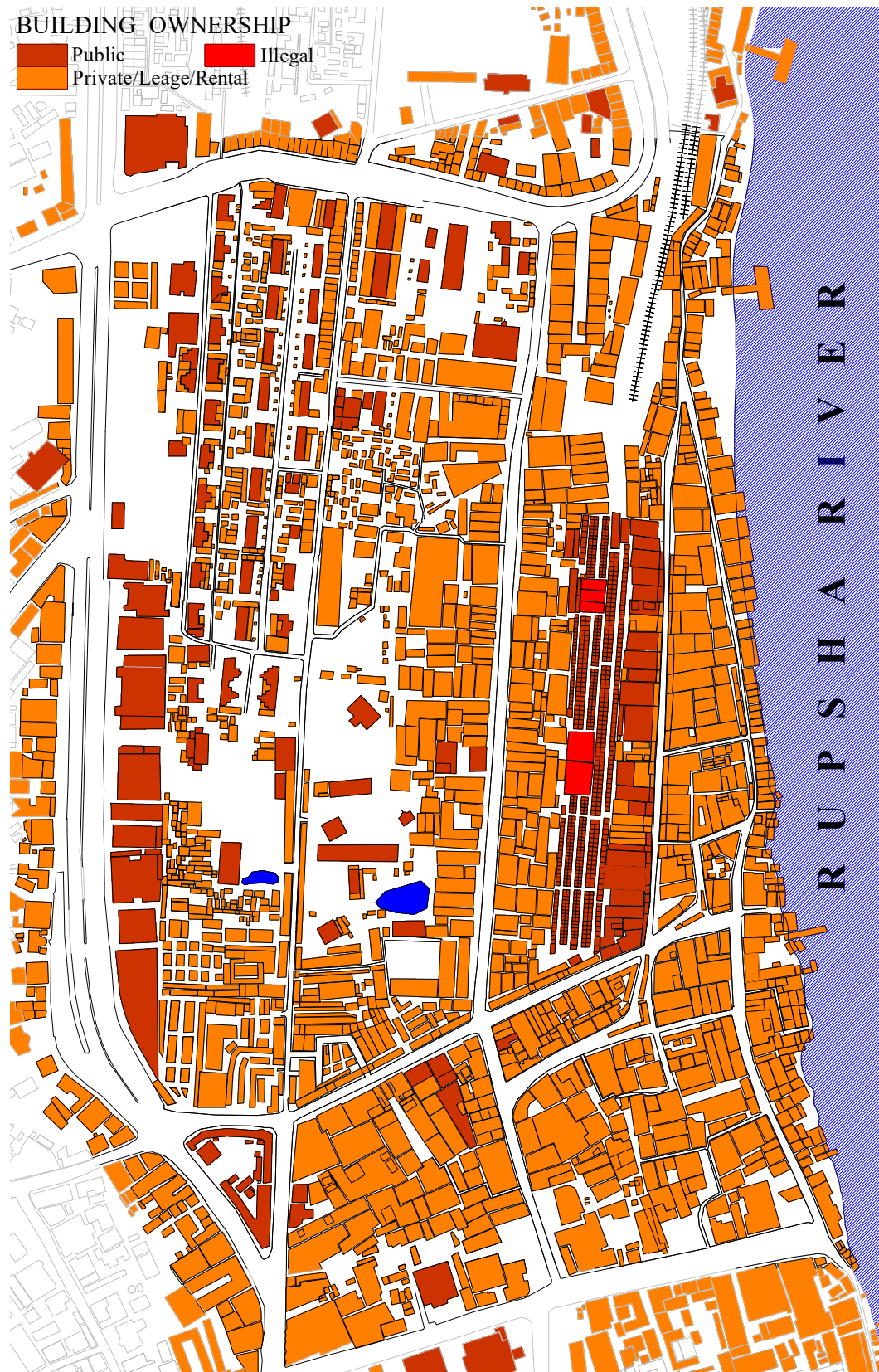


Figure 5.27: Building Ownership of the study area; source field survey, 2018

### 5.3.2.9. Ghats (river port) along *Boro Bazaar* Area

The local government leases the river port areas (locally called Ghats) to export and import goods within the country and to the neighbouring India. Following diagram 5.28 shows river port areas (Ghat, Photographs 5.19) through which both the wholesale and retail trades control the export and import business and the local and central government earn revenue by long-term leasing policy (Ahsan, Asad and Alam, 2012). Presently there are 11 nos of Ghats (table 5.7) along *Boro Bazaar* area and which are situated within the Bhairab Stand road and Kalibari road. Everyday huge amount of goods and passengers are transacted by these Ghats. Most of those are used for goods loading and unloading from other side of the river. Officially only BIWTA and Kalibari ghat (figure 5.29, section 01) is frequently used for passenger's transportation and Thakurbari ghat (figure 5.30, section 02) is using for bathing and washing the local people's as well as other transport. The infrastructure and accessible facilities of all Ghats are not property maintained for transportation and general users. The following photographs shows how the local river ports in *Boro Bazaar* operate export and import business based on waterways and generate revenue for the government.



Photographs 5.19: The local River Ports along *Boro Bazaar*. Author 2018

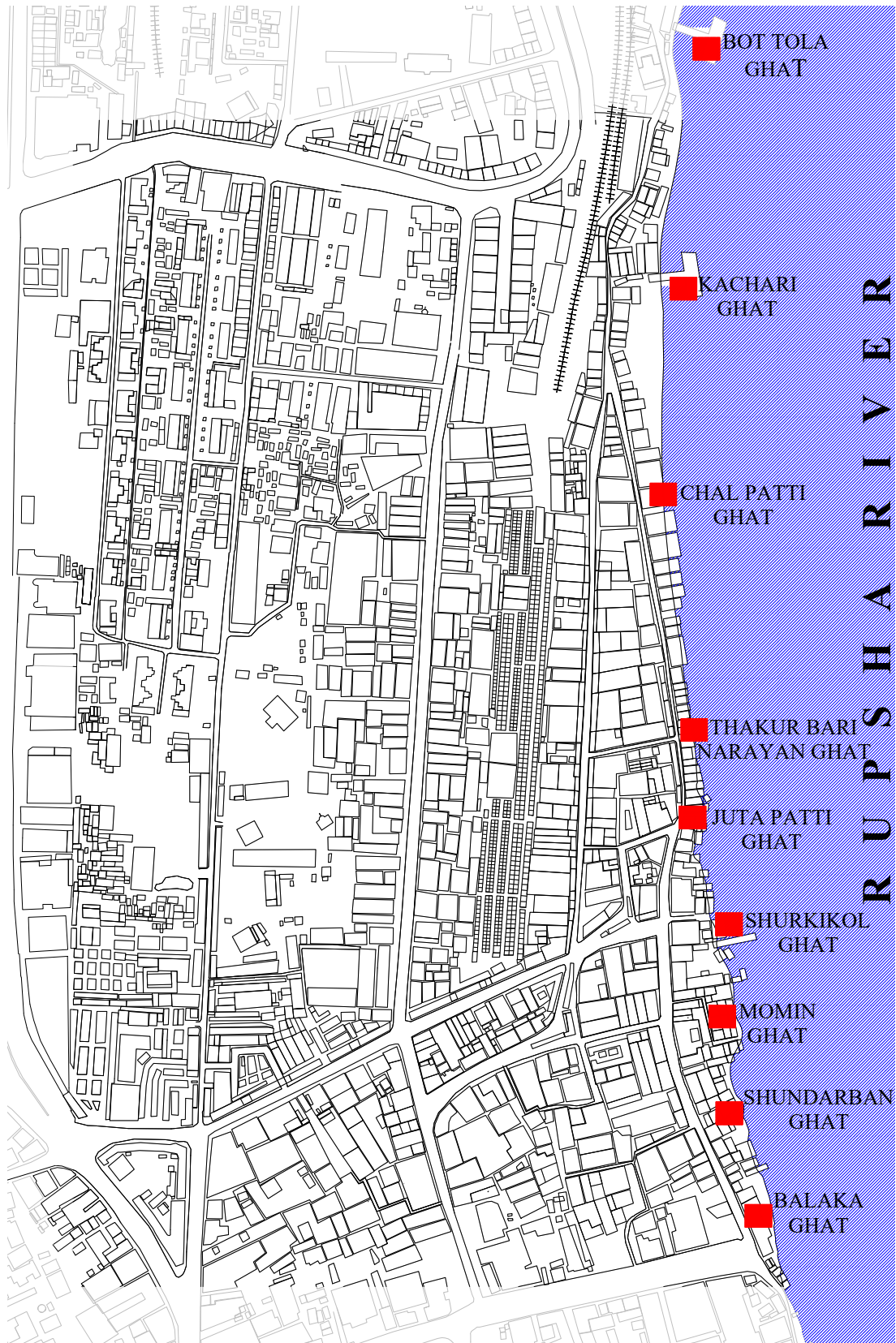


Figure 5.28: Ghats (river port) along *Boro Bazaar* Area, 2018

**Table 5.7: Information of Ghats along Boro Bazaar Area; source: Amin, 1999**

Name of the Ghat	Anchorage Facilities	Purposes	Import			Export			No of workers
			Goods	Origin	Transport	Goods	Destination	Transport	
<b>BIWTA Ghat</b>	Stemmer	Passengers and Goods	All Grocery items	southern region	Stemmer	All Grocery items	southern region	Stemmer	18
<b>Bothtola Ghat</b>	06	Load-unload	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	12
<b>Kachari Ghat</b>	04	Load-unload	All Grocery items	Several places of southern region	Trawlers and boats	All Grocery items	Several places of southern region	Trawlers and boats	18
<b>Chalpatti Ghat</b>	02	Load-unload	All Grocery items	Pirosepur, Hular Hat, Debgang	Trawlers and boats	All Grocery items	Pirosepur, Hular Hat, Debgang	Trawlers and boats	8
<b>Thakurbari Ghat</b>	-	Bathing	-	-	-	-	-	-	-
<b>Jutapatti Ghat</b>	03	Load-unload	All Grocery items	Potuakhali, Nowapara	Trawlers and boats	All Grocery items	Potuakhali, Nowapara	Trawlers and boats	16
<b>Shurkikol Ghat</b>	05	Load-unload	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	12
<b>Momin Ghat</b>	08	Load-unload	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	15
<b>Shundorbon Ghat</b>	02	Load-unload	All Grocery items	Barishal, Dhaka, Mongla, rampal, paikgasa	Trawlers and boats	All Grocery items	Barishal, Dhaka, Mongla, rampal, paikgasa	Trawlers and boats	10
<b>Balaka Ghat</b>	06	Load-unload	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	All Grocery items	Mongla, rampal, paikgasa	Trawlers and boats	12
<b>Kalibari Ghat</b>	01	Passenger	-	-	-	-	-	-	-

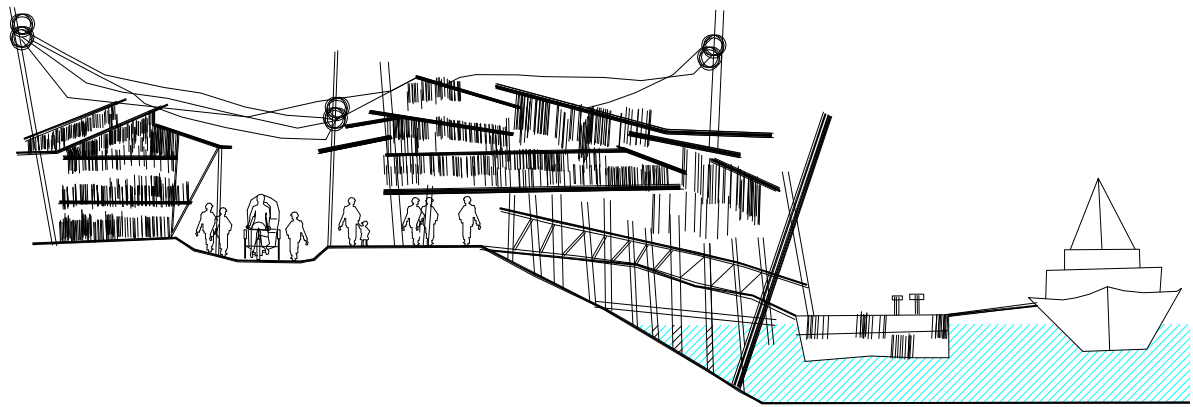


Figure 5.29: Section 01-Through Thakur Bari Ghat, Author 2018

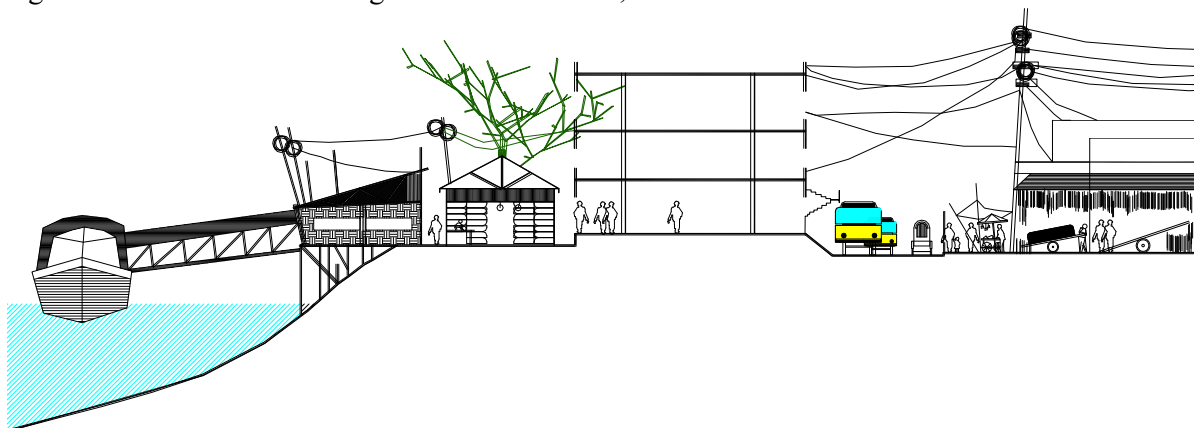


Figure 5.30: Section 02-Through Momin Ghat and Kali Bari Road, Author 2018

### 5.3.2.10. Historical Building of *Boro Bazaar* Area

The study area has suffered from the over-crowded and unplanned urban planning from the past, which have been developed with inappropriate government finance, planning and sometimes with poorly designed extensions. In some cases, the character of the original structure has almost disappeared, as in the case of several historical and religious buildings in Bhairab Stand, *Boro bazaar* and Station Road. This area is also known as "Duck Bungalow (photograph 5.20) node" for a historical building "Duck Bungalow (rest house)" which was built in British colonial period. But unfortunately this historical building has already removed from this area because of commercial extensions. Now Khulna City Corporation finally demolished this old structure for building a new ten-storied commercial complex. Two storied red building "Duck Bungalow (rest house)" was originally an office building created by the British Government in 1884. Unluckily urban heritage of Khulna city gradually has been destroyed by the several local urban development's Authority.



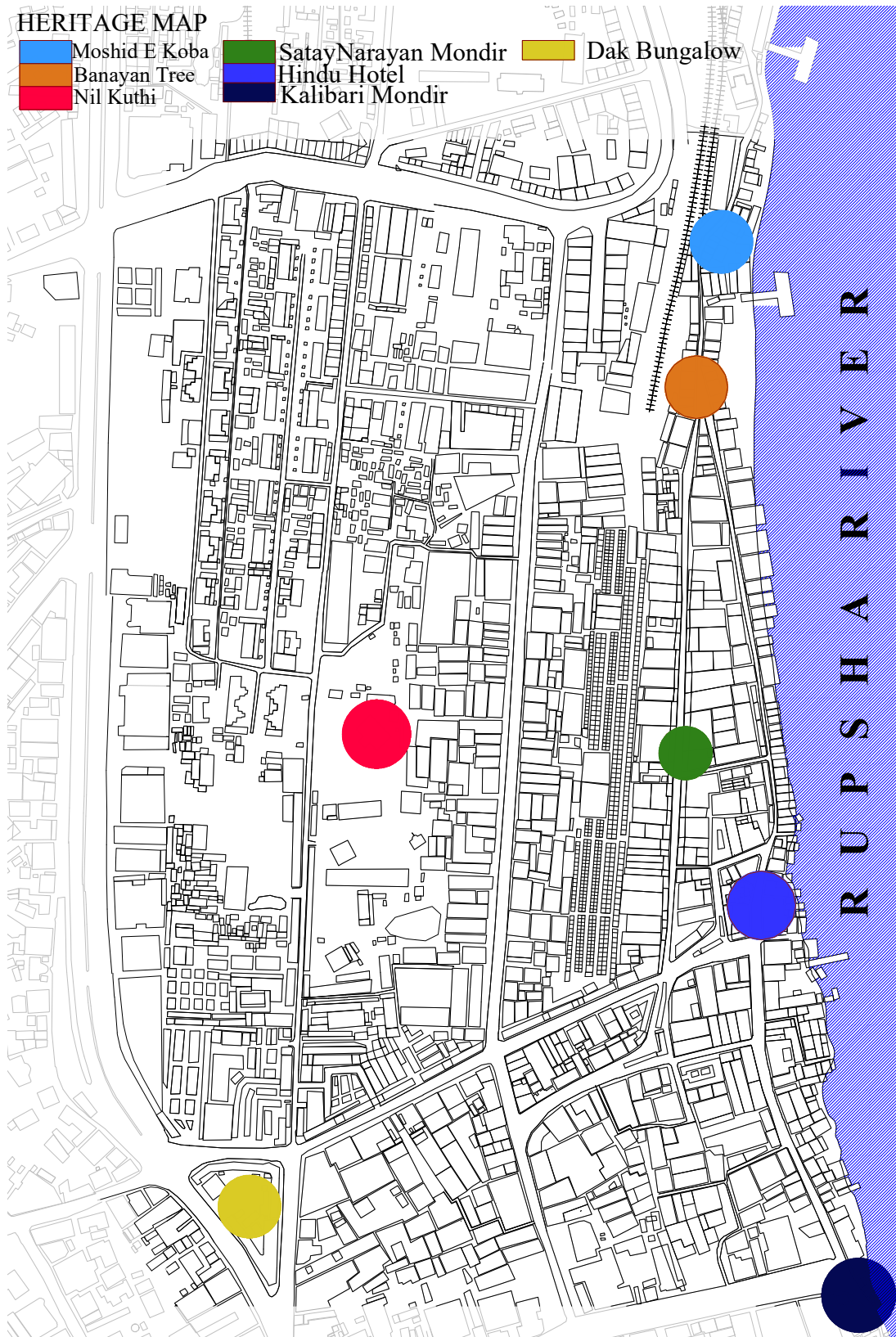


Figure 5.31: Heritage Map within the study area, Author 2018

However, within the study area there are several historical, religious buildings and location (figure 5.31) - Moshid E Koba, Banayan Tree, Nil Kuthi, Satay Narayan Mondir, Hindu Hotel and Kalibari Mondir (next photographs – 5.21,5.22, 5.23, 5.24 and 5.25) which creates the area more vivacious. But there are no buildings and existing location within the study area that could be described as being at risk because of poor maintenance, finance, expertise or lack of repair methodology.



Photograph 5.20: Duckk Bungalow and present site without this historical building



Photograph5.21: Moshid E Koba, and Banayan Tree



Photograph 5.22: Existing condition of Nil Kuthi



Photograph 5.23: Existing condition Satay Narayan Mondir



Photograph 5.24: Existing condition of Hindu Hotel



Photograph 5.25: Existing condition of Kalibari Mondir

#### **5.4. Critical Expression and Final Explanation**

It is not easy to generalize about sustainable urban development over almost two hundred years (Khulna city which was founded near about in the year 1801, Miner. 1922; Samsuddin, 1986 and Mia. 2002) and over such a broad geographical area of diverse culture and tradition. In general, and especially in the last four decades, this city has experienced a dramatic transformation towards urbanization. The recent growth and development of this city presents a picture typical of the entire country.

There are changes in the social system particularly in the large towns and cities; there are changes in the modes of travel, and there is a change of life-style to one where the individual is less dependent on the large and extended family both socially and economically. On the other hand, some indigenous factors make it difficult to predict, guide and control Khulna city development in a rational way. Some areas have virtually stabilized in their growth while others continue to report effectuated by forces that accelerate the growth of some areas in a rather unusual and orthodox manner. Several small urban areas attained independence and the larger urban areas entered a period of rapid development. The low-density western style urban development has already taken places in many urban areas largely which is separate from the traditional style. The entire urban fabric underwent drastic changes. The new technological and societal developments thus created changes in size, distribution and pattern of usage of urban space. They led to increase in the height and massing of the built form which shows in the field survey results by developing various maps, figures, table and charts regarding the study area.

##### **5.4.1. Present Situation, findings and Problems:**

This section will explain the following findings, situation and problems -

*The Contemporary Problems-* In most cities like Khulna city in Bangladesh, the post -1971 developments were the result of economic sector mainly from industry, import goods and manpower. The exponential increase in government revenues received from the foreign countries brought about a total change in the socio-economic picture. Influx of rural folk to urban areas increased the tatter's population manifold. Furthermore, a vigorous implementation of imported environmental planning techniques resulted in an almost complete rupture of the traditional urban fabric.

The historical areas were the worst affected. The construction of new roads through these areas is the single largest factor in destroying the traditional urban fabric. Increased vehicular access gives rise to new developments which overshadow the traditional structure, curtail the

latter's privacy, capture the cool breeze thereby changing the micro-climate, and the development in itself is little more than monotonous and unsightly high-rise concrete and glass blocks bearing no relation whatsoever to its environment. Some such developments may, however, occur at a slower pace than others - making the transformation process so gradual as not to attract immediate attention.

#### **5.4.2. The Common and Most Critical Problems**

The rapidly growing cities in the third world generally and developing world especially have many problems in common. That also affect Khulna city and the study area which describe in the following -

New Infrastructure - One of the most visible of these, as well as one of the most serious, is the extent to which lifestyle is rising to unprecedented level in their buildings. The reason can be stated very simply, in each city the population density has gone up, more infrastructure has been made available to more people in much greater quantities than ever before.

Traffic - Another problem is traffic circulation, while the study area was always crowded, one could walk through them with relative ease, different speed of traffic in same road and that mix of vehicles with high crowd involved bad noises everywhere. Now motorized vehicles have so increased in volume and so tyrannize over pedestrians that the streets of markets have become unpleasant indeed. These problems increased when rickshaw, push cart, motorcycle, car and trucks are parked everywhere and block the passages.

Social Transformation Factor - In this study area, most of the original dwellers have moved away and have been replaced by rural immigrants who came from different parts of the city and rent a house for monthly basis. Main reason of this situation is for commercial activities of this area. This social change has made families much smaller than they used to be and this combined with increasing population density from rural migrants, houses even those still in the hands of single family, have been less in use (used as a mixed use building – ground and first floor use as commercial activities, offices, banks, and upper floor use as a single dwelling apartments), ill maintained and often crumbling or split into small apartments. The original residents have been shifted to new modern areas which possess the convenience of new life style.

Conservation Factor- Increase in the number of tenants within the study area was an additional deteriorating factor. The tenants neglect the maintenance either because maintenance is too expensive or because the craftsmen available no longer know how to do the work. There are some other problems describe in the following –

- Inadequate material for repair produces another problem, as the using of new material may create further damage by chemical action.
- The lack of skilled craftsmen poses another problem, repair of original constructed buildings with traditional building material involves techniques that require a high degree of skill.
- New elements are also appearing in the urban landscape as new materials for renovation and repair are in use in increasing proportion.

Other finding associated with present problems and situations – Other problems and finds are described briefly in the next chapter 6, section 6.8.

### **5.5. Chapter Summary**

This chapter started with a detailed narrative of the historical background and physical condition of the study area. It is logical that the discussion is taken from the local social context, economy, land use pattern, built form and open space to address the significance of the topic of urban sustainability and to identify and compare the present situations and problems in this area. Therefore, the main purpose of this chapter was to develop a comprehensive understanding of the history and urban development of the study area concerning present circumstances and to provide insights into strategic initiatives towards sustainability that have been proposed throughout this time. This was explained by developing various maps, figures, table and charts regarding the present situation of the study area.

## **CHAPTER 06: ANALYSIS OF THE PROBLEMS AND PRESENT SITUATIONS – RESULTS AND EXPLANATION**

### **6.1. Introduction**

In the process of dealing with existing urban development as well as for developing new neighbourhoods many factors have to be considered and brought together with examined and projected relation to each other. The study of elements in seclusion at any stage results into failure in one way or the other, especially in existing developments. The study needs to bring the related elements or factors together to construct and comprehend the present situation to analyse and highlight the critical problems and to formulate the proposals and/or suggestions according to the goals and objectives the study set. For that, the study needs to develop an approach to bring all the related factors together at different stages of the planning process.

Therefore, the main principle of this chapter is to act as the evaluation of the problems generated within study area and current situations and to report the results and their explanation for the data that were obtained from various research methods, with the aim to respond to research objectives.

The chapter starts with a discussion on the methods utilized along with more details about the participants and the tools developed to conduct this phase of the research. It also provides a medium showing the content of this research method, and the results collected.

The sections that follow are designed to reflect the content of this problems and current situations analysis phase for the particular *sustainable urban development and revitalization* that were selected in previous chapter. Most of the sections are divided into subsections which illustrate the following elements of this analysis: problems, difficulties, challenges and current situations.

The content of these sections are carefully selected from the collected data (from the historical literature, interviews, focus group, public questionnaires) are presented here along with the interpretation of their significance and their association with the other *sustainable urban development and revitalization*. The chapter ends with a summary which sets the stage for the following chapter on process analysis phase.

### **6.2. Overview**

These research methods cover different aims that were identified earlier in the chapter 1. The participants focus on discussing the strategies and their implementation as well as providing

informed and technical recommendations towards improving urban sustainability in Khulna city and present study area. Qualitative accounts and voices are crucial in understanding the participants' human factors such as attitude, which is often necessary in social science and educational research (Patton 1990, Miles and Huberman 1994). (Sommer and Sommer 1992) argue that, during interviews, a person may reveal both manifest and latent content. The *manifest content* is that which is obvious and conveyed in the spoken information of the interview (refers to what the person says). The *latent content* indicates what the person means. Again Risti Permani, University of Adelaide, 2014, explained that "Regardless of the methods chosen, quality research includes collecting quality data." He also described significance of interview and three types of interview in survey –

- Interviews to gather opinions, perception, attitudes.
- Interviews to gather background information:
  - Expert knowledge
  - Facts, descriptions of process
- Some interviews may include both aspects

1. *Unstructured interview*

- Free-flowing; vary much by the respondent
- Can take a long time

2. *Semi structured interview*

- Used often in policy research
- Using a guide with questions and aspects that must be covered.
- To ensure complete and consistent information across different interviews.

3. *Structured*

- Questions are fixed and asked in a specific order.
- Similar to a survey

Again G. Brancato and S. Micchia 2004 explain that – "*Expert participants*" are the only testing method discussed here which does not involve the respondents. For this reason, when using expert groups, some other testing method involving the respondents should be applied additionally. Expert groups are composed of survey methodologists or questionnaire design experts, but also subject-matter experts. These senior survey researchers should have experience with potential problems of questions and/or questionnaires from other surveys. The objective of expert groups is to evaluate the questionnaire for potential problems for either interviewers or respondents. Usually these reviews are conducted early in the questionnaire development process. There are two ways of conducting expert groups: (1) by



structured discussion on each question, with a standardized coding scheme or (2) in the form of a not formally structured discussion on each question, but without a standardized coding list.

### **6.3. Targeted Participants and their selection**

In the same way that the research method required a *reading index* database to record its references and resources, both of these research methods have also benefitted from a similar tool, the *Contacts Database*. Likewise, this was done in *Microsoft office* and the main elements of it are: name, organization, job title, type (political, government, consultant, researcher, academicians etc.), address and contact details, and details about the interview. Contact was established with many of these potential candidates with the intention of targeting members from various organizations and those that have played a role throughout the period of the study (i.e. not only current employees of these organizations). These were collected through various means:

- *From literature review*: as gathered in the literature database, regarding the resources gathered to analyze the history of urban development in Khulna city.
- *From initial interviews with specialists in this field*: this was at the early stages of this research project where the study was able to gather a list of people with relevant experience in this field.
- *During the actual interviews*: some participants provided their recommendations to interview other people who they thought had played a significant role in urban development in Khulna city.

However, during survey, I have met with the officials and staff in local office and institute to conduct discussion to gather information about the city, its problems and present situation, upcoming projects and future development recommendations, developmental trends. It will help identify about issues faced by city while improving the existing scenario, and can get a further idea of the scope and limitations of my project. I will try to be in contact with some other professionals; who have worked on similar kinds of project or can give me helpful guidance in design development. After analyzing the data from these conversations, it may guide me towards practical solutions to resolve certain issues.

On the other hand, the selection of the participants in the questionnaires was attempted to represent a random selection and the candidates were not associated with urban planning so they are not considered experts. This was somewhat challenging as the period allowed for conducting these interviews was limited in duration and about their knowledge of

participating the interviews and study subject. Therefore, before asking the questions the study described about the detail and objective of the study. Furthermore, the study must admit that there is a limitation to this research method in that the participants in this group of local residents and businessmen that they did not include general public, such as locals of various educational backgrounds and may actually not be representative in terms of gender background as well. Therefore, there may be a reasonable argument that the knowledge obtained in this research method does not necessary provide a proper sample representation of the public and because of this, the study decided to consider this research method as secondary in the final write-up and it is merely brought into the dissertation as support to other primary research methods.

#### **6.4. Preparation of the instruments**

This section will outline the tools that were used for both of these research methods, more specifically the database for identifying and organizing the questions. As stated earlier, the purpose of this method is to collect contemporary knowledge regarding urban development and urban sustainability in Khulna city, and to identify three elements that are critical (problems, difficulties and challenges, present situation and recommendations), and each of them respectively corresponds to an era of the past, present, or future. Again, I opted to create a database for these questions, so that it would be easier to pull out the appropriate questions for each interviewee target group. This database contains the following 4 key sections:

##### Section A: Question?

- Name, organization, job
- Type of question: 4 types were exploited:
  - *Plans / Implementation (past)*
  - *Problems (current)*
  - *Situations (current)*
  - *Proposals (Future)*

##### Section B: Question?

- Question: The final version of the question.
- Bangle: the translation of the question into Bangle.

##### Section C: Supporting Material:

- Prompt: This would be used to support the researcher in explaining the elements associated with this question.

- Key Concerns: This is a result from the history of Sustainable Urban Development in Khulna city.
- Aims & objectives: Described as before
- Strategy: Described as before

Section D: Target Group:

Identified the category for which this question is applicable.

**6.5. Results Analysis**

(Sommer and Sommer 1992) narrate the following method for analysing the interview results:

1. Transcription: refers to putting the responses into clear form for data analysis, such as transcribing answers from a tape recorder, and recopying handwritten notes that contain symbols and abbreviations.

2. Quantification: tabulating the results in numerical form.

3. Coding: is the process by which lengthy answers are reduced and sorted into specific response categories.

4. Reporting interview results:

- The clearest, significant results should be described first.
- Areas of less agreement and importance comes next
- Trivial or irrelevant findings should be ignored or placed in an appendix.

**6.6. Research Methodology**

6.6.1. Research method 01: Interviews with expert groups (Qualitative)

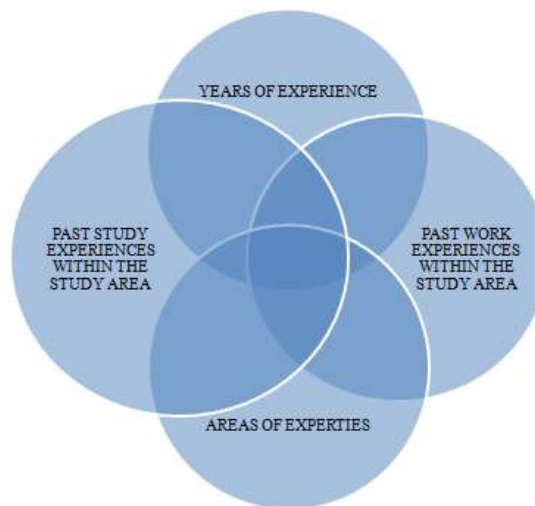


Figure 6.1: Method of selecting experts

Above figure 6.1 shows the four methods of selecting the expert participants for interview and table 6.1 below illustrates the details about different group of expert participants along with their total years of experience in sustainable urban development of Khulna city. Subsequently table 6.2 shows that 13 interviews were conducted by the expert participants within 6 (six) several fields of expertise in the sustainable urban development.

**Table 6.1: Expert Participants selected for interviews,** source: author; 2018

Group of participants	Total interviewed	Total Years of experience
Khulna City Corporation (KCC)	2	18
Khulna Development Authority (KDA)	3	32
Academic (KU, Urban Planner and Designer)	5	21
Local Consultant	3	14

**Table 6.2 : Field of expertise of selected expert participants within the sustainable urban development**

Sustainable Urban Development		Definition
1 Urban planning	Morphological Changes / Settlement Pattern	The spatial distribution and growth of urban functions across a territory at a given moment in time with emphasis on sprawl and the issue of centrality.
	Urban Design	The art of designing places for people which concerns the density, form and functionality of space.
	Land Use	The dominant activity taking place on an area of land and concerning its allocation, distribution and management.
2 Urban Services	Housing	The provision of accommodation and shelter meeting social demands and ensuring adequate housing conditions.
	Water Quality	Provision of water, with the aim of improving its efficiency and conservation
	Drainage System	Provision of Drainage System, with the aim of improving its efficiency and facilities
	City Corporation Services	Provision of basic services such as waste management and sewage
3 Urban Economy	Economic Development	Sustained increase in the economic standard of living of a country's population, with the aim of balanced growth and stability.
4 Urban Environment	Climate Change	The change in global climate patterns with emphasis on its affects such as desertification, soil erosion and flooding
	Environment Protection	The sustainable environment planning and protection that restores spatial ecological quality and diversity
5 Urban Transport	Local Transport Facilities	Provision of various means for public transport and its management
	Road Network	Ensuring efficiency and availability for transport networks that enhance accessibility and connectivity

6 Urban Society	Public Participation	A process involving the public in urban planning, to enhance their self-determination and respect, and capture opportunities for better governance
	Social Equity	Ensuring equal access and benefits to all, and enhancing equality and balance investment among all the geographic regions

6.6.2. Research method 02: Study Area, Quick Surveys and Public Questionnaires (Quantitative)

Surveys were used as the primary tool in data collection and focused on organizing responses from the local resident and local business-owner populations (see appendix for survey instrument and supplemental materials). Major themes included: “perception of your neighbourhood,” satisfaction with your neighbourhood,” “quality of life,” and questions asking about residency and basic information such as age, income and occupation. The focus was to gather data to aid in measuring the usage and experienced value of the study area. The development of the survey instrument was largely based upon analysis of questions that pertained directly to addressing these values while also utilizing a diverse series of academic literature. Questions were developed on a Likert scale with ranges such as “agree to disagree,” or “satisfied to dissatisfied,” to determine relative positive or negative attitudes toward specific subjects. The use of summative scales allowed for the use of both qualitative and quantitative results.

In addition, interviews consisted as explained, before largely of meetings with planners, designers or other professionals involved with the government and private services. Questions were specific to the individual being

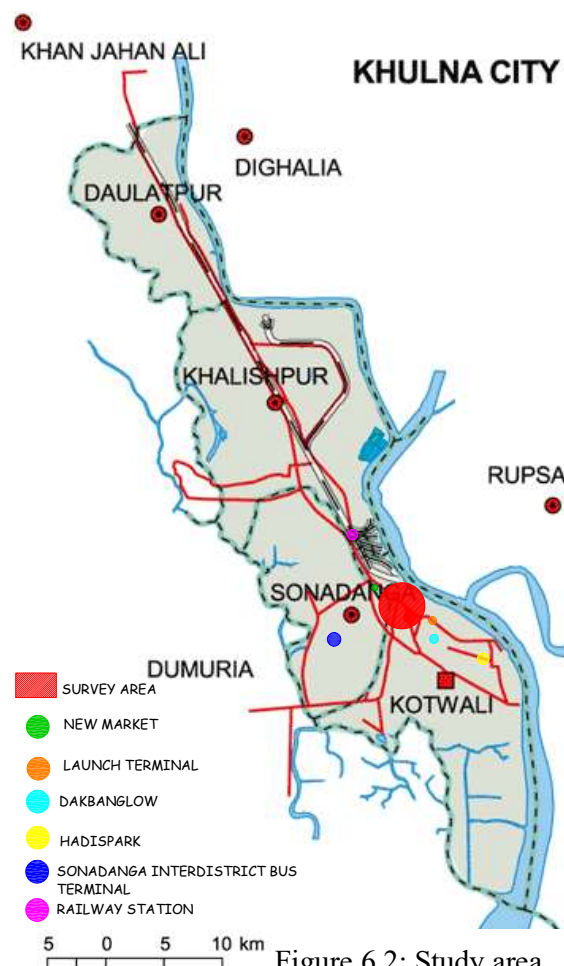


Figure 6.2: Study area and surroundings

interviewed and aimed to produce results that directly addressed the past, present and future value of the study area. Although there was difficulty in obtaining interviews with a diverse range of involved stakeholders (particularly community-group leaders), the key interviewees provided significant feedback that ultimately helped to produce results.

#### 6.6.3. Research method 03: Study Area

The study area is adjacent to the heart of the Khulna city and it is major commercial hub of the city. The above figure 6.2 shows the proposed study area and following several important places around the area -

- It is the major transition hub of Khulna city-railway station, BIWTA Ghat, Bus terminal.
- BIWTA Ghat plays an important role to transmit goods to Khulna city.
- Close to the city launch terminal
- Near to the New Market, Sonadanga Bus and Truck Terminal and Sib - Bari node.
- Very near to the Hadis Park and Police Station.

#### 6.6.4. Research method 04: Quick Surveys and Public Questionnaires

The questionnaire survey instruments were divided into six (6) parts, table: socio demographic profile, perception and satisfaction of their neighbourhood for residents and businessmen, quality of life and sustainable neighbourhood. The full set of questionnaire survey form is in Appendix.

This study has been designed as a survey research where qualitative and quantitative data are combined. Hence, total 143 respondents within the study area have been asked using random sampling technique and 6 types of questionnaires belonging to local people have been evaluated under the study. Data compilation intended for the present research began in September 2017 and was completed in October 2017 (appendix 01: survey 01). The questions have been expressed in a simple and clear manner so that the people in the sample could understand. The questionnaire comprises several multiple choice questions. Respondents were asked series of questions and at least one interviewing time period took 15 to 20 minutes. The questions have been prepared in 6 interrelated categories (table 6.3): Socio-demographic, perception and satisfaction with your neighbourhood both to residents and businessmen, quality of life and about sustainable neighbourhood. Finally, the following details illustrate the analysis of the characteristics of the participants in the public questionnaires as obtained from Microsoft Office Excel and SPSS.

**Table 6.3 : Variables investigated in field survey, Source: Author, Appendix 01**

<b>Variables Name</b>	<b>Description</b>
<b>Socio–Demographic variables</b>	
1. Name	1. Name of the respondent
2. Gender	2. Male or Female
3. Civil Status	3. Married or Unmarried
4. Age	4. Age of the respondent
5. Occupation	5. Garments, Wholesale, Daily Market, Street Vendors, House Wife, Service Holder, Student
6. Income	6. How much money you income in a month
7. Kind of Residents	7. Permanent or Temporary
8. Relation with the Neighborhood	8. Resident, Business man or Both
<b>Perception of your Neighbourhood (Residence)</b>	
Agree	1. This neighborhood is better to live
Disagree	2. Residents in my area are willing to help their neighbors
Don't know	3. This neighborhood has lot of relational facilities
	4. Residence in this neighborhood is cheap
	5. This neighborhood is safe for live
	6. I enjoy taking walks through my neighborhood
	7. There is no other neighborhood I would rather to live
<b>Perception of your Neighbourhood (Businessmen)</b>	
Agree	1. This business area is better for business
Disagree	2. My residence is close to my business area
Don't know	3. This business area is safe for business
	4. Storage (loading-unloading) facilities are better from other business area
	5. Shopping environment is better for customers
	6. There is no other business area I would rather do my business
	7. To rent a shop is cheaper than other business area
<b>Satisfaction with your Neighbourhood (Residence / Businessmen)</b>	
Satisfied	1. Employment / Job
	2. Recreation Facilities and Public spaces
	3. Shopping Facilities
Not Satisfied	4. Transportation
	5. Riverside area
	6. Width of Road and Side walk
Don't know	7. Air and Noise pollution
	8. Drainage system
	9. Amenities – hospitals, bazaar, services, schools / college
	10. Are you generally satisfied with your neighborhood?
<b>Quality of life: When you think about your overall quality of life, what are the three main things that contribute most to your quality of life?</b>	
	1. Family and friend
	2. Community

3. Health, work, job or career
4. Income (including financial stability)
5. House or home / Lifestyle
6. Interests and activities (exercise, hobbies)
7. Location (including country, the city)
8. Education or Spirituality (mosque)
9. Safety / Happiness

### About Sustainable Neighbourhood

1. Do you agree to do sustainable development within your neighborhood?
2. Was there any sustainable development introduced?
3. What is the present situation within your neighborhood?
4. What is the main problem for sustainable development within your neighborhood?

### 6.7. Socio demographic profile, quality of life and satisfaction level of the respondents:

Figure 6.3 and following table 6.4 shows that among the 143 respondents, male respondents were highest in number and most of them were married and 30 years to 45 years of age (table 6.5). Two types of residents live in this study area (table 6.6) – temporary (who has rentable house) and permanent (who has own house). The numbers of temporary residents were more than permanent residents and most of them were interrelated with business (table 6.7).

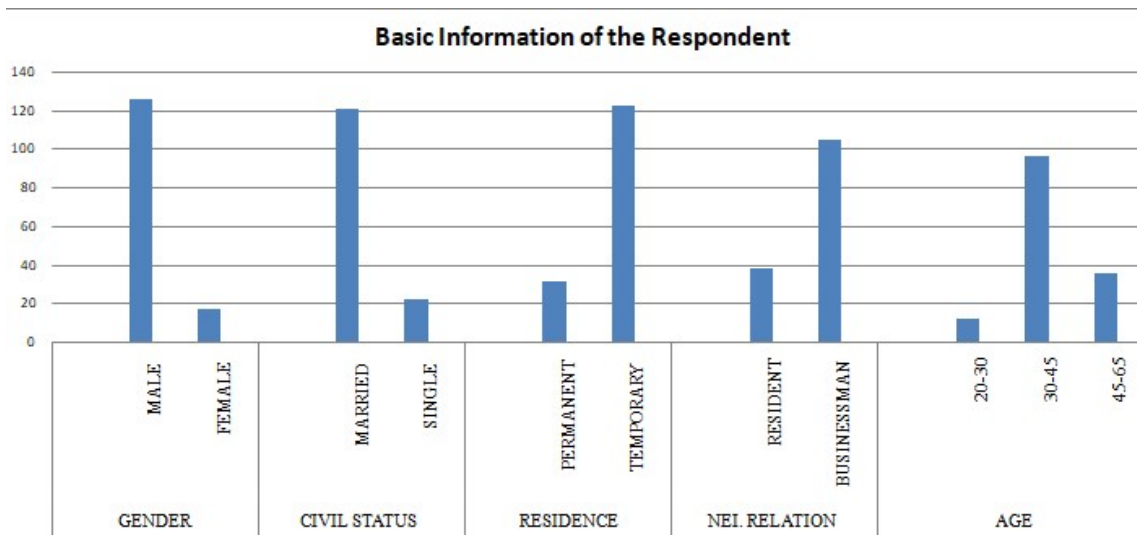


Figure 6.3: Socio demographic profile of the respondents



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	17	11.9	11.9	11.9
	Male	126	88.1	88.1	100.0
	Total	143	100.0	100.0	

Table 6.4: Statistical details of public questionnaire participants' gender

		Gender		
		Female	Male	Total
Age	20-30	3	9	12
	30-45	9	87	96
	45-65	5	30	35
Total		17	126	143

Table 6.5: Statistical details of public questionnaire participants' age vs. gender cross tabulation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permanent	31	21.7	21.7	21.7
	Temporary	112	78.3	78.3	100.0
	Total	143	100.0	100.0	

Table 6.6: Statistical details of public questionnaire participants' residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Both	14	9.8	9.8	9.8
	Business	105	73.4	73.4	83.2
	Resident	24	16.8	16.8	100.0
	Total	143	100.0	100.0	

Table 6.7: Statistical details of public questionnaire participants' relationship of neighbourhood

Again next figure 6.4 and table again shows that of the 143 respondents, most of them have garments business (table 6.8) and their monthly income is between 20 thousand (BD Taka/-) to 80 thousand (BD Taka/-) and most of them earns 45 to 60 thousands (BD Taka/-) which is 35.7% among other income group (table 6.9). Besides garments related business, the study area has also other business peoples – wholesale, daily market and street vendors. Once again table 6.10 and table 6.11 shows the relation with gender and income against residence and the relation with income and occupation against residence Cross tabulation. Table 6.10 explains that the male respondents who were temporary in this study area, earns highest among all income groups. But the table shows the respondents who were temporary residences and have garments business, earns 35 to 50 thousands (BD Taka/-) were highest occupation group (table 6.11).

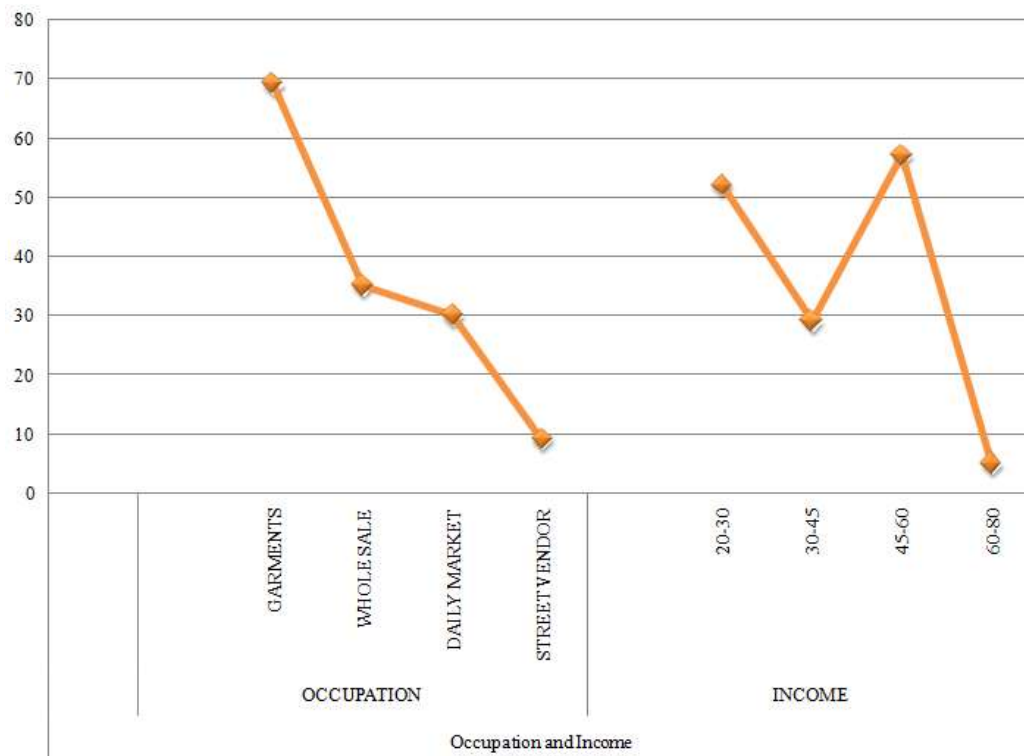


Figure 6.4: Occupation and Income profile of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily Market	20	14.0	14.0	14.0
Garments	62	43.4	43.4	57.3
House Wife	9	6.3	6.3	63.6
Service	5	3.5	3.5	67.1
Street Vendor	6	4.2	4.2	71.3
Student	10	7.0	7.0	78.3
Wholesale	31	21.7	21.7	100.0
Total	143	100.0	100.0	

Table 6.8: Statistical details of public questionnaire participants' occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	45	31.5	31.5
	30-45	23	16.1	47.6
	45-60	51	35.7	83.2
	60-80	5	3.5	86.7
House Wife	9	6.3	6.3	93.0
Student	10	7.0	7.0	100.0
Total	143	100.0	100.0	

Table 6.9: Statistical details of public questionnaire participants' income

Residence				Income						
				20-30	30-45	45-60	60-80	House Wife	Student	Total
Permanent	Gender	Female	Count	1	0	0	0	2	3	6
			% within Gender	16.7%	0.0%	0.0%	0.0%	33.3%	50.0%	100.0%
	Male	Count	9	3	9	2	0	2	25	
		% within Gender	36.0%	12.0%	36.0%	8.0%	0.0%	8.0%	100.0%	
	Total	Count	10	3	9	2	2	5	31	
		% within Gender	32.3%	9.7%	29.0%	6.5%	6.5%	16.1%	100.0%	
Temporary	Gender	Female	Count	4	0	0	0	7	0	11
			% within Gender	36.4%	0.0%	0.0%	0.0%	63.6%	0.0%	100.0%
	Male	Count	31	20	42	3	0	5	101	
		% within Gender	30.7%	19.8%	41.6%	3.0%	0.0%	5.0%	100.0%	
	Total	Count	35	20	42	3	7	5	112	
		% within Gender	31.3%	17.9%	37.5%	2.7%	6.3%	4.5%	100.0%	
Total	Gender	Female	Count	5	0	0	0	9	3	17
			% within Gender	29.4%	0.0%	0.0%	0.0%	52.9%	17.6%	100.0%
	Male	Count	40	23	51	5	0	7	126	
		% within Gender	31.7%	18.3%	40.5%	4.0%	0.0%	5.6%	100.0%	
	Total	Count	45	23	51	5	9	10	143	
		% within Gender	31.5%	16.1%	35.7%	3.5%	6.3%	7.0%	100.0%	

Table 6.10: Gender and Income vs. Residence (Cross tabulation)

Residence				Occupation							
				Daily Market	Garments	House Wife	Service	Street Vendor	Student	Whole sale	Total
Permanent	Income	20-30	Count	3	2	0	1	2	0	2	10
			% of Total	9.7%	6.5%	0.0%	3.2%	6.5%	0.0%	6.5%	32.3%
	30-45	Count	0	3	0	0	0	0	0	3	
		% of Total	0.0%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	9.7%	
	45-60	Count	2	2	0	0	0	0	5	9	
		% of Total	6.5%	6.5%	0.0%	0.0%	0.0%	0.0%	16.1%	29.0%	
	60-80	Count	0	1	0	0	0	0	1	2	
		% of Total	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	3.2%	6.5%	
	House Wife	Count	0	0	2	0	0	0	0	2	
		% of Total	0.0%	0.0%	6.5%	0.0%	0.0%	0.0%	0.0%	6.5%	
	Student	Count	0	0	0	0	0	5	0	5	
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	16.1%	0.0%	16.1%	
	Total	Count	5	8	2	1	2	5	8	31	
		% of Total	16.1%	25.8%	6.5%	3.2%	6.5%	16.1%	25.8%	100.0%	
Temporary	Income	20-30	Count	2	18	0	4	4	0	7	35
			% of Total	1.8%	16.1%	0.0%	3.6%	3.6%	0.0%	6.3%	31.3%
	30-45	Count	2	13	0	0	0	0	5	20	

		% of Total	1.8%	11.6%	0.0%	0.0%	0.0%	0.0%	4.5%	17.9%	
	45-60	Count	11	22	0	0	0	0	9	42	
		% of Total	9.8%	19.6%	0.0%	0.0%	0.0%	0.0%	8.0%	37.5%	
	60-80	Count	0	1	0	0	0	0	2	3	
		% of Total	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	1.8%	2.7%	
	House	Count	0	0	7	0	0	0	0	7	
	Wife	% of Total	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	6.3%	
	Student	Count	0	0	0	0	0	5	0	5	
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%	4.5%	
	Total	Count	15	54	7	4	4	5	23	112	
		% of Total	13.4%	48.2%	6.3%	3.6%	3.6%	4.5%	20.5%	100.0%	
Total	Income	20-30	Count	5	20	0	5	6	0	9	45
			% of Total	3.5%	14.0%	0.0%	3.5%	4.2%	0.0%	6.3%	31.5%
	30-45	Count	2	16	0	0	0	0	5	23	
			% of Total	1.4%	11.2%	0.0%	0.0%	0.0%	0.0%	3.5%	16.1%
	45-60	Count	13	24	0	0	0	0	14	51	
			% of Total	9.1%	16.8%	0.0%	0.0%	0.0%	0.0%	9.8%	35.7%
	60-80	Count	0	2	0	0	0	0	3	5	
			% of Total	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	2.1%	3.5%
	House	Count	0	0	9	0	0	0	0	9	
	Wife	% of Total	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	6.3%	
	Student	Count	0	0	0	0	0	10	0	10	
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	7.0%	
	Total	Count	20	62	9	5	6	10	31	143	
		% of Total	14.0%	43.4%	6.3%	3.5%	4.2%	7.0%	21.7%	100.0%	

Table 6.11: Income and Occupation vs. Residence (Cross tabulation)

In addition, figure 6.5, figure 6.6 and 6.7 shows the results of the respondent's opinions regarding "quality of life, about sustainable environment and satisfaction with your neighbourhood", as explain previously. It shows the local respondents responses concerning "quality of life - When they thought about their overall quality of life, what are the three main things that contribute most to their quality of life?" and their opinions concerning sustainable neighbourhood. The participants mentioned that income, community, health-work was the three main considerations for living in this area. Again most of the participants explain that present area is unsustainable though they agree to introduce sustainable development within this area. Although financial and political-management are the main problems to introduce sustainable development within this neighbourhood.

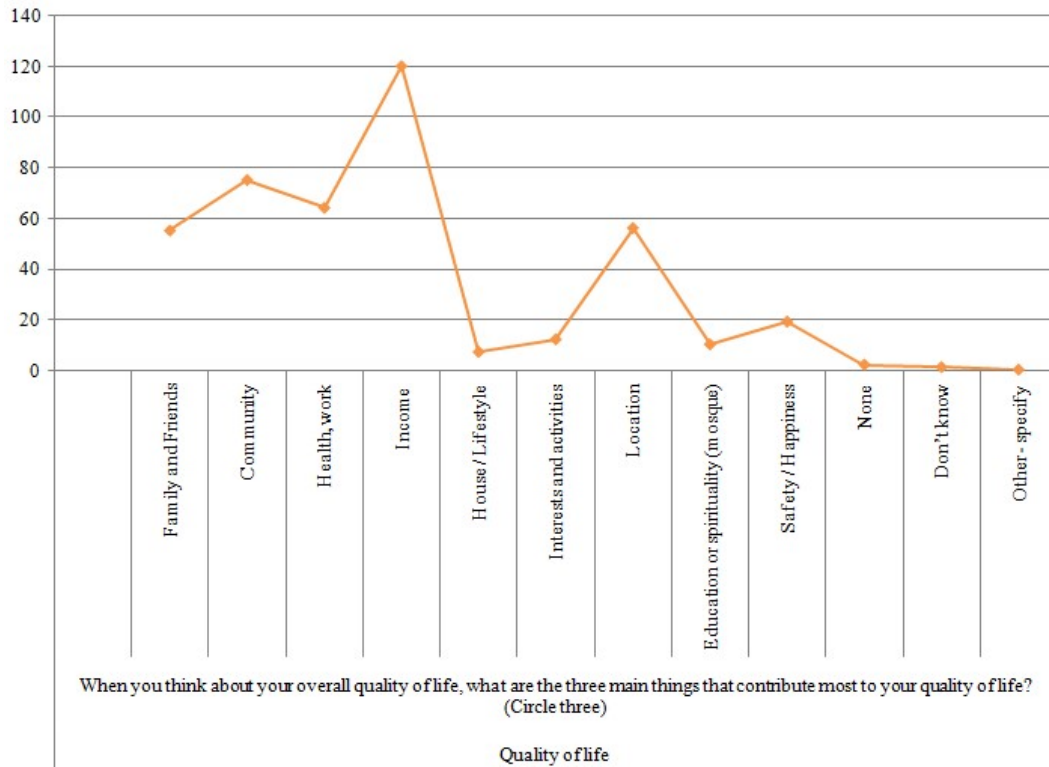


Figure 6.5: Quality of life of the respondents within the study area

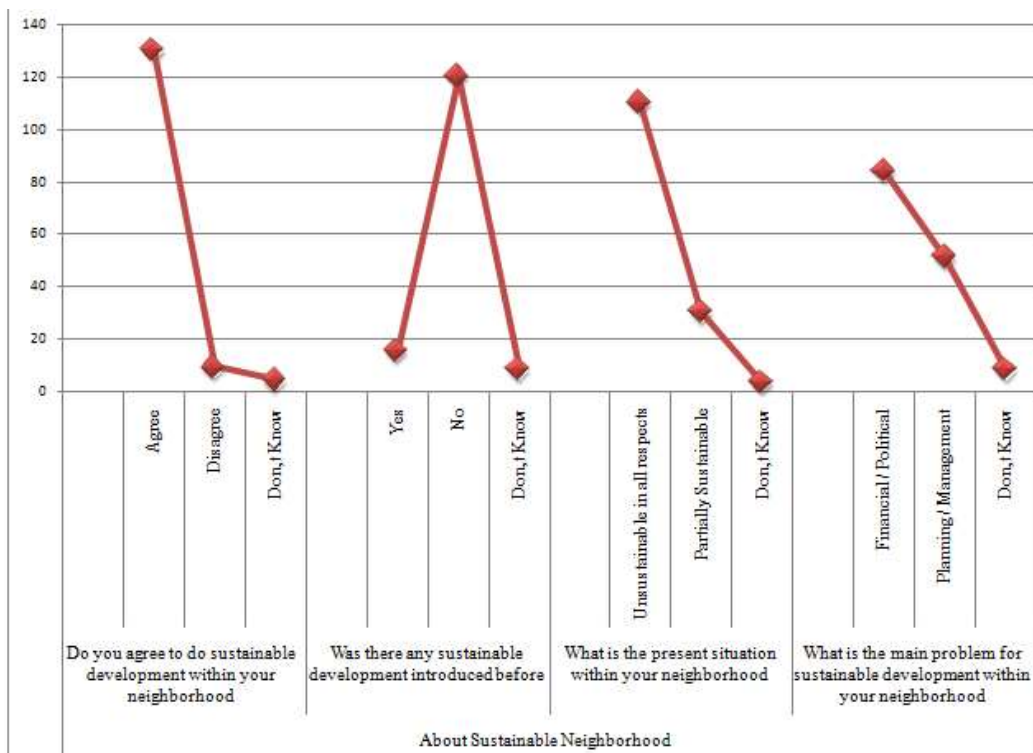


Figure 6.6: About sustainable neighbourhood

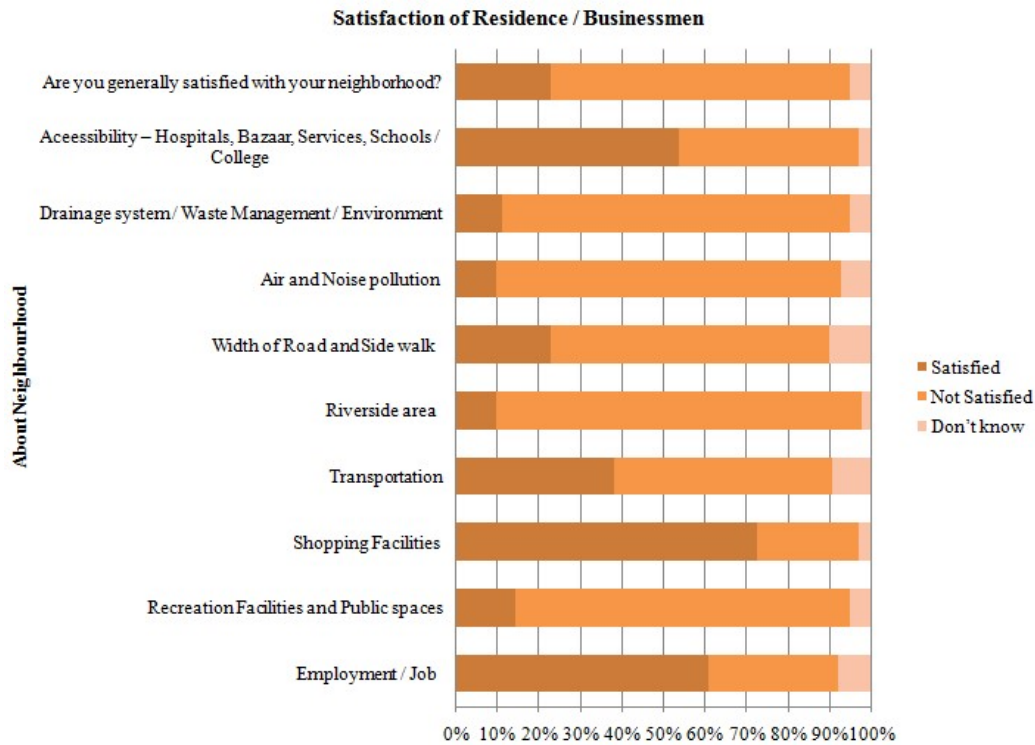


Figure 6.7: Satisfaction with your neighbourhood both businessmen and residents

### 6.8. Analysis Reporting Configuration

This section will turn around the next four selected components associated with the *problem* and *present situation* analysis phase allowing for the rapid and questionnaire survey. First three components – problems, difficulties, and challenges were mostly selected from the expert participants (table 6.6) and the respondents by rapid survey. Yet again in this section the study will explain (present situations) how the respondents (residents and businessmen) explain their satisfactions and the experts mostly explain other three issues – problems, challenges and barriers about the study area considering the following nine (9) planning areas, which are - (1) Employment / Job (2) Recreation Facilities and Public spaces (3) Shopping Facilities (4) Transportation (5) Riverside area (6) Road network and Side walk (7) Noise pollution (Noise / Air) (8) Drainage system (9) Accessibilities – hospitals, bazaar, services, schools/ college, under discussion regarding sustainable urban revitalization issues which were concern within the study area. In addition, these nine (9) planning areas as "*sustainable urban revitalization planning proposals*" were primarily considered by the research and finally selected by the expert participants before the questionnaire (annex 01) survey carried out. Then the statistical results of this questionnaire (annex 01) survey have been shown in following tables and bar charts.

1. **Problems:** are development factors which have negative effects on the present urban

development which imply foreseeable negative development trends in the short to medium term which, however, can be changed or at least strongly influenced.

2. **Difficulties:** are development factors which have negative or limiting implications on the development of the region and which are not likely to change. From this it follows that future planning has to consider and to cope with the identified constraints.
3. **Challenges:** are development factors which provide stress effects to the present urban development and may be confined or eliminated if the right decisions and programs are developed to counter them.
4. **Present situations:** are development factors which encourage a certain positive or negative effect on the present urban development which may be identified as the root cause of a trend and can be viewed as the target or focus for influencing a particular situation.

### **6.8.1. Employment / Job**

Section below summarizes the **Employment / Job** problems and present situation that were suggested by the expert participants from the interviews and local residents and businessmen from the questionnaires survey.

#### **Employment / Job Problems:**

##### *I. Good working conditions*

Variety of private business, bank and office makes the area vibrant although this location is not well for working environment.

##### *II. Safety – security*

At present this main business center has verity of safety and security problems which mentioned obviously by the expert participants and local residents and businessmen.

#### **Employment / Job Difficulties:**

##### *I. Neighborhood socioeconomic status*

“It is difficult to administer socioeconomic status among the residents – permanent and temporary and verity of businessmen within the study area” was explained by the expertise due to unplanned settlement.

#### **Employment / Job challenges:**

##### *I. Location of job area*

Location of Job in the right place was identified by the expert participants who thought that employers come from different location and most of them come for far from job area which is the biggest challenge for the employer of the study area.

II. New business center with better service

Variety of new business center was identified by the expert participants who thought that from last two – three decades’ new business center has been created within the city area which have better service than the present location.

I. Need better exposure

“To create better exposure should be the main goal for an employment sector” – was identified by the expert participants. But this area has lack of better exposure although it has great opportunities.

**Employment / Job present situation:**

It is evident in the following table 6.12 that among 73.4% businessmen and 9.8% both (businessmen with residents; table 6.7.4), 60.8% respondents have satisfaction, 31.5% have no satisfaction and 7.7% didn’t know about the present job situation of the study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don’t know	11	7.7	7.7	7.7
	Not Satisfied	45	31.5	31.5	39.2
	Satisfied	87	60.8	60.8	100.0
	Total	143	100.0	100.0	

Table 6.12: Satisfaction result of Neighborhood with Employment / Job

Again table and bar chart (figure 6.8, 6.9) below summarizes the relation with neighbourhoods and income against present Employment / Job situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.13 shows that both (businessmen and resident) have 42.9% satisfaction and 57.1% have no satisfaction, Business persons have 67.6% satisfaction and 23.8% have no satisfaction respectively and resident respondents have 41.7% satisfaction and 50.0% have no satisfaction about their present job. Table 6.14 shows that 60-80 and 30-45 (Thousands, BD taka) income groups have most satisfaction 80.0% and 73.9% about their present job within the study area.

		Employment / Job			Total
		Don’t know	Not Satisfied	Satisfied	
Rel. with Nei. Both	Count	0	8	6	14
	% within Rel. with Nei.	0.0%	57.1%	42.9%	100.0%
Business	Count	9	25	71	105
	% within Rel. with Nei.	8.6%	23.8%	67.6%	100.0%
Resident	Count	2	12	10	24



	% within Rel. with Nei.	8.3%	50.0%	41.7%	100.0%
Total	Count	11	45	87	143
	% within Rel. with Nei.	7.7%	31.5%	60.8%	100.0%

Table 6.13: Result of Neighbourhood vs. Employment / Job (Cross tabulation)

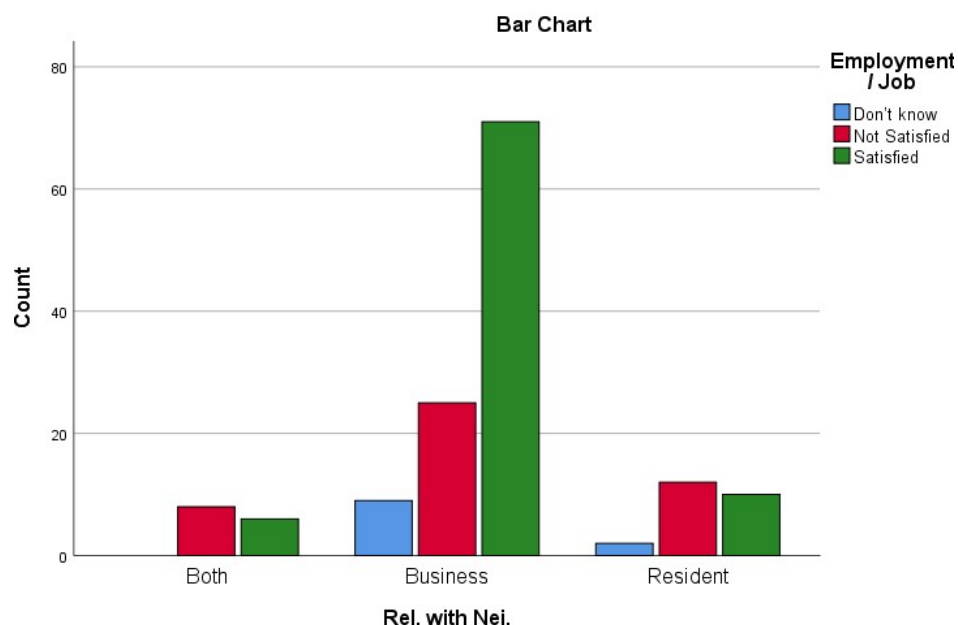


Figure 6.8: Relation with Neighbourhood and Employment / Job

		Employment / Job			Total	
		Don't know	Not Satisfied	Satisfied		
Income	20-30	Count	4	17	24	45
		% within Income	8.9%	37.8%	53.3%	100.0%
	30-45	Count	1	5	17	23
		% within Income	4.3%	21.7%	73.9%	100.0%
	45-60	Count	3	14	34	51
		% within Income	5.9%	27.5%	66.7%	100.0%
	60-80	Count	1	0	4	5
		% within Income	20.0%	0.0%	80.0%	100.0%
	House Wife	Count	1	5	3	9
		% within Income	11.1%	55.6%	33.3%	100.0%
Student	Count	1	4	5	10	
	% within Income	10.0%	40.0%	50.0%	100.0%	
Total	Count	11	45	87	143	
	% within Income	7.7%	31.5%	60.8%	100.0%	

Table 6.14: Result of Income vs. Employment / Job (Cross tabulation)

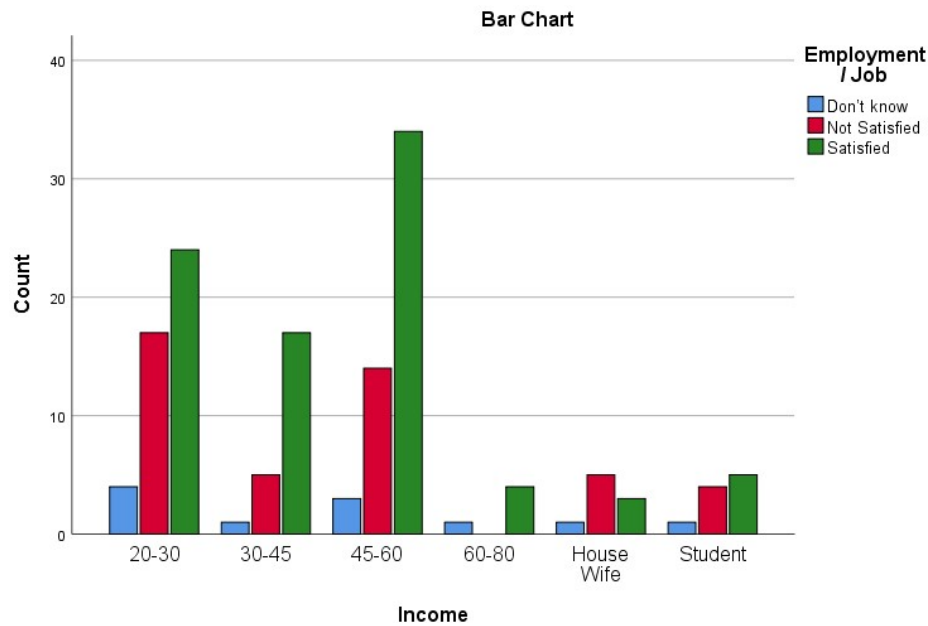


Figure 6.9: Relation with Income and Employment / Job

### 6.8.2. Recreation Facilities and Public spaces

Following section summarizes the recreation facilities and public spaces problems and present situation that were suggested by the expert participants from the interviews and local residents and businessmen from the questionnaires survey.

Experts believed there was large investment by the government on infrastructure, but still not enough because of land distribution: “If we have the proper land distribution, the city will grow in rational way. You will have parks for everybody. Now you build a park there and there which is not totally occupied”. According to the participants in the public questionnaires, the problems associated with quality revolve around the following:

- Shortage in recreational and entertainment facilities,
- Lack of public gardens and parks,
- Lack of facilities for children and the youth, and
- Not enough green areas.

#### Recreation Facilities and Public Spaces Problems

##### *I. Not enough recreational and public places and public recreation amenities*

Variety of private business, bank, office and a group of local residents makes the area vibrant. But the area has a very few urban recreational and public places which have not enough public recreation amenities. As an urban area this area needs more recreation facilities and public spaces with recreational amenities that were explained by the expertise and local people.

*II. Lack of good public service*

In the study area most of the recreational and public places have no good public services. It requires a better service to gather with all neighbours although still this location has lack of good public services in all aspects.

*III. No good management*

The bazaar area of the present location is not a single property, it has been owned by KDA, KCC and private persons. Expert participants suggested that all these groups should coordinate to manage these few recreational spaces.

*IV. Policy and financial problems*

To accumulate a governmental financial and policy level support, it is further spawn's problems to introduce new recreational and public places for urban people.

*V. Poor Organization:*

In association with the logic behind the poor organization identified by the expertise and local people suggest that to create a significant urban neighbourhood it is very important to introduce new recreation facilities and public spaces as per urban design requirements.

**Recreation Facilities and Public Spaces Difficulties:**

*I. Neighborhood socioeconomic status:*

Expert participants recognized neighbourhood socioeconomic status as a dominant factor for the recreational facilities and for creating new public spaces in this study area. Variety of people comes here every day for different purpose; some of them are living here permanently for their business and some is living here temporary. Once again lot of visitor visit here to buy garments or wholesale products or other purposes- such as to passing through riverside area. Therefore, the experts were intensely concerned about the socioeconomic status of this study area.

**Recreation Facilities and Public spaces challenges:**

*I. Lack of coordination:*

The inadequate coordination of physical planning activities within cities has resulted in the unpleasant and unattractive quality of recreation facilities and public spaces. There is lack of harmony in carrying out their individual and cooperate task in planning, development and protection

*II. Urbanization:*

There is an increase in the demand for higher levels of development by urbanization in developing cities like Khulna. This has sponsored to a large extent the ineffective use of recreation facilities and public spaces.

*III. Illegal development:*

Majority of the private developers are involved in illegal development of their buildings. They build without relevant approval from authority and hardly measure up to the stipulated statutory regulations while developing their lands. This has defeated the management plan, design and landscaping.

**Recreation Facilities and Public spaces present situation:**

It is evident in the following table 6.15 that only 14.7% respondents have satisfaction and 80.4% respondents have no satisfaction and 4.9% didn't know about the present recreation facilities and public spaces present situation within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	7	4.9	4.9	4.9
	Not Satisfied	115	80.4	80.4	85.3
	Satisfied	21	14.7	14.7	100.0
	Total	143	100.0	100.0	

Table 6.15: Satisfaction result of Neighborhood with Recreation Facilities and Public spaces

Furthermore, next tables 6.16, 6.17 and bar charts (figure 6.10 and 6.11) below summarizes the relation with neighbourhoods and residence against present Recreation Facilities and Public spaces situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.16 shows that both (businessmen and resident) have 14.3% satisfaction and 71.4% have no satisfaction, Business persons have 15.2% satisfaction and 81.9% have no satisfaction respectively and resident respondents have 12.5% satisfaction and 79.2% have no satisfaction about present Recreation Facilities and Public spaces within this area. Yet again among permanent residence table 6.17 shows that only 22.6% respondents have satisfaction and 71.0% have no satisfaction. Again among temporary residence only 12.5% have satisfaction and rest 83.0% have no satisfaction regarding present Recreation Facilities and Public spaces within the study area.

			Recreation Facilities and Public spaces			Total
			Don't know	Not Satisfied	Satisfied	
Rel. with Nei.	Both	Count	2	10	2	14
		% within Rel. with Nei.	14.3%	71.4%	14.3%	100.0%
Business		Count	3	86	16	105
		% within Rel. with Nei.	2.9%	81.9%	15.2%	100.0%
Resident		Count	2	19	3	24
		% within Rel. with Nei.	8.3%	79.2%	12.5%	100.0%

Total	Count	7	115	21	143
	% within Rel. with Nei.	4.9%	80.4%	14.7%	100.0%

Table 6.16: Result of Neighbourhood vs. Recreation Facilities and Public spaces (Cross tabulation)

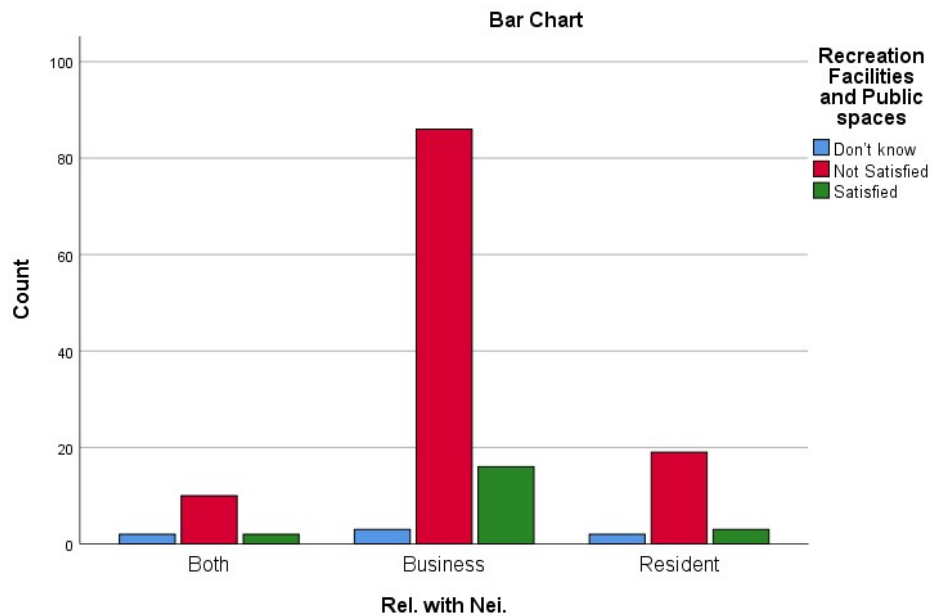


Figure 6.10: Relation with Neighbourhood and Recreation Facilities and Public spaces

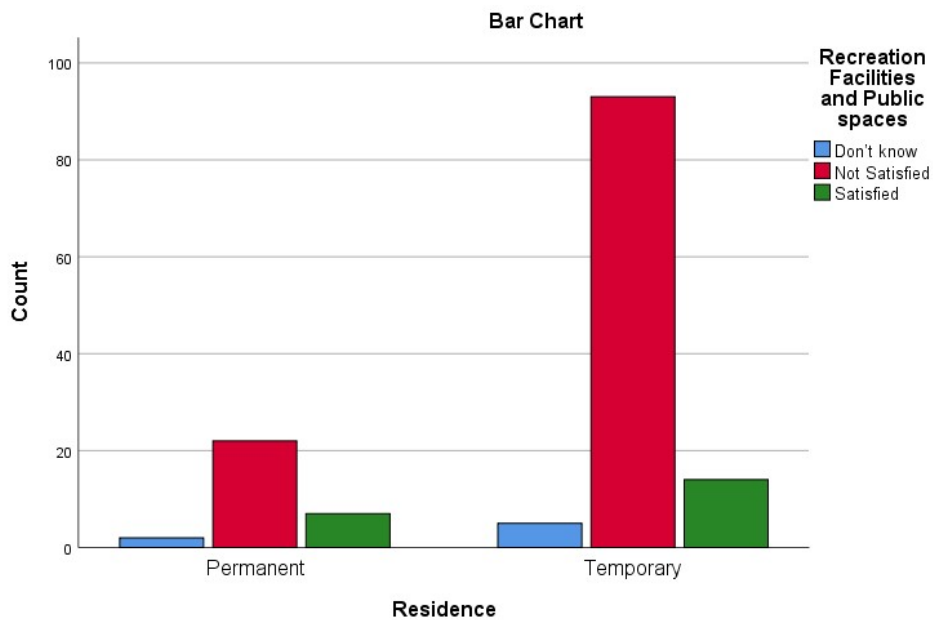


Figure 6.11: Relation with Residence and Recreation Facilities and Public spaces

			Recreation Facilities and Public spaces			Total
			Don't know	Not Satisfied	Satisfied	
Residence	Permanent	Count	2	22	7	31

	% within Residence	6.5%	71.0%	22.6%	100.0%
Temporary	Count	5	93	14	112
	% within Residence	4.5%	83.0%	12.5%	100.0%
Total	Count	7	115	21	143
	% within Residence	4.9%	80.4%	14.7%	100.0%

Table 6.17: Result of Residence vs. Recreation Facilities and Public spaces (Cross tabulation)

### 6.8.3. Shopping Facilities

#### Shopping Facilities Problems

This location is very important for business activities. Local authority earns a great amount of money from these commercial activities. Visitors come here every day mainly to buy garments, wholesale and daily products which are cheaper than other shopping area. But still this area needs better service for urbanity – said the experts.

In addition, experts added one other issues about employees “*working life balance*” - With the rising number of employees who are always connected to the workplace via technology, such as laptops, smart phones, pagers and other devices, it's a challenge for many workers to separate their lives from their work. In addition, scheduling family obligations such as child care, school meetings or care for an ailing family member can also present challenges for employees. Employers who realize this offer benefits packages that include telecommuting or flexible scheduling, and generous paid time off to accommodate their employees.

#### *I. Require of better shopping facilities*

Experts and local people recognized rapid development and bad management of shopping centers within the study area as a dominant factor for the bad shopping facilities for the visitors. Thus it requires better facilities and management the lack of good shopping facilities.

#### *II. Better shopping environment*

#### Shopping Facilities Difficulties:

##### *I. Safety – security and physical conditions*

Safety-security and physical conditions are the important concerns for both the businessmen, residents and visitors as explained local people and expert’s participants.

#### Shopping Facilities challenges:

##### *I. Better exposure*

Around the study area there are new shopping centers with better facilities and exposure which is now the biggest challenge for the shopping facilities within area.

### Shopping Facilities present situation:

Once again subsequent table 6.18 that 72.7% respondents have satisfaction and 24.5% respondents have no satisfaction and 2.8% didn't know about the present shopping facilities within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	4	2.8	2.8	2.8
	Not Satisfied	35	24.5	24.5	27.3
	Satisfied	104	72.7	72.7	100.0
Total		143	100.0	100.0	

Table 6.18: Satisfaction result of Neighborhood with Shopping Facilities

Once more tables 6.19, 6.20 and bar charts (figure 6.12, 6.13 and 6.14) below summarizes the relation with neighbourhoods, residence and income against present Shopping Facilities situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.19 shows that both (businessmen and resident) have 85.7% satisfaction and 7.1% have no satisfaction, Business persons have 73.3% satisfaction and 25.7% have no satisfaction respectively and resident respondents have 62.5% satisfaction and 29.2% have no satisfaction about present Shopping Facilities within this area. In addition, among permanent residence, table 6.20 shows that only 77.4% respondents have satisfaction and 22.6% have no satisfaction. Again among temporary residence 71.4% have satisfaction and rest 25.0% have no satisfaction regarding present Shopping Facilities within the study area. Yet again the income group from 60–80 (thousands, BD taka) of all 5 respondents has 100% satisfied with the present (table 6.21).

			Shopping Facilities			Total
			Don't know	Not Satisfied	Satisfied	
Rel. with Nei.	Both	Count	1	1	12	14
		% within Rel. with Nei.	7.1%	7.1%	85.7%	100.0%
	Business	Count	1	27	77	105
		% within Rel. with Nei.	1.0%	25.7%	73.3%	100.0%
	Resident	Count	2	7	15	24
		% within Rel. with Nei.	8.3%	29.2%	62.5%	100.0%
Total	Count	4	35	104	143	
	% within Rel. with Nei.	2.8%	24.5%	72.7%	100.0%	

Table 6.19: Result of Neighbourhood vs. Shopping Facilities (Cross tabulation)

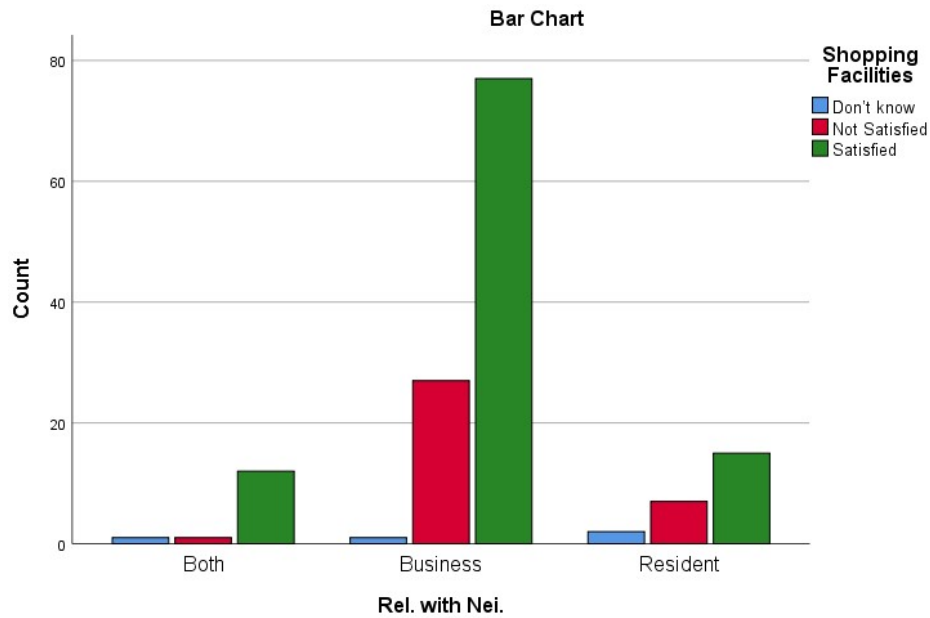


Figure 6.12: Relation with Neighbourhood and Shopping Facilities

		Shopping Facilities			Total	
		Don't know	Not Satisfied	Satisfied		
Residence	Permanent	Count	0	7	24	31
		% within Residence	0.0%	22.6%	77.4%	100.0%
	Temporary	Count	4	28	80	112
		% within Residence	3.6%	25.0%	71.4%	100.0%
Total		Count	4	35	104	143
		% within Residence	2.8%	24.5%	72.7%	100.0%

Table 6.20: Result of Residence vs. Shopping Facilities (Cross tabulation)

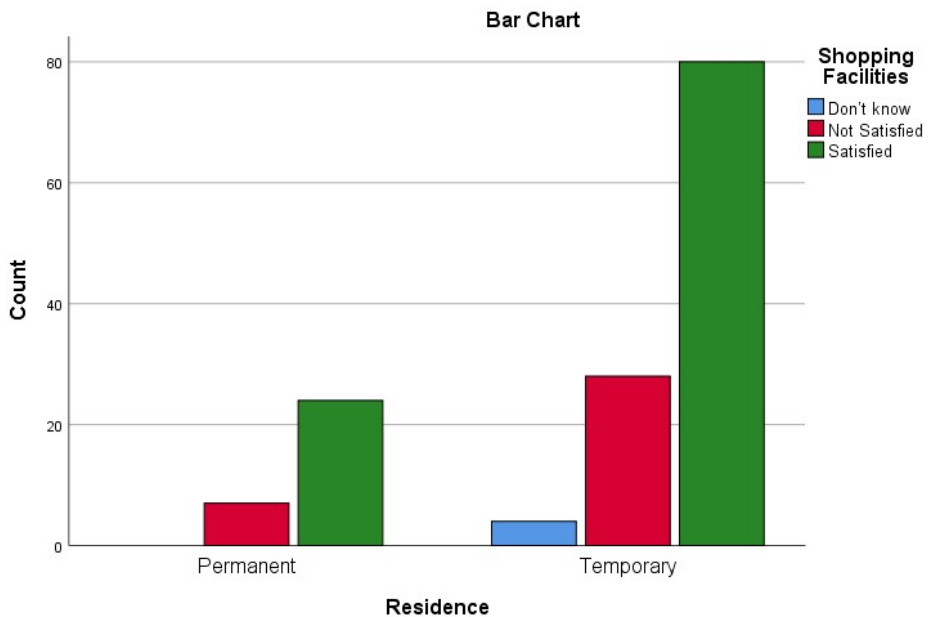


Figure 6.13: Relation with Residence and Shopping Facilities



		Shopping Facilities			Total	
		Don't know	Not Satisfied	Satisfied		
Income	20-30	Count	2	9	34	45
		% within Income	4.4%	20.0%	75.6%	100.0%
	30-45	Count	1	5	17	23
		% within Income	4.3%	21.7%	73.9%	100.0%
	45-60	Count	0	14	37	51
		% within Income	0.0%	27.5%	72.5%	100.0%
	60-80	Count	0	0	5	5
		% within Income	0.0%	0.0%	100.0%	100.0%
	House Wife	Count	1	2	6	9
		% within Income	11.1%	22.2%	66.7%	100.0%
	Student	Count	0	5	5	10
		% within Income	0.0%	50.0%	50.0%	100.0%
Total		Count	4	35	104	143
		% within Income	2.8%	24.5%	72.7%	100.0%

Table 6.21: Result of Income vs. Shopping Facilities (Cross tabulation)

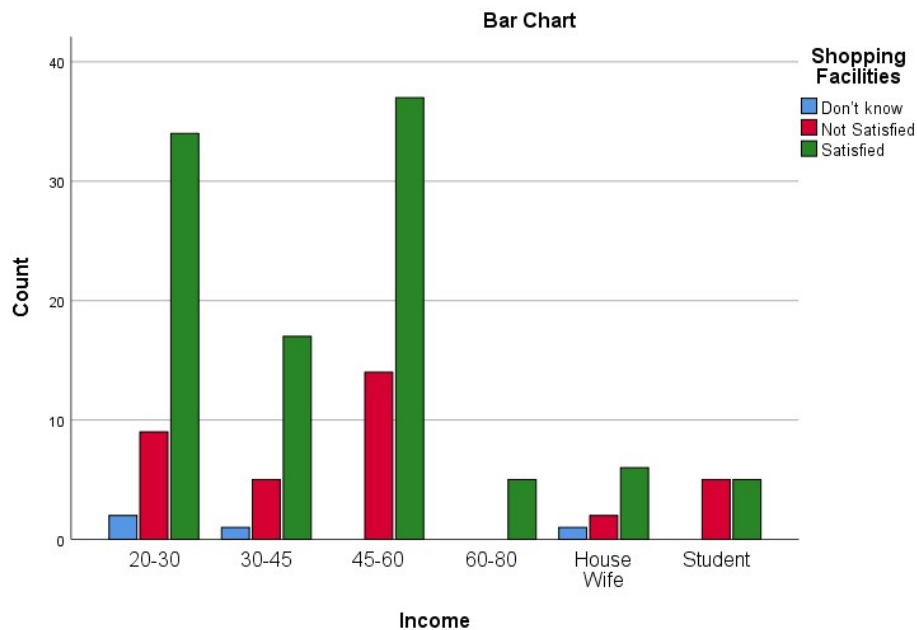


Figure 6.14: Relation with Income and Shopping Facilities

#### 6.8.4. Transportation

##### Transportation problems

###### I. Car parking

“One of the biggest problems we have in the CBD area is the parking problem. At the time when it was designed, the government could have easily made it a condition to provide car parking” – explained by the experts and local people. It doesn't matter what the cost of it is,

because long term there would have been a much better solution than what we have today”. Experts also give details - “the change of land use from residential to commercial and the invariable mix-up, and the increasing number of multi-story buildings around the commercial areas without providing car parks within the legal boundaries of the plots, create considerable pressure on the parking places and traffic movement”.

Again the participants gave details the following difficulties and challenges about transportation position within the study area -

**Transportation difficulties**

- I. Difficulty to expand infrastructure
- II. Difficulty to resolve traffic jam
- III. Transport projects are not regular concern for local authority
- IV. Difficult to introduce new type of transports

**Transportation challenges**

- I. Finding alternatives for public mass transport
- II. New roads free traffic but create new traffic jam
- III. Reconfiguring the existing infrastructure for future alternatives of public transport

**Transportation present situation**

It is obvious in the subsequent table 6.22 that 38.5% respondents have satisfaction and 52.4% respondents have no satisfaction and 9.1% didn’t know about the present Transportation within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don’t know	13	9.1	9.1	9.1
	Not Satisfied	75	52.4	52.4	61.5
	Satisfied	55	38.5	38.5	100.0
	Total	143	100.0	100.0	

Table 6.22: Statistical result of neighborhood with Transportation

Over again tables 6.23, 6.24 and bar charts (figure 6.15 and 6.16) below summarizes the relation with neighbourhoods and residence against present Transportation situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.23 shows that both (businessmen and resident) have 28.6% satisfaction and 64.3% have no satisfaction, Business persons have 42.9% satisfaction and 49.5% have no satisfaction respectively and resident respondents have 25.0% satisfaction and 58.3% have no

satisfaction about present Transportation within this area. In addition, among permanent residence, table 6.24 shows that only 32.3% respondents have satisfaction and 51.6% have no satisfaction. Again among temporary residence only 40.2% have satisfaction and rest 52.7% have no satisfaction regarding present Transportation within the study area.

		Transportation			Total	
		Don't know	Not Satisfied	Satisfied		
Rel. with Nei.	Both	Count	1	9	4	14
		% within Rel. with Nei.	7.1%	64.3%	28.6%	100.0%
	Business	Count	8	52	45	105
		% within Rel. with Nei.	7.6%	49.5%	42.9%	100.0%
	Resident	Count	4	14	6	24
		% within Rel. with Nei.	16.7%	58.3%	25.0%	100.0%
Total	Count	13	75	55	143	
	% within Rel. with Nei.	9.1%	52.4%	38.5%	100.0%	

Table 6.23: Result of Relation. with Neighbourhood vs. Transportation (Cross tabulation)

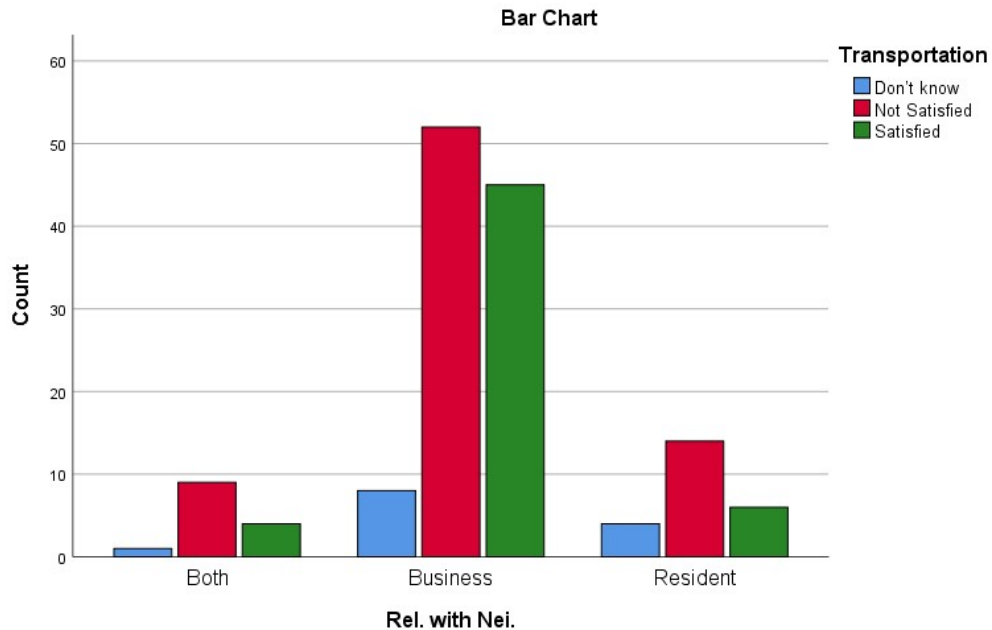


Figure 6.15: Relation with Neighbourhood and Transportation

		Transportation			Total	
		Don't know	Not Satisfied	Satisfied		
Residence	Permanent	Count	5	16	10	31
		% within Residence	16.1%	51.6%	32.3%	100.0%
	Temporary	Count	8	59	45	112
		% within Residence	7.1%	52.7%	40.2%	100.0%
Total		Count	13	75	55	143

% within Residence	9.1%	52.4%	38.5%	100.0%
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Table 6.24: Result of Residence vs. Transportation (Cross tabulation)

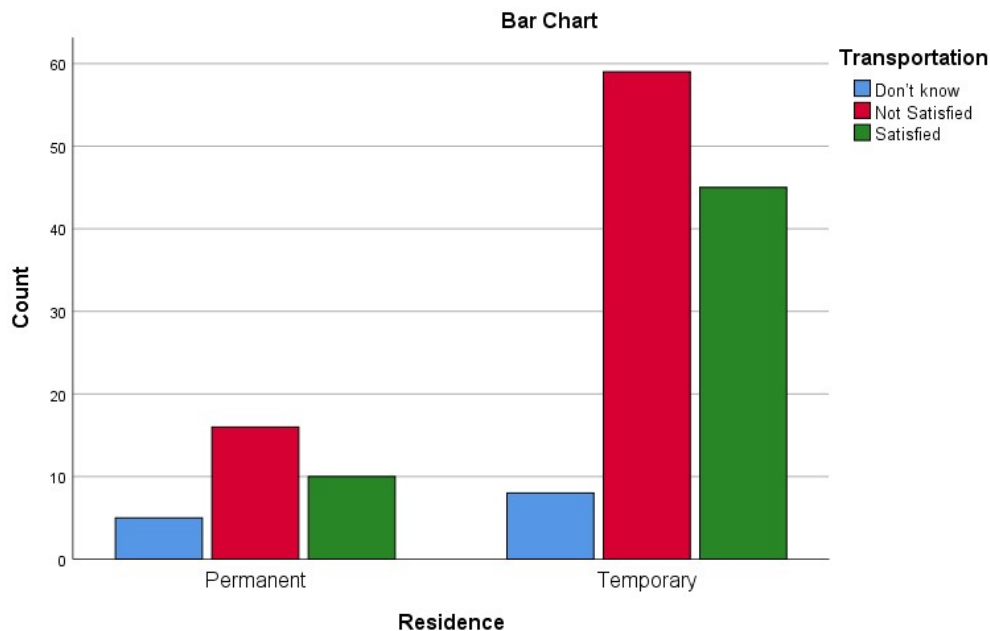


Figure 6.16: Relation with Residence and Transportation

### 6.8.5. Riverside area

#### Riverside area problems

“In early days of the Khulna City development, river within the study area perform as a pulse of trade to other areas, namely as a transportation route in trading activities. But the growth of population and commercial activities with unplanned urbanization within the study area creates the river more difficult to serve the city center effectively. Now a day the inability of the low-income community economically tries to live rapidly in the study area on the riverside.”

The experts and local people also added other problems, difficulties and challenges which are concerns regarding present riverside areas within the study area –

- I. Illegal Development
- II. Proper coordination
- III. Lack of Planning and design considering the city center
- IV. Proper management and service

#### Riverside area difficulties

- I. Political wiliness
- II. Riverside Economic Development

III. Provide housing for low-income community besides river side

**Riverside area challenges**

I. Creating vibrant waterfront districts and neighborhood (Connection River to neighborhood)

II. Strengthen the centre of the city by focusing in the provision of active connection between the centre and riverside.

III. Establishing prominent GREENWAYS with public spaces and natural places, orienting new development towards the river.

IV. Enhancing the recreation functions by providing new facilities and improving the existing ones

V. Programming new functions on the riverside that can enhance the nature of activities happening there.

VI. Encouraging water based mobility system that could be combined with the existing mobility system

**Riverside area - present situation**

It is apparent in the next table 6.25 that 9.8% respondents have satisfaction and 88.1% respondents have no satisfaction and 2.1% didn't know about the present Riverside area within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	3	2.1	2.1	2.1
	Not Satisfied	126	88.1	88.1	90.2
	Satisfied	14	9.8	9.8	100.0
Total		143	100.0	100.0	

Table 6.25: Satisfaction result of neighborhood with Riverside area

Next tables 6.26, 6.27 and bar charts (figure 6.17 and 6.18) below summarizes the relation with neighbourhoods and residence against present Riverside area situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.26 shows that both (businessmen and resident) have 7.1% satisfaction and 85.7% have no satisfaction, Business persons have 12.4% satisfaction and 87.6% have no satisfaction respectively and resident respondents have 0% satisfaction and 91.7% have no satisfaction about present Riverside area within this area. In addition, among permanent residence, table 6.27 shows that only 3.2% respondents have satisfaction and 90.3% have no satisfaction.

Once again among temporary residence only 11.6% have satisfaction and rest 87.5% have no satisfaction regarding present Riverside area within the study area.

			Riverside area			Total
			Don't know	Not Satisfied	Satisfied	
Rel. with Nei.	Both	Count	1	12	1	14
		% within Rel. with Nei.	7.1%	85.7%	7.1%	100.0%
	Business	Count	0	92	13	105
		% within Rel. with Nei.	0.0%	87.6%	12.4%	100.0%
	Resident	Count	2	22	0	24
		% within Rel. with Nei.	8.3%	91.7%	0.0%	100.0%
Total	Count	3	126	14	143	
	% within Rel. with Nei.	2.1%	88.1%	9.8%	100.0%	

Table 6.26: Result of Relation. with Neighbourhood vs. Riverside area (Cross tabulation)

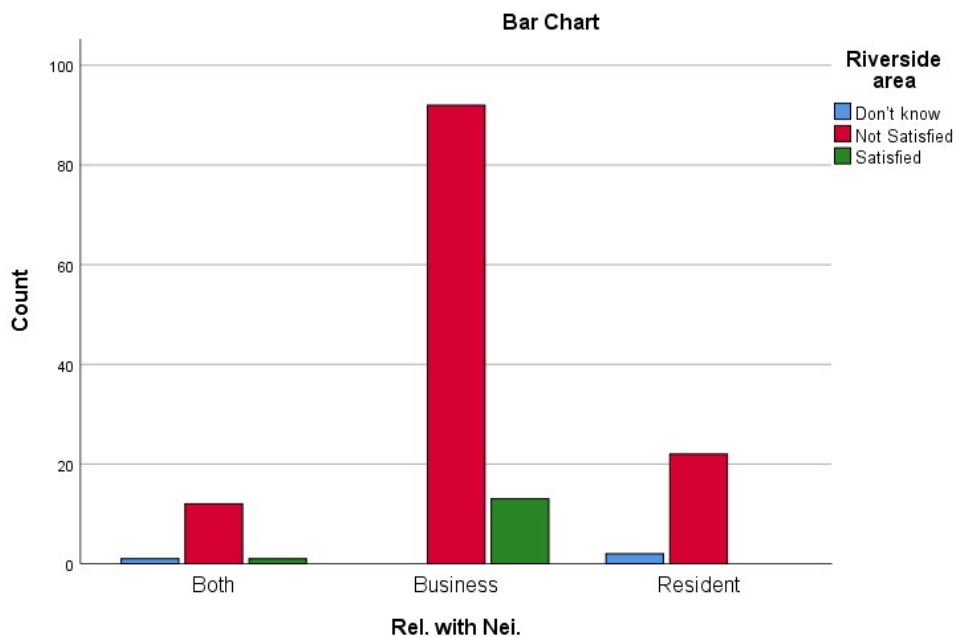


Figure 6.17: Relation with Neighbourhood and Riverside

			Riverside area			Total
			Don't know	Not Satisfied	Satisfied	
Residence	Permanent	Count	2	28	1	31
		% within Residence	6.5%	90.3%	3.2%	100.0%
	Temporary	Count	1	98	13	112
		% within Residence	0.9%	87.5%	11.6%	100.0%
Total	Count	3	126	14	143	
	% within Residence	2.1%	88.1%	9.8%	100.0%	

Table 6.27: Results of Residence vs. Riverside area (Cross tabulation)

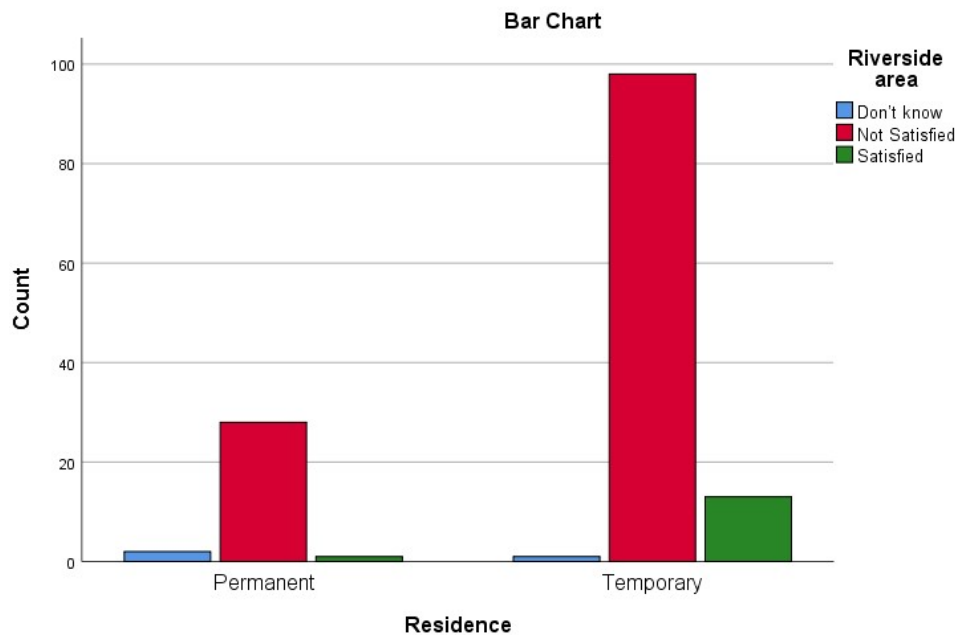


Figure 6.18: Relation with Residence and Riverside

### 6.8.6. Road network and Side walk

Sustainable streetscape plays an important role in forming the visual image of sustainable cities, as it is one of the most important factors which help in city success and visitor attractions. However, there are many cities whose visual image is lacking the presence of correct and sustainable streetscape, which negatively affects the visual image of these cities, and consequently the place of those cities globally.

#### Road network and Side walk problems

- I. Not maintaining urban design slandered for road width and sidewalk
- II. Proper maintenance of sidewalk

#### Road network and Side walk difficulties

- I. Public transportation stops and stations
- II. Loading zones

#### Width of Road and Side walk challenges

- I. Sidewalks are belonging to street vendors
- II. Introduce of universal design
- III. Enhanced sidewalk pavement treatments
- IV. No provision for street furniture

#### Road network and Side walk present situation

Table 6.28 that 23.1% respondents have satisfaction and 67.1% respondents have no satisfaction and 2.1% didn't know about the present Road network and Side walk within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	14	9.8	9.8	9.8
	Not Satisfied	96	67.1	67.1	76.9
	Satisfied	33	23.1	23.1	100.0
	Total	143	100.0	100.0	

Table 6.28: Satisfaction result of neighborhood with Road network and Side walk

However, tables 6.29, 6.30 and bar charts (figure 6.19 and 6.20) below summarizes the relation with neighbourhoods and residence against present Width of Road and Side walk situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.29 shows that both (businessmen and resident) have 21.4% satisfaction and 71.4% have no satisfaction, Business persons have 22.9% satisfaction and 67.6% have no satisfaction respectively and resident respondents have 25.0% satisfaction and 62.5% have no satisfaction about present Width of Road and Side walk within this area. In addition, among permanent residence, table 6.30 shows that only 12.9% respondents have satisfaction and 74.2% have no satisfaction. Again among temporary residence only 25.9% have satisfaction and rest 65.2% have no satisfaction regarding present Road network and Side walk within the study area (table 6.30).

		Width of Road and Side walk			Total	
		Don't know	Not Satisfied	Satisfied		
Rel. with Nei.	Both	Count	1	10	3	14
		% within Rel. with Nei.	7.1%	71.4%	21.4%	100.0%
Business		Count	10	71	24	105
		% within Rel. with Nei.	9.5%	67.6%	22.9%	100.0%
Resident		Count	3	15	6	24
		% within Rel. with Nei.	12.5%	62.5%	25.0%	100.0%
Total		Count	14	96	33	143
		% within Rel. with Nei.	9.8%	67.1%	23.1%	100.0%

Table 6.29: Result of Relation with Neighbourhood vs. Width of Road and Side walk (Cross tabulation)

		Road network and Side walk			Total	
		Don't know	Not Satisfied	Satisfied		
Residence	Permanent	Count	4	23	4	31
		% within Residence	12.9%	74.2%	12.9%	100.0%
	Temporary	Count	10	73	29	112



	% within Residence	8.9%	65.2%	25.9%	100.0%
Total	Count	14	96	33	143
	% within Residence	9.8%	67.1%	23.1%	100.0%

Table 6.30: Result of Residence vs. Road network and Side walk (Cross tabulation)

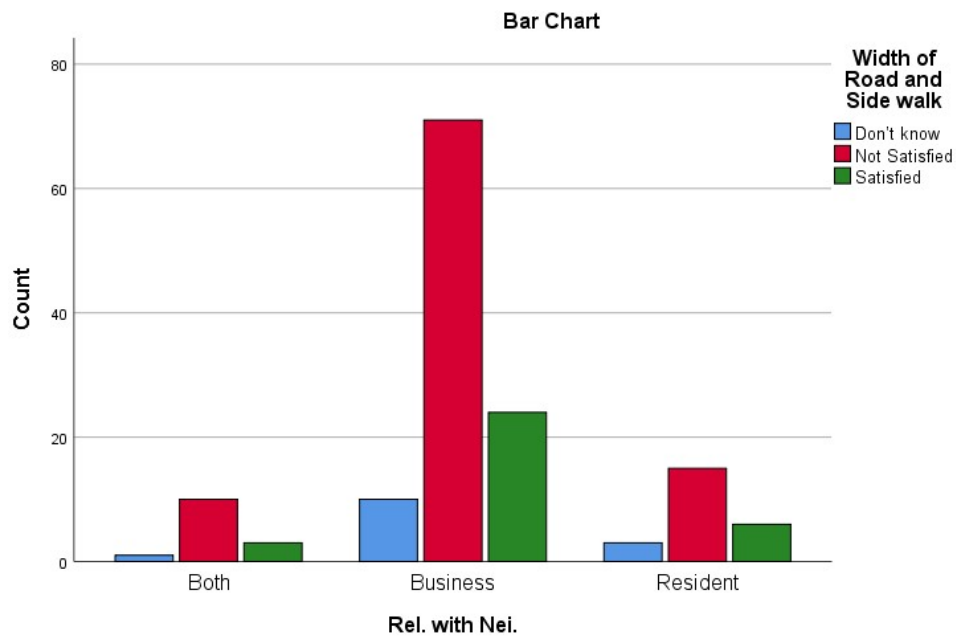


Figure 6.19: Relation with Neighbourhood and Width of Road and Side walk

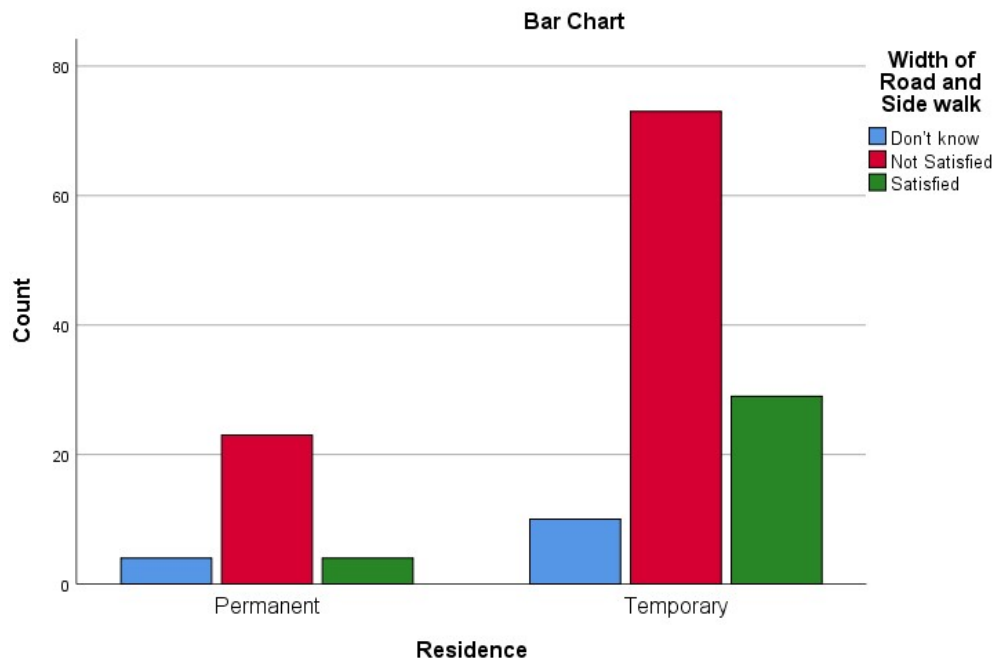


Figure 6.20: Relation with Residence and Width of Road and Side walk

### 6.8.7. Noise pollution

The major kind of pollution prevailing in this studied market is noise pollution, because of overcrowding of people, haulage of goods and various sound of public transport. During survey, one discussion with shop owners of garments goods revealed that the noisy market situation in most instances cause distortion of telephone communication; which according to respondents made them to lose a lot of their business contacts. The shop owner revealed that he often reached his customers through text messages rather than voice communication due to noisy market situation that do not allow him to clearly hear his respondent. He also added that any time he wants to make important business deals over telephone he has to go up to his house or away from the market; which he described as very unpleasant. Yet the respondents described the following problems and situation regarding air and noise pollution -

#### Noise pollution Problems

- I. Over crowded
- II. Public transport
- III. Not enough open spaces

#### Noise pollution Difficulties

- I. Installation of noise control equipment
- II. Keep away from the public transport
- III. Manage to overcrowded situations
- IV. Supervise to loading-unloading of goods

#### Noise pollution Challenges

- I. Create separate neighborhood for public – private, walking and public transport area

#### Noise pollution Present Situation

In the following table 6.31 that 10.5% respondents have satisfaction and 82.5% respondents have no satisfaction and 7.0% didn't know about the present Noise pollution within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	10	7.0	7.0	7.0
	Not Satisfied	118	82.5	82.5	89.5
	Satisfied	15	10.5	10.5	100.0
	Total	143	100.0	100.0	

Table 6.31: Satisfaction result of neighborhood with Noise pollution

However, tables 6.32, 6.33 and bar charts (figure 6.21 and 6.22) below summarize the relation with neighbourhoods and residence against present noise pollution situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.32 shows that 12.4% Business persons have satisfaction and 80.0% have no satisfaction respectively and resident respondents have 8.3% satisfaction and 83.3% have no satisfaction about present noise pollution within this area. In addition, among permanent residence, table 6.33 shows that only 19.4% respondents have satisfaction and 80.6% have no satisfaction. Again among temporary residence only 8.0% have satisfaction and rest 83.0% have no satisfaction regarding present noise pollution situation within the study area.

			Noise pollution			Total
			Don't know	Not Satisfied	Satisfied	
Rel. with Nei.	Both	Count	0	14	0	14
		% within Rel. with Nei.	0.0%	100.0%	0.0%	100.0%
	Business	Count	8	84	13	105
		% within Rel. with Nei.	7.6%	80.0%	12.4%	100.0%
	Resident	Count	2	20	2	24
		% within Rel. with Nei.	8.3%	83.3%	8.3%	100.0%
Total	Count	10	118	15	143	
	% within Rel. with Nei.	7.0%	82.5%	10.5%	100.0%	

Table 6.32: Results of Relation with Neighbourhood (Cross tabulation)

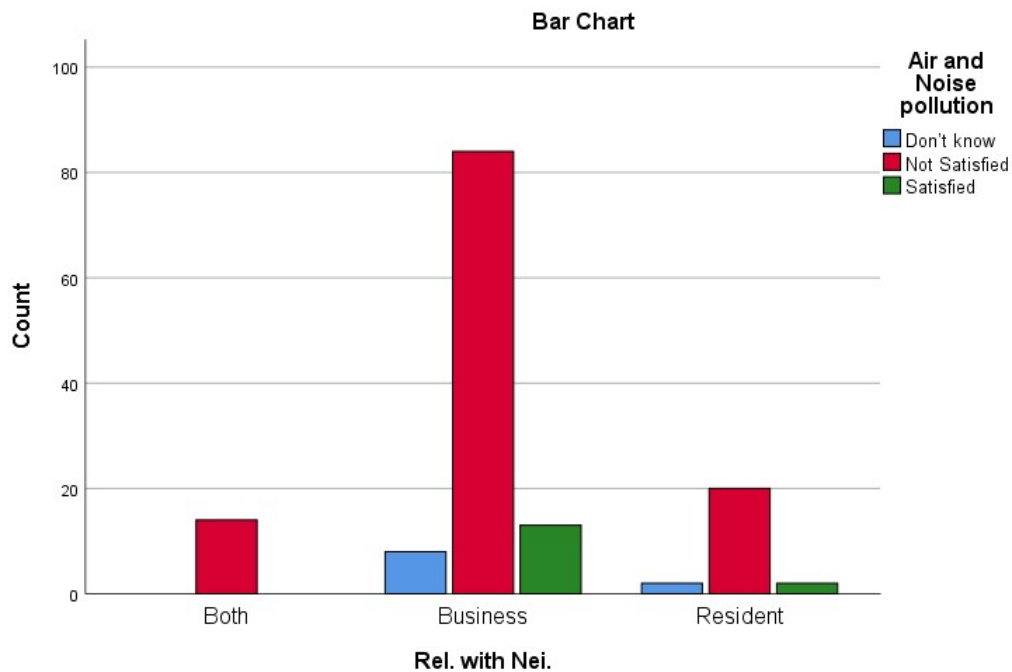


Figure 6.21: Relation with Neighbourhood and Pollution

		Air and Noise pollution			Total	
		Don't know	Not Satisfied	Satisfied		
Residence	Permanent	Count	0	25	6	31
		% within Residence	0.0%	80.6%	19.4%	100.0%
	Temporary	Count	10	93	9	112
		% within Residence	8.9%	83.0%	8.0%	100.0%
Total		Count	10	118	15	143
		% within Residence	7.0%	82.5%	10.5%	100.0%

Table 6.33: Result of Residence vs. Noise Pollution (Cross tabulation)

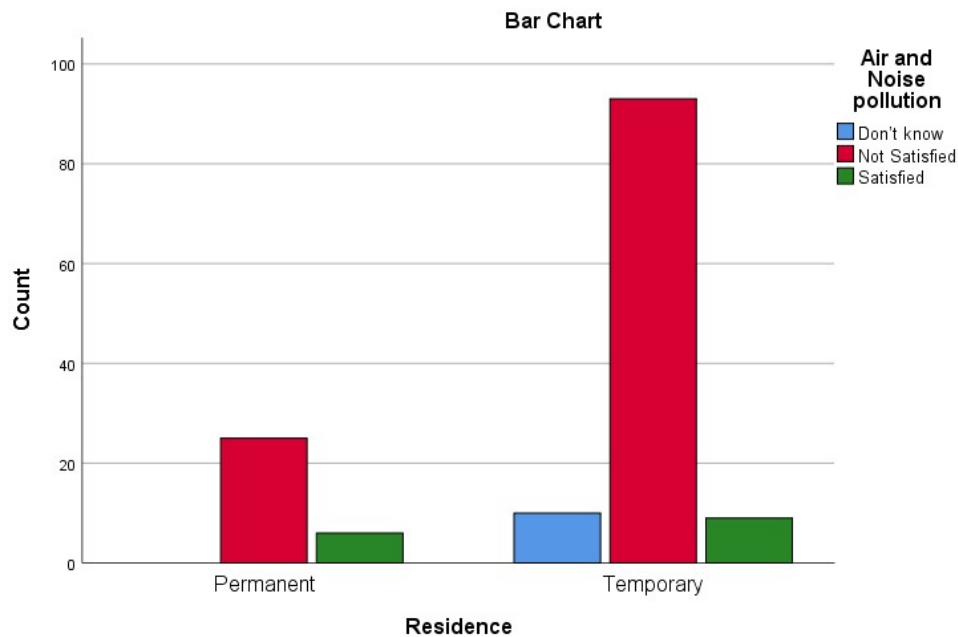


Figure 6.22: Relation with Residence and Pollution

### 6.8.8. Drainage system

As a result of inadequate planning and poor development control measures, the growth of these markets has been disorderly, disjointed and incoherent thereby leading to massive congestion and poor accessibility. Moreover, the supply of basic utilities such as water supply, electricity, fire services and finally drainage system and refuse disposal are grossly inadequate. However, KCC recently proposed a drainage system network within the city area which can generate a better environment.

#### Drainage system Problems

- I. Proper planning and development
- II. Waste material

### Drainage system Difficulties

Neighbourhoods keep springing up without proper planning, which also involves planning for drainage and sewage or waste disposal. Residents and commercial area regularly dump their waste in gutters and this clogs the gutters and prevents the flow of water, causing the gutters to overflow. It is common to see flooded streets with litter floating everywhere after a short period of rainfall. Such situations create very unsanitary conditions for residents of the neighbourhoods and contribute to the degradation of the environment.

### Drainage system Challenges

- I. Manage to surface water runoff
- II. Proper coordination with KDA and KCC

### Drainage system Present Situation

It is manifest in the following table 6.34 that 11.9% respondents have satisfaction and 83.9% respondents have no satisfaction and 4.2% didn't know about the present Drainage system within study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	6	4.2	4.2	4.2
	Not Satisfied	120	83.9	83.9	88.1
	Satisfied	17	11.9	11.9	100.0
	Total	143	100.0	100.0	

Table 6.34: Satisfaction result of neighborhood: Drainage system

Again next tables 6.35, 6.36 and bar charts (figure 6.23 and 6.24) below summarizes the relation with neighbourhoods and residence against present Drainage system situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.35 shows that both (businessmen and resident) have 14.3% satisfaction and 85.7% have no satisfaction, Business persons have 9.5% satisfaction and 84.8% have no satisfaction respectively and resident respondents have 20.8% satisfaction and 79.2% have no satisfaction about present Drainage system within this area. In addition, among permanent residence, table 6.36 shows that only 16.1% respondents have satisfaction and 77.4% have no satisfaction. Again among temporary residence only 10.7% have satisfaction and rest 85.7% have no satisfaction regarding present Drainage system within the study area.

		Drainage system			Total
		Don't know	Not Satisfied	Satisfied	
Rel. with Nei.	Both	Count	0	12	2
		% within Rel. with Nei.	0.0%	85.7%	14.3%

Business	Count	6	89	10	105
	% within Rel. with Nei.	5.7%	84.8%	9.5%	100.0%
Resident	Count	0	19	5	24
	% within Rel. with Nei.	0.0%	79.2%	20.8%	100.0%
Total	Count	6	120	17	143
	% within Rel. with Nei.	4.2%	83.9%	11.9%	100.0%

Table 6.35: Result of Relation with Neighbourhood vs. Drainage system (Cross tabulation)

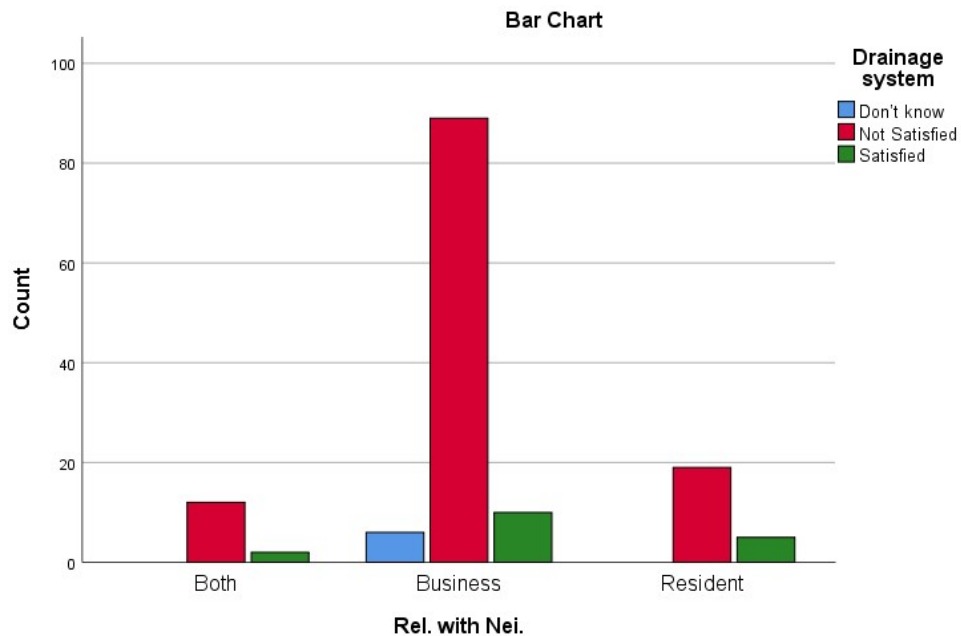


Figure 6.23: Relation with Neighbourhood and Drainage System

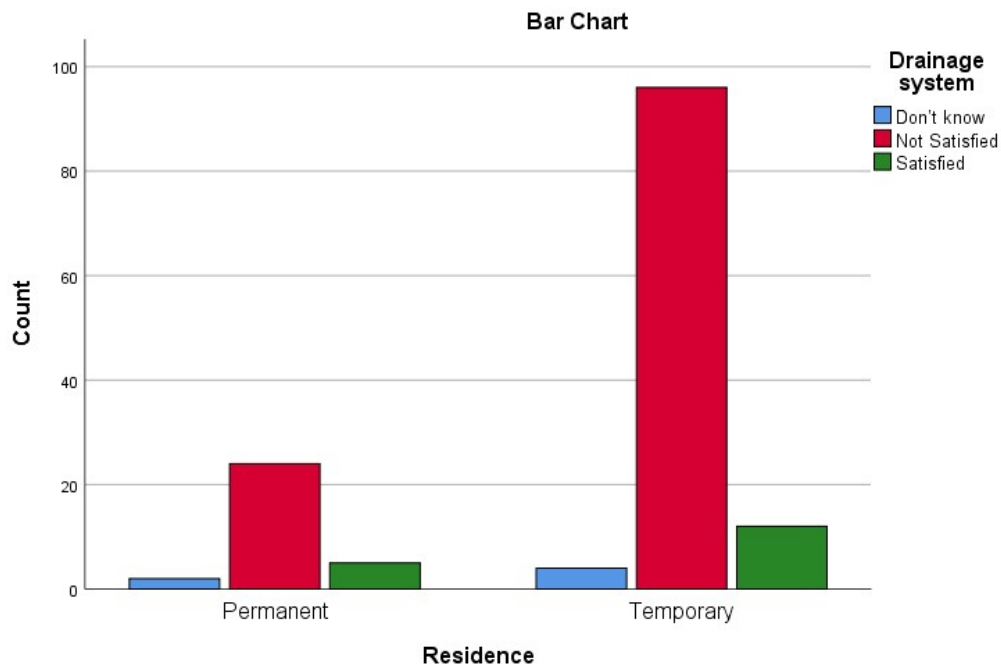


Figure 6.24: Relation with Residence and Drainage System

			Drainage system			Total
			Don't know	Not Satisfied	Satisfied	
Residence	Permanent	Count	2	24	5	31
		% within Residence	6.5%	77.4%	16.1%	100.0%
	Temporary	Count	4	96	12	112
		% within Residence	3.6%	85.7%	10.7%	100.0%
Total	Count		6	120	17	143
	% within Residence		4.2%	83.9%	11.9%	100.0%

Table 6.36: Result of Residence vs. Drainage system (Cross tabulation)

### 6.8.9. Accessibilities (Community Facilities) – hospitals, bazaar, services, schools / college

Although local participants explained that they are satisfied with the present situation regarding accessibilities facilities, but the experts gave details in different ways – “After the independence of Bangladesh in 1971, Khulna City has started expanding rapidly both in area and population. This expansion of urban population has created not only new demand for facilities but also an unbearable pressure on the existing community facilities. Local authority is the legitimate responsible for providing community facilities to the population of the city. However, presently it has been very difficult for local authority to cope with the increasing demand with its limited budget and within the scope of present planning process.”

#### Accessibilities Problems

- I. *Financial and political problems*
- II. *Finding suitable and affordable facilities*

#### Accessibilities Difficulties

- I. *Awareness of social responsibility*
- II. *Neighborhood stability*

#### Accessibilities Challenges

- I. *Needs more Public-Private Cooperation*
- II. *Accrue new areas*

#### Accessibilities Present Situation

It is obvious in the subsequent table 6.37 that 53.1% respondents have satisfaction and 44.1% respondents have no satisfaction and 2.8% didn't know about the present accessibilities (hospitals, bazaar, services, schools / college) within the study area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	4	2.8	2.8	2.8
	Not Satisfied	63	44.1	44.1	46.9

Satisfied	76	53.1	53.1	100.0
Total	143	100.0	100.0	

Table 6.37: Satisfaction result of neighborhood with Accessibilities

Afterward tables 6.38, 6.39 and bar charts (figure 6.25 and 6.26) below summarize the relation with neighbourhoods and residence against present Accessibilities situation of the study area that were conveyed by the participants from the questionnaire survey. The following table 6.38 shows that both (businessmen and resident) have 64.3% satisfaction and 35.7% have no satisfaction, Business persons have 51.4% satisfaction and 45.7% have no satisfaction respectively and resident respondents have 54.2% satisfaction and 41.7% have no satisfaction about present Accessibilities within this area. In addition, among permanent residence, table 6.39 shows that only 64.5% respondents have satisfaction and 32.3% have no satisfaction. Again among temporary residence only 50.0% have satisfaction and rest 47.3% have no satisfaction regarding present Accessibilities within the study area.

		Accessibilities			Total	
		Don't know	Not Satisfied	Satisfied		
Rel. with Nei.	Both	Count	0	5	9	14
		% within Rel. with Nei.	0.0%	35.7%	64.3%	100.0%
	Business	Count	3	48	54	105
		% within Rel. with Nei.	2.9%	45.7%	51.4%	100.0%
Resident	Count	1	10	13	24	
	% within Rel. with Nei.	4.2%	41.7%	54.2%	100.0%	
Total	Count	4	63	76	143	
	% within Rel. with Nei.	2.8%	44.1%	53.1%	100.0%	

Table 6.38: Result of neighbourhoods vs. Accessibilities (Cross tabulation)

		Accessibilities			Total	
		Don't know	Not Satisfied	Satisfied		
Residence	Permanent	Count	1	10	20	31
		% within Residence	3.2%	32.3%	64.5%	100.0%
	Temporary	Count	3	53	56	112
		% within Residence	2.7%	47.3%	50.0%	100.0%
Total	Count	4	63	76	143	
	% within Residence	2.8%	44.1%	53.1%	100.0%	

Table 6.39: Results of Residence vs. Accessibilities (Cross tabulation)



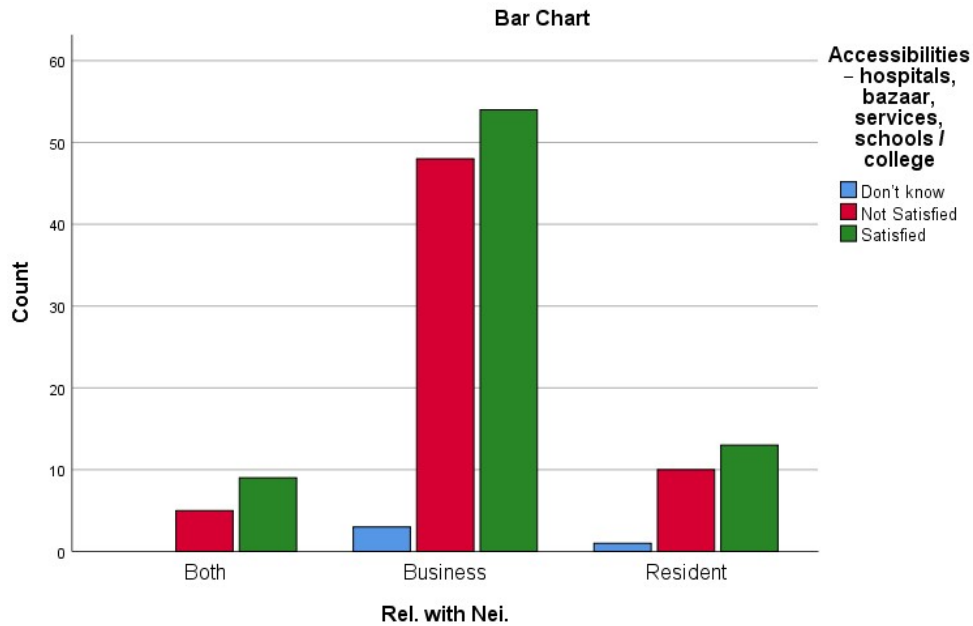


Figure 6.25: Relation with Neighbourhood and Accessibilities

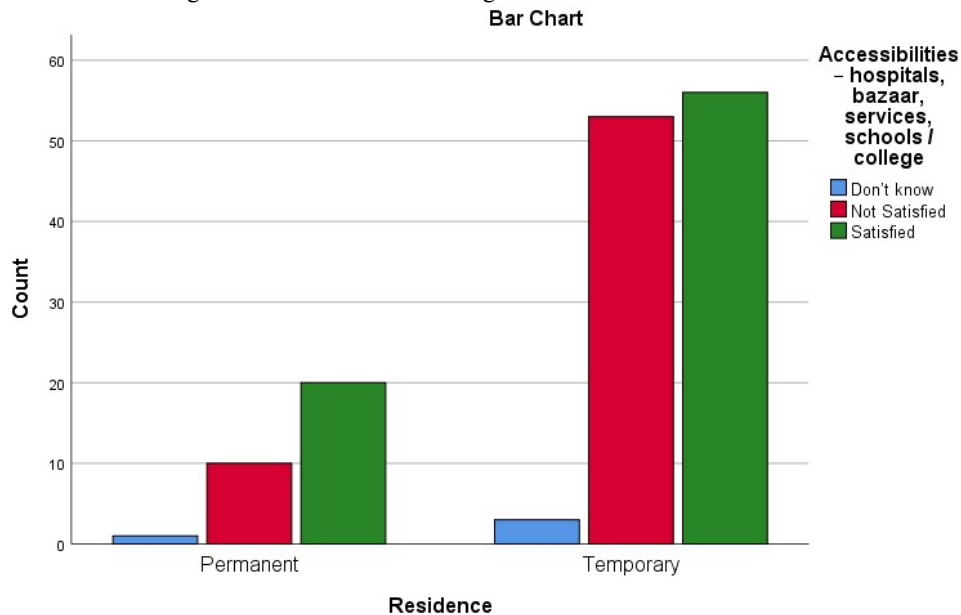


Figure 6.26: Relation with Residence and Accessibilities

### 6.9. Perception of neighborhood (residents and businessmen)

Yet again the study shows the following results regarding “perception of neighbourhood”, both from the residents and the businessmen by questionnaire survey. Figure 6.27 shows that most of the residents are living in the study area because of following three main reasons –

1. Cheaper than other neighborhoods
2. Neighborhood relation between each other
3. No other options to live

In addition, figure 6.28 shows that most businessmen continued their business in the study area because of following three main reasons –

1. Rentable space is cheaper
2. Better to do business
3. No other options to do business

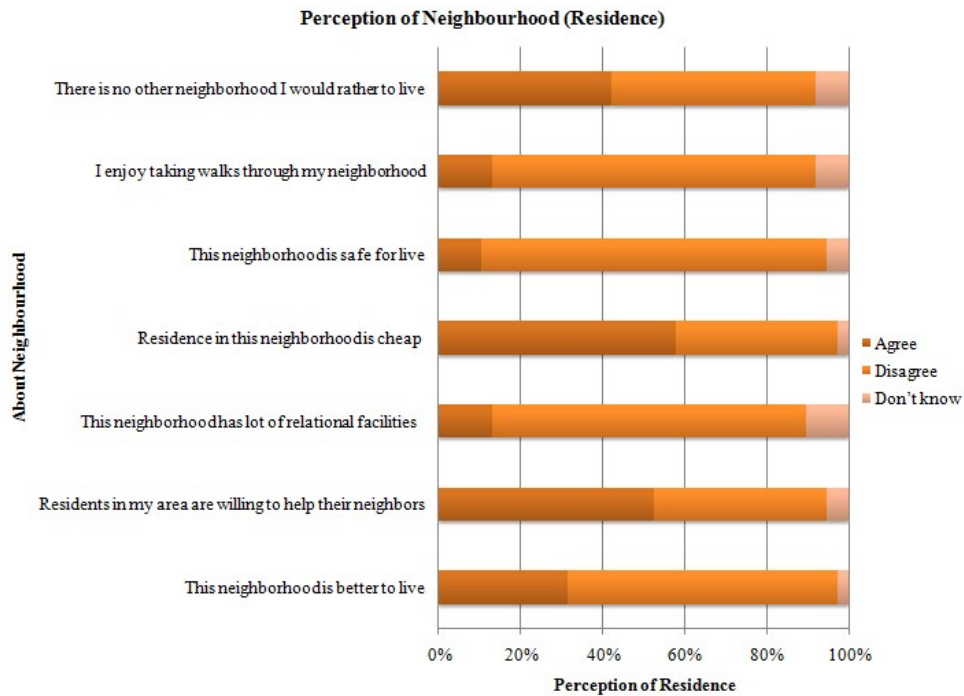


Figure 6.27: Perception of neighbourhood (residents)

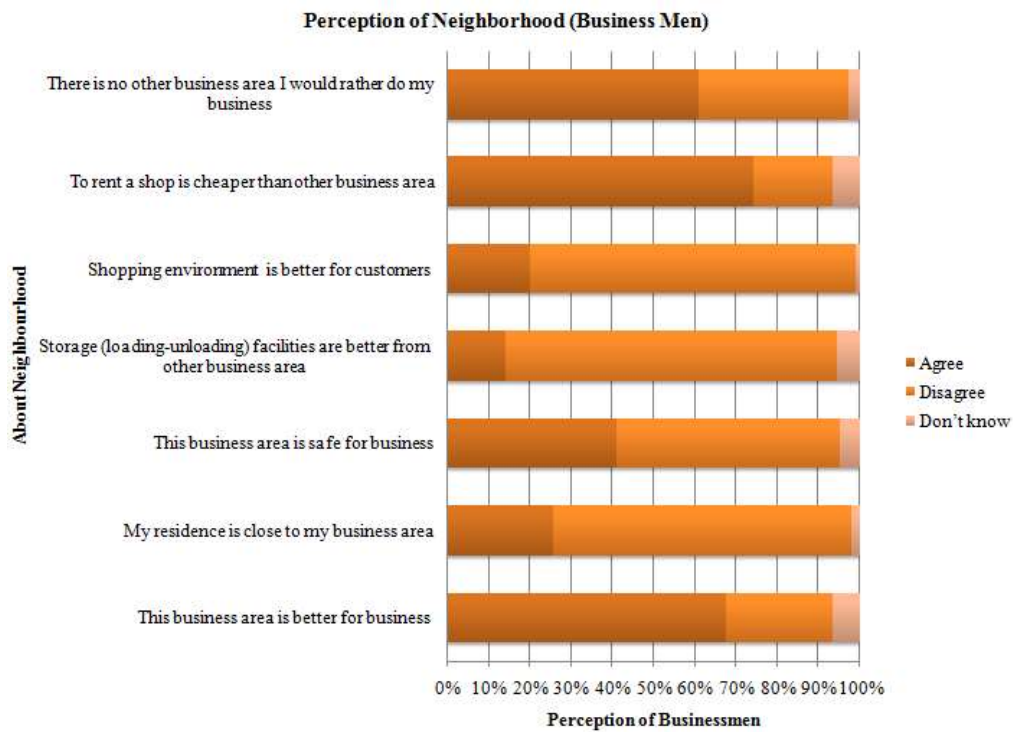


Figure 6.28: Perception of neighbourhood (businessmen)

### **6.10. Data Organization, Understanding and Critical Expression**

Organizing the collected data is one of the most important steps in the research methods. For this thesis, study would like to start organizing the data from regional context, then about the city and finally about the site. The first step of organization will be regional information which will help me understand more about the surrounding area of the city and proposed study area. Regional context will also contain some data about historical development of that area. The next step will be organizing the data about the study area, its assets and historical background for few decades.

As my main focus of the thesis is to sustainable urban revitalization; it is important to document data about detailed existing scenario of the study area, which will help me to understand the potential of this area. In addition, I will have to organize the information about the problems, difficulties and challenges besides present condition from different method as explain earlier. Furthermore, I have organized my detailed site analysis for my entire study area. This analysis will contain existing conditions, utilization, and potential connection which can be made in the future with the city.

Later than explaining the results obtained for the *problems and present situation*, as shown in above sections and correlating the new information obtained from the expert participants, consultants and local people, with the knowledge already documented in various historical studies, documents and questionnaires survey, the study shows a categorical result which will assist to further understanding and recommend to sustainable urban revitalization approach for the proposed study area.

### **6.11. Summary of problem analysis and present situation phase**

Subsequent table 6.40 summarizes the quantitative outcome of this *problems and present situation analysis phase* for the selected sustainable urban revitalization concerns. It tabulates the results obtained for 3 research methods: interviews, experts and public questionnaires. Among 143 participants from questionnaires survey, following table excluded the participants who didn't know the present situation and final position is considered from the total percentage of "not satisfaction" group. Finally, it is clear that the emphasis amongst the participants to certain sustainable urban revitalization concerns gave way the following positioning of importance:

- Interviews with experts: first was *riverside area*; second were *recreation facilities and public spaces*; and third were *transpiration system, road network and side walk and noise*. In

total, there were 23 problems, 27 challenges and 19 difficulties that were conveyed by the expertise participants.

- Public questionnaire: first was *riverside area*; second was *drainage system*; and third was *noise pollution*.

Serial no	Satisfactions and Perfections	Interview from Expertise						Public Questionnaires				
		Problems	Difficulties	Challenges	Total	%	Position	Participants	Satisfaction (%)	Not Satisfaction (%)	Position	
1	Employment / Job	2	1	3	6	8.7	4 <sup>th</sup>	132	60.8	31.5	8 <sup>th</sup>	
2	Recreation Facilities and Public spaces	5	1	3	9	13	2 <sup>nd</sup>	136	14.7	80.4	4 <sup>th</sup>	
3	Shopping Facilities	2	1	3	6	8.7	4 <sup>th</sup>	129	72.7	24.5	9 <sup>th</sup>	
4	Transportation	1	4	3	8	11.6	3 <sup>rd</sup>	130	38.5	52.4	6 <sup>th</sup>	
5	Riverside area	4	3	6	13	18.8	1 <sup>st</sup>	140	9.8	88.1	1 <sup>st</sup>	
6	Road network and Side walk	2	2	4	8	11.6	3 <sup>rd</sup>	129	23.1	67.1	5 <sup>th</sup>	
7	Noise pollution	3	4	1	8	11.6	3 <sup>rd</sup>	133	10.5	82.5	3 <sup>rd</sup>	
8	Drainage system	2	1	2	5	7.2	5 <sup>th</sup>	137	11.9	83.9	2 <sup>nd</sup>	
9	Accessibilities – hospitals, bazaar, services, schools / college	2	2	2	6	8.7	4 <sup>th</sup>	139	53.1	44.1	7 <sup>th</sup>	
<b>Total</b>		<b>23</b>	<b>19</b>	<b>27</b>	<b>69</b>	<b>100</b>						

### 6.12. Reasons of Gap Between Expert’s and Local Public’s Explanations

As illustrated in table 6.11 above, (Problem analysis and Present Situation Phase – Results Comparison) identified a different set of factors that influence urban expansion which may be viewed here in contrast to those suggested by the participants in the interviews and focus groups. In the following summarizes the 6 (six) key reasons of gap between two groups of participant’s explanations about - problems, challenges, difficulties, present situations and perceptions, satisfactions of present study area.

*1. Gap of public participants:* No actual opportunities for public participation in urban planning and development process. Most of the participants confirmed that they do not believe there was any public participation in urban planning so far and not even today.

2. Gap of public awareness towards planning: Again most experts explained that they were not optimistic about the benefit of public participation due to - the level of awareness amongst the public is not that high where they can contribute positively to any proposed development and so on with their vision, views, or inputs or whatever.

3. Gap of urban design understanding: Experts argued that there is a critical question to ask in this regards: before saying that urban design should come from the society, "does the local authority have the quality people to implement this type of planning that the neighbourhood demands?"

4. Gap of proper coordination: A very important question by everyone - "who will be the responsible authority for planning process?" Because there is no proper coordination between KCC, KDA and local private agencies / consultants to any planning process to develop this area. Therefore, the result shows many gaps between their explanations.

5. Gap of understanding between permanent-temporary inhabitants and businessmen residents: In the proposed study area, temporary and businessmen are more than permanent and residents. Therefore, before saying that this neighbourhood should in innovative urban planning process, does it require for your healthy living or business conditions? The explanations between these two groups and experts group were not comparable in most cases.

6. Gap of decision makers: Experts explained that - some decision makers are apart from the real process of urban design and planning: long term, vision, target and strategy for the implementation process. This is the reason that creates a gap between user groups and planning groups.

### **6.13. Critical Expression and Final Explanation**

Yet in this chapter several questions have not been included in this research analysis as the response gathered from the participants was not satisfactory and therefore couldn't be used to reflect any comprehensive benefit. Mainly due to the researcher's opinion of lack of experience or that the interview was not properly documented or completed. The reason behind the lack of experience or response was due to any of the following reasons:

1. Most of the participants have a very few ideas about sustainable urban development and revitalization issue. The study tried to explain the participants briefly before presenting interviews and questionnaires. Therefore, it was more difficult to collect proper information from them.
2. Some questions have not been asked by the researcher to the participants as some of the participants lacked such knowledge, or did not shown interest in these topics.

3. There were not enough theoretical documents about the present study area.
4. There was not enough time to include all the questions as planned.
5. The participants spent more time in answering some of the questions that they were more interested in.

However, the establishment of the problems, difficulties, challenges and present situation reported in this section clearly articulate that this city's urban development problems are not new, and many have been concerning throughout the period of the city development. It is possible to remove those problems and difficulties that are more challenging for planning and the decision makers. Though, understanding the present condition associated with each sustainable urban development or revitalization components should enable to think of them from a different perspective and hopefully aid the decision maker in adopting better approaches and practices.

There are certain highlights within this problem and present condition analysis phase which shows the emphasis by decision making and planning process on certain urban development strategies. All over again, it is evident that experts and local participants didn't have the same opinion to explain their experiences in some questions. This showed limitation on the part of decision making or planning approaches in general besides support the decision maker for next developing process. The best instance was about both in employment, shopping and accessibilities facilities within the study area. Although local participants explained that they are satisfied with the present situation regarding employment, accessibilities and shopping facilities but the experts gave details in different ways. They explained that presently it has been very difficult due to limited budget and political consideration and increasing demand, local authority falls short to produce to cope with the increasing demand with its limited budget and within the scope of present planning process. The framework approach identified in this research managed these kinds of issues by establishing these categories or sustainable urban development process and setting aside sufficient attention to each of them within the overall urban development decision making. It is acceptable to argue that such a wide array of sustainable urban development process is never within the direct responsibility or accountability of a single entity, but that's the whole point behind this exercise: urban development is a teamwork effort and requires a comprehensive, collective and shared responsibility. The problems identified within this chapter are plenty, but more importantly they are captured through fresh and current players in various fields of urban development. They present a reasonable appraisal of the current state of play which paved the way for a

strong comparison against sustainable urban development status over the period of the study.

#### **6.14. Research Limitations**

The study must confess that there are some limitations in this research methodology in the following aspects:

1. Duration of survey time: Total survey time was August 2017 to September 2017. It was very difficult to find out all information concerning the study within this time frame.
2. Sustainable Urban Revitalization: The meaning and process of sustainable urban revitalization, urban design and development issues doesn't a popular subject for local people. Most of them don't have any idea about these subjects. Therefore, in many cases it was very difficult to collect the right opinions from local participants.
3. Expert participant's limitations: The participants in the expert group did not include in general public, such as locals of various educational backgrounds. Therefore, there may be a reasonable argument that the knowledge obtained in this research method does not necessary provide a proper sample representation of the public and because of this, I decided to consider this research method as secondary in the final write-up and it is merely brought into the dissertation as support to other primary research methods.
4. Lack of female representation: this is applicable to both questionnaires survey and expert participants. For the interviews, less than 11.9% of the interviewees were female and this may be attributed to the fact that females are less dominant in this neighborhood. The impact of this on the results or its interpretation is difficult to identify or to provide for.

#### **6.15. Chapter Summary**

This chapter presented the methods associated with the *problem and present situation analysis phase*, and justified the approach towards focusing further on certain Sustainable Urban Revitalization and development process within the study area. The study presented the results and the interpretation of the *problem and present situation analysis phase for each sustainable urban revitalization process using the following components: problems, difficulties, challenges, and present situation*. This was followed by a detailed interpretation of this analysis, which 136 provided a quantitative summary of the problem analysis phase, trend analysis for urban development plan and process and other detailed interpretation.

It is clear that the emphasis amongst the expert participants to *certain "problem analysis and present situation phase" (Table 6.11) deferred the following ranking of importance: first was riverside area; second were recreation facilities and public spaces; and third was road network and side walk and noise. In total, there were 23 problems, 27 challenges, 19 difficulties and it was 69 in total that were communicated by this group of participants. In contrast, the Public questionnaires deferred the following ranking of problems: first was riverside area; second was drainage system; and third was noise pollution. However, both the experts and local participants explained that presently "river side area" should be first consideration to revitalize for social, economic, environmental and cultural development of this area.*

This rationally shows the way to the next phase of analysis - *process analysis phase and proposal for sustainable revitalization model*, which will be addressed in more details, including analysis of the strategy and implementation, and its interpretation and trends analysis, in next chapter.



# **CHAPTER 07: PROCESS ANALYSIS AND THE SUSTAINABLE URBAN REVITALIZATION MODEL**

## **7.1 Overview**

Following the *problem analysis* phase that was illustrated in Chapter 6, this chapter discusses the next phase, *process analysis*. The main purpose is to report the analysis and the interpretation of the results that were obtained from various research methods, with the aim to respond to the following aims, objectives and research questions identified in previous chapter. However, this chapter describes the second field survey feedback obtained from the participants regarding key strategies that were discussed earlier in Chapter 6. It focuses mainly on their opinions about these strategies, planning proposals and what they want as regards the proposed study area.

This chapter continues by summarizing the process analysis of the feedback obtained on the implementation of key strategies. In section 7.3 describes the *formulation and selection of planning proposals* in the study area. Then section 7.4 describes the *results of evaluations of the sustainable urban revitalization planning proposals* that were obtained from various participants, and section 7.5 *explains developing a Model for proposing sustainable urban revitalization strategy* proposed by the study. This is followed by detailed interpretation of these results, including evaluation process, strategy and implementation and reflection on the current problems and situations. Then section 7.7 is a chapter summary.

## **7.2 Introduction**

In the process of dealing with existing analysis as well as for developing new planning, many factors have to be considered, brought together, examined and projected with relation to each other. The study of elements in isolation at any stage results into failure in one way or the other, especially in existing situation. The study needs to bring the related elements or factors together to construct and comprehend the present situation, to analyse and highlight the critical problems, and to formulate our proposals and/or suggestions according to the goals and objectives of the study set. For that, the study needs to develop a model to bring all the related factors together at different stages of the planning process.

As sustainable urban revitalization needs to be defined by the urban community in question, itself, it is essential that the same community also determines what proposal are useful in the planning of progress towards its definition of sustainable urban revitalization. Therefore, an

urban community process with representation from experts and local participant groups are necessary to develop good sustainable urban revitalization planning proposals.

### 7.3 Formulation and Selection of Sustainable revitalization planning proposal

Study believes that this part of the study is very significant for explaining the research more obviously. Therefore, the study needs to make it more clear before formulating and selecting planning proposals which has illustrated in two different parts in the following figure 7.1 –

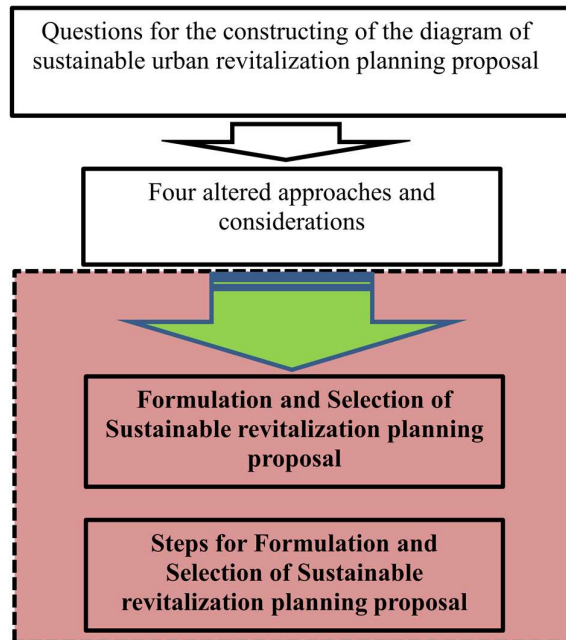


Figure 7.1: Diagram before formulating and selecting planning proposals

First, previous to construction the diagram of sustainable urban revitalization planning proposal the study proposes a framework concerning the study area with the help of different questions to know the participant’s observations and requirements. These following 10 questions (*table 7.1; annex-2*) were composed through the public participants yet again in the period of the second period of survey.

**Table 7.1: Questions for constructing of the diagram of sustainable urban revitalization planning proposal**

Serial no	Questions	Participants	
		Experts	Local People
1	What are the present situations, challenges and problems of the	√	√

	study area?		
2	What are the relationship between suitability and urban revitalization?	√	X
3	Were there any sustainable development introduced before?	√	√
4	Do you agree to do sustainable development within your neighborhood?	X	√
5	What are the functions, values and dynamics of sustainable development of this area?	√	X
6	What will be the planning and issues for revitalization proposal?	√	X
7	How and who will be the main responsible authority to implement the planning proposals?	√	X
8	How long or what strategy could be the best possible proposal for revitalization?	√	X
9	What is the main problem for sustainable development within your neighborhood?	√	√
10	What is the main reason to prefer this area to live or to business?	X	√

Note : √ Answered the question and X Not Answered the question

Second, sequentially four altered approaches and considerations also have been applied previous to formulate and selection sustainable urban revitalization planning proposal (Figure 7.2). The results and process of these approaches have been created again from the next

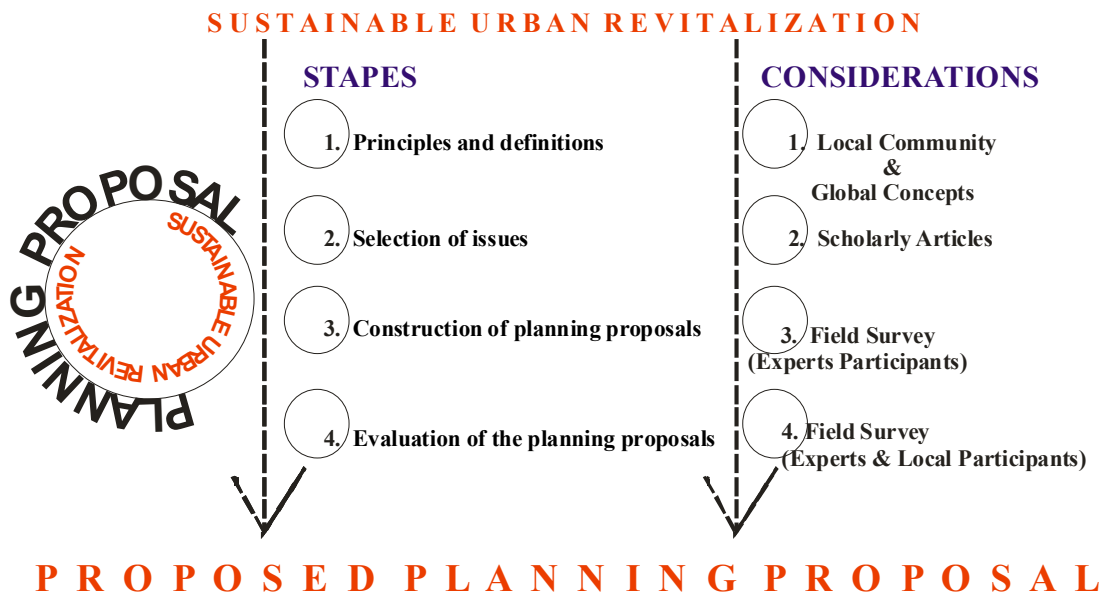


Figure 7.2: Steps and considerations of sustainable urban revitalization planning proposal

(second) survey within the study area from August, 2018 to October, 2018. In the evaluation section the expert participants were same as 1<sup>st</sup> survey and the results of local participant's (143 no) comments in the evaluation plan (Table 7.4.1: Evaluations of the sustainable urban revitalization planning proposals) were considered also from the 1<sup>st</sup> survey. But the questioning and answering techniques and considerations were different in the evolution plan (Table 7.4.1). However, complex issues that combine physical, economic and social factors may be overlooked for this plan.

Finally, to formulate and select of sustainable urban revitalization planning proposal the study will subsequently explain a four steps planning schemes -

1. *Step 1: Principles and definitions of sustainable urban revitalization*
2. *Step 2: Selection of planning issues*
3. *Step 3: Construction of the planning proposals*
4. *Step 4: Evaluation of the planning proposals*

#### 7.3.1. Step 1: Principles and definitions:

The first step in the planning development process involves the identification of the definition and the principles of sustainability. The community embarking on this project must identify which definition they are employing and on which specific principles they are basing their project. Therefore, at first this present study put up two different but intra-related definitions, principles and diagrams (figure 7.3.1.1 and figure 7.3.1.2) which is globally well received and through public participant's process by experts and local participants –

- a. Strategic planning of revitalization diagram
- b. Strategic planning of Sustainable Urban Revitalization diagram

#### Proposed strategic planning in revitalization diagram

Revitalization is a straightforward conceptualization of management, which implies the protection of historic urban areas as being mainly due to certain intangible aesthetic value, architectural and environmental values, values as a part of cultural heritage, and the value of the continuity of the memory of citizens/communities. Globally revitalizing historic urban areas involves both the renewal of the physical fabric and the active economic use, or utilization, of buildings and spaces. In other words, they indicate that revitalization is a three-way process, which includes physical, economic and social revitalization. Physical revitalization results in an attractive, well-maintained physical and public realm. However, physical revitalization alone is unsustainable and relatively temporary or transient. Historic urban areas often need to retain a viable economic function and in the longer term, a deeper economic revitalization, together with a social revitalization in order to benefit from

revitalization in the long term. The figure 7.3 shows the proposed strategic planning of revitalization within the study area through global and public participant’s concerns.

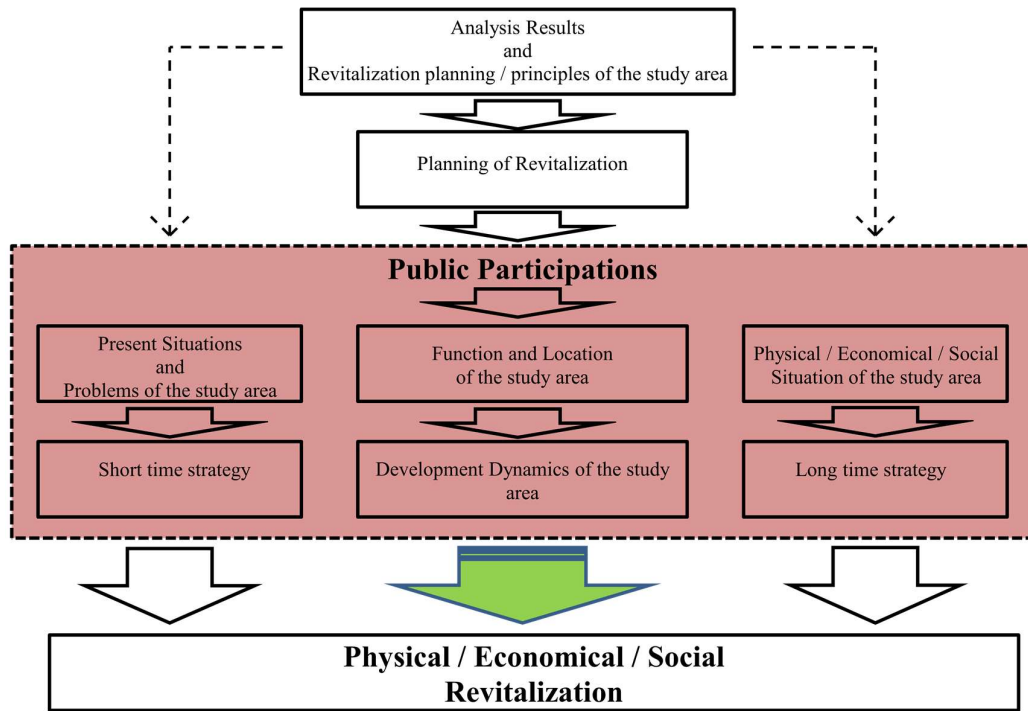


Figure 7.3: Proposed strategic planning of revitalization diagram

Proposed strategic planning in sustainable urban revitalization diagram

Sustainability is about meeting basic human needs and wants. People value their health, economic security and happiness and that of their children. These are primary elements in relation to the issue of quality of life. Sustainability refers to “long-term economic, environmental, and community health” (Bauen et al., 1996, p. 4). According to Bauen et al. (1996), it was suggested that researching and identifying new ways of creating economic vitality, maintaining a healthy environment and building healthy communities and meeting local needs.

As discussed previously, the urban revitalization process should deal with three systems — physical, economic and social—of the historic environments in order to be successful enduring and sustainable. It is assumed that if the urban revitalization process is applied to the aforementioned three systems, healthy and sustainable historic environments will result; sustainable communities in such environments can also be handled with the help of urban revitalization (Oktay, 2005).

Tallon (2010) defines the causal relationship between urban revitalization and urban strategy by stating that urban revitalization is a significant component of wider urban strategy, which

is not necessary exclusively concerned with revitalization. Indeed, in broad terms, urban strategy relates to urban areas and urban process, and also to the population who live in these urban areas together with the resolution of urban problems. Roberts and Sykes (2000) also note this wide scope and suggest that urban strategy is a course of action adopted and pursued by the government and that it is an approach, method, practice, and code of conduct. As such, urban revitalization needs to be seen as the results of the interplay of the above processes. Having reviewed the literature, it can be stated that the "Sustainability and Urban Revitalization" the two different concepts, sustainability and revitalization, are directly related. Accordingly, depending on the three-dimensional characteristics of sustainability and revitalization, the relationship between these two concepts is explained in figure 7.4.

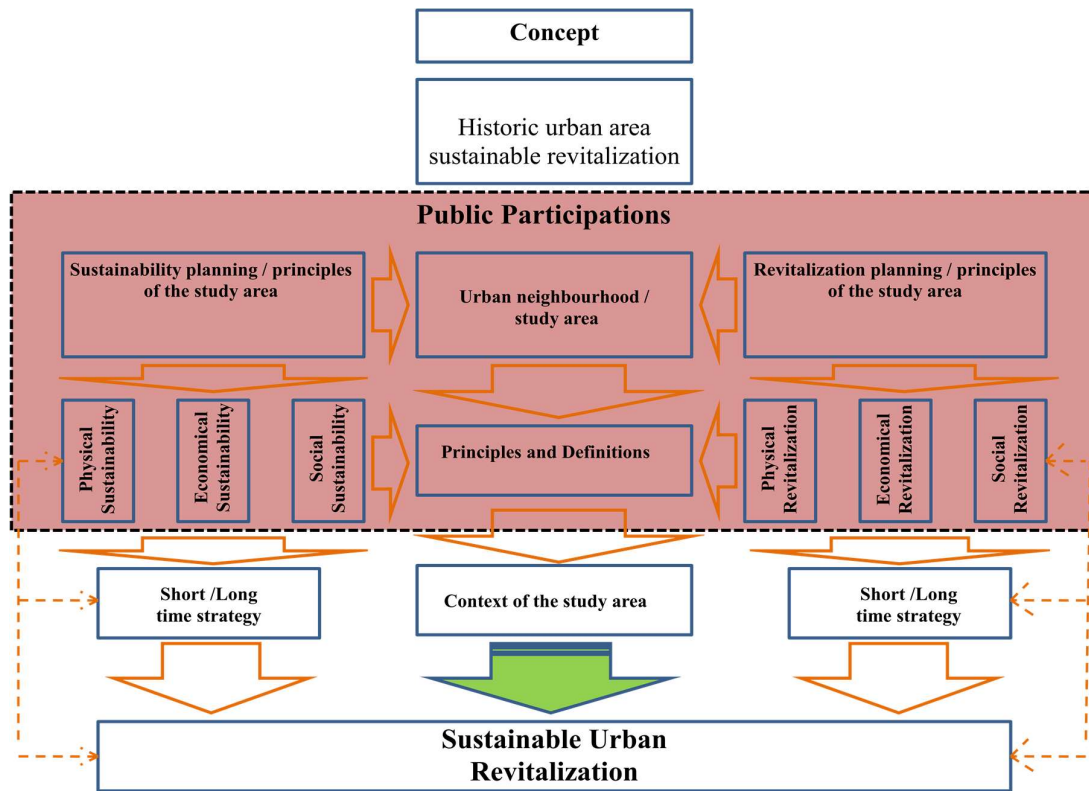


Figure 7.4: Proposed strategic planning of Sustainable Urban Revitalization diagram

7.3.2. Step 2: Selection of planning issues:

After an agreement is reached on the principles, definitions and proposed diagram of sustainable urban revitalization, the next step of the study proposed “the selection of the planning issues or components” of sustainable urban revitalization for a particular community. There are a number of core issues, which “are applicable to any community” like physical, social and economic stipulation. But the present research revealed that the planning

issues for a community’s project must also include the important local concerns. However, this step of the process can best be done through a review of the literature to determine the global issues and matching that against local concerns raised through public participation or prior planning activities.

Therefore, the study has produced a final set of criteria for sustainable urban revitalization planning issues by assessment of the following four several global concerns -

- Main issues of Sustainable City
- Scholarly works and articles,
- The Related International Charters and
- The European Union (EU) Guidance on sustainable urban revitalization, urban regeneration, and urban rehabilitation and proposes for the sustainable urban revitalization issues in terms of planning outcomes and planning processes. It should also consider physical, social and economic factors of the local context.

7.3.2.1. Main issues of Sustainable City

A city is only considered to be sustainable when:

- It follows a development path where the present progress does not take place at the expense of future generations (i.e. bad planning, debt, environmental degradation, etc. does not export present problems to the future).
- There is equilibrium between different issues. In other words, the goal is an across-the-board development, instead of handling issues one by one.

To give an idea of some of the issues that were considered by participating organizations, please see the following tables. Certainly, the significance of each of these issues differs in importance from city to city depending on the given city’s background. For example, in India the most important urban issue is the migration of people to the cities, while in Europe transportation is important, or in North America urban sprawl is the most pressing issue. Therefore, each table lists the most significant issues in order of importance which are later considered as the present study for sustainable urban revitalization planning criteria.

Main issues in a sustainable city in Central and Eastern Europe

The following table shows those issues that were identified by the Regional Environmental Center for Central and Eastern Europe as the most important issues in its beneficiary countries. The table 7.2 ranks the issues by order of importance.

**Table 7.2: Main issues in a sustainable city in Central and Eastern Europe**

Economy	Land use	Society	Environment
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Economic transition to market economy	Transportation (roads, trains)	Jobs	Energy (renewable/non-renewable)
Energy efficiency	Green areas	Housing	Sewage
Public transport vs. cars	Ecological footprint	Social welfare	Solid waste
Waste prevention & reduction	Industrial sites	Civil society/public participation in decision making	Air pollutants
Legislation/enforcement	Buildings	Law & order	Raw materials (mining, agriculture, recycling)
Financial institutions/instruments	Urban sprawl	Education	Water
Pollution paid for by the polluter	Landfills	Immigration	Food
Abandoned industrial sites	Zoning/planning	Health	Fresh air
		Access to Information	Noise
		Crime	
		Competence/ capability/ cooperation of stakeholders	
		Poverty	
		Aesthetic value of a city	
		Population (population size, demographique trends)	
		Culture	
		Environmental awareness	
		Ethnic/social Segregation	



Historic  
preservation

Main issues in a sustainable city in Sweden

The following table shows those issues that were identified by the Stockholm Environment Institute. The table 7.3 ranks the issues by order of importance.

**Table 7.3: Main issues in a sustainable city in Sweden**

<b>Economy</b>	<b>Land use</b>	<b>Society</b>	<b>Input/output/throughput</b>
Communication	Transportation (roads, trains)	Health, Social welfare	Food (Technology)
Technology	Rural/Urban	Crime / law & order	Water
Knowledge based	Fringe	Recreation	Noise
Large share of public transport	Green areas	Education	Air pollutants / fresh air
Legislation/ enforcement	Zoning/planning/ Compact (minimal urban sprawl)	Access to information	Solid waste
Financial institutions/ instruments	Low cost housing	Jobs	Sewage
Energy efficiency	Brownfield Development	Culture	Energy (renewable/non- renewable)
Minimal waste	Buildings	Immigration	Raw materials (mining, agriculture, recycling)
Recycling	Industrial sites	Poverty	
Pollution paid for by the polluter / taxation	Landfills	Ethnic/social Segregation	
Abandoned	Ecological	Environmental	

industrial sites	footprint	awareness
		Competence/ capability/ cooperation of stakeholders
		Historic Preservation
		Civil society/public participation in decision making
		Population (population size, demographique trends)
		Aesthetic value of city

Main issues in a sustainable city in Canada

The following table 7.4 shows those issues that were identified by the international institute for sustainable development in Canada.

**Table 7.4: Main issues in a sustainable city in Canada**

<b>Economy</b>	<b>Land use</b>	<b>Society</b>	<b>Input/output</b>
Knowledge based	Compact (minimal urban sprawl)	Law & order	Food
Minimal transport needs	Transportation (roads, trains)	Population (population size, demographique trends)	Energy (renewable/non-renewable)
Large share of public transport	Green areas	Immigration	Raw materials (mining, agriculture, recycling)
Minimal waste	Buildings (including a section on the successes and potential of "green	Social welfare	Water

	building" projects [eco-village / eco-housing projects]		
Recycling	Industrial sites / eco-industrial parks	Health	Fresh air
Legislation/enforcement	Ecological footprint	Civil society/public participation decision making	in Sewage
Financial institutions/instruments	Zoning/planning	Crime	Air pollutants
Abandoned industrial sites	Landfills	Aesthetic value of a city	Solid waste
Pollution paid for by the polluter		Jobs	Noise
Energy efficiency		Culture	
		Ethnic/social segregation	
		Competence/capability/cooperation of stakeholders	
		Education	
		Poverty	
		Access to information	
		Historic preservation	
		Environmental awareness	

*Main issues in a sustainable city in Argentina*

The following table 7.5 shows those issues that were identified by Foundation Ambiente y Recursos Naturales (FARN) in Argentina.

**Table 7.5: Main issues in a sustainable city in Argentina**

<b>Economy</b>	<b>Land use</b>	<b>Society</b>	<b>Input/output</b>
Emerging economy	Transportation	Country/city migration	Food

Industry pollution	Green areas	Poverty	Raw materials
Legislation enforcement	Zoning/planning	Law and order	Water
Waste prevention and reduction	Landfills	Jobs	Fresh air
Recycling	Floods	Public participation in decision making	Sewage
Energy efficiency	Water pollution	Environmental awareness	Solid waste
		Access to information	Noise
			Air pollutants

Main issues in a sustainable city in India and China

In India and China, the important issues are the following, table 7.6 ranked by importance:

**Table 7.6: Main issues in a sustainable city in India and China**

<b>India</b>	<b>China</b>
Population	Establish a Long-Term Vision
Transportation	Design for People
Large share of public transport	Conserve Cultural Heritage
Health	Create Integrated Networks
Water	Optimize Land Use
Legislation/enforcement	Vitalize Public Space
Zoning/planning	Foster Collaboration
Air pollutants	Build Healthy and Sustainable communities
Sewage	Integrate Economic Development
Landfills	Promote Diversity - and Make It Beautiful

7.3.2.2. Scholarly Works

The scholarly works that the present study assessed for developing a set of criteria for selecting sustainable urban revitalization issues include scholarly books, working papers and articles (table 7.7).

<b>Table 7.7: Criteria for Selecting Sustainable Urban Revitalization Issues</b>			
<b>Field Of Criteria</b>	<b>Roberts 2000</b>	<b>Akkar 2006</b>	<b>Lang 2005</b>
	The “Evolution Definition and Purpose of Urban Regeneration”	“Kentsel dönüşüm üzerine Batı’daki kavramlar, tanımlar, süreçler ve Türkiye” Planlama, Vol. 2, pp. 29–39	“Insights in British Urban Decline and Urban Regeneration”
<b>PHYSICAL</b>	1-Rehabilitation of existing housing stock, sustaining healthier public spaces for all inhabitants - Improving housing to attract new residents, giving attention to region wide housing allocation processes - Improving image of the district, city	-	-
<b>ECONOMIC</b>	1- Funding opportunities in national and international level should be recognized for Urban Regeneration projects. 2- Efficient use of financial resources	-	-
<b>SOCIAL</b>	1- Access good and services, - Reduce poverty, social exclusion 2-Right for shelter	-	-

	3-Taking into account of the local identity, social ties among inhabitants	-	-
	-	1-The projects are the parts of strategies which were developed as an extension of certain visions.	-
	2-Sustaining public participation in decision making processes	2-Sustain Consensus of all groups, collaboration of various sectors (public-private sectors, NGOs) and increase public participation levels	2-Developing partnership between public and private actors
	-	3-Besides physical dimensions of the Urban Regeneration projects socioeconomic-cultural dimensions should be considered and feedbacks should be done in the process of the project.	3-Urban regeneration is a multidimensional process
	-	4-Making research about the project area to make true analysis, to reach successful solutions	-
	-	5-Foundation of Urban Regeneration projects, communication departments in municipalities...etc.	-
	-	6-Sustain inhabitants to access information related to their living environment	-

**PLANNING PROCESS**

7.3.2.3. International agreements

International agreements for Urban Regeneration projects (table 7.8) are crucial guidelines for all countries. They represent agreements and declaration of the countries that propose to follow the suggestions, responsibilities and rules that mentioned in the relevant declaration documents. So that signing these charters have an international effect over the socio-economic, cultural, and ecological policies of countries.

**Table 7.8: International agreements for Urban Regeneration projects**

<b>Field Of Criteria</b>	<b>Agenda 21, 1992</b>	<b>Habitat II Second United Nations Conference On Human Settlements Istanbul, Turkey (3-14 June 1996)</b>	<b>New Athens Charter, 2003</b>
<b>PHYSICAL PLANNING</b>	-	1- Extending public services and infrastructure, creating safe living environments	1-Improving image of the city
	-	2-Promoting the conservation, rehabilitation and maintenance of buildings, monuments, open spaces, landscapes and settlement patterns of historical, cultural, architectural, natural, religious and spiritual value.	-
	-	-	3-Revival of urban design to improve the conditions in the built environment such as streets
<b>ECONOMIC PLANNING</b>	-	1-Generating sufficient employment opportunities	-
	-	-	2-Improving functions of city centers
	-	3-Financing shelter and	3-Sustaining accessibility to

SOCIAL PLANNING

	human settlements - Enhancing access to land and credit and assisting those who are unable to participate in housing markets	services and housing with affordable prices
4-Promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries	-	-
1- Providing adequate shelter - Promoting health - Decrease the disparities in standards of living, eradicating poverty	1-“Adequate shelter for all” education, nutrition and life -span health care services - Eradicate rural poverty and to improve living conditions	1- Maintaining public housing by public sector
-	2-Sustaining gender equity - Produce solutions for poverty, homelessness, unemployment, lack of basic services, exclusion of women and children and of marginalized groups	-
-	3- Preserve diversity of settlements to promote solidarity among all people.	-
-	4-Extend adequate	-



		infrastructure, public services and employment opportunities to rural areas	
	-	-	5-Preserve cultural richness and diversity
<b>PLANNING PROCESS</b>	1-Developing participation processes and integrating Major Groups such as (children, youth, women, NGOs, local authorities, business and workers) into decision making processes.	1- Develop integrated and participatory approaches	1-Involve the local community activities, sustaining participation
	2-Facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress or remedy, shall be provided	-	-
	3-Determining a vision for strategic, long term plans.		3-Creating “Connected City” - Determines various roles for planners in the planning process

(Source: Adapted from Agenda 21 (1992), Habitat II (1996), New Athens Charter (2003))

*7.3.2.4. European Union (EU) Guidance on Urban Rehabilitation (2004)*

	<b>Field Of Criteria</b>	<b>From “the European Union Guidance on urban Rehabilitation,” (2004)</b>
<b>PLANNING PROPOSAL</b>	<b>PHYSICAL PLANNING</b>	<p>1- To upgrade and adapt the old buildings internal structures to the demands of modern life with the preservation of heritage value. (adaptation to needs of today’s society)</p> <ul style="list-style-type: none"> <li>- Respecting specific morphology of old districts</li> </ul> <hr/> <p>2-Improving the quality of public areas and collective infrastructure and public facilities for the benefit of all residents</p> <hr/> <p>3- Improving housing maintenance of low-income groups</p>
	<b>ECONOMIC PLANNING</b>	<p>1-Making rehabilitated buildings more attractive than new housing in terms of cost</p> <ul style="list-style-type: none"> <li>- Sustaining subsidies or direct action in respect of (social) housing renovation, improvement of living conditions, economic redevelopment</li> </ul> <hr/> <p>2-Avoiding or rejecting weaker functions and urban district mono-functionalism(single-use)</p> <hr/> <p>3-The heritage becomes a major resource of economic development, which in turn benefits the heritage. Job benefits in many secondary and tertiary activities: restoration of the old building stock; provision of community facilities and infrastructures; cultural and economic activities linked with tourism.</p> <ul style="list-style-type: none"> <li>- Indirect advantages to the entire community: enhancement of the town’s corporate image, appreciation of real estate, greater well-being and sense of identity among the population, progress and social cohesion, etc.</li> <li>- Promoting sustainable tourist development in old districts.</li> </ul>
	<b>SOCIAL PLANNING</b>	<p>1-Rights to basic needs: housing, employment, health, social protection, education and non- discrimination</p> <hr/> <p>2- Maintaining or increasing social variety as a factor of common heritage.</p>
<b>PLANNING PROCESS</b>		<p>1-Sustaining involvement of all groups in decision making processes</p> <hr/> <p>2-Political commitment has direct impact on the population’s acceptance and motivation of operational teams.</p>

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3-Interdisciplinary teams are necessary to analyze main components of the urban fabric (road routes, sectioning, building typology and heritage values).

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4-Regional level projects must be an integral part of an overall urban development plan. At district level, the physical (housing situation, streets, squares, open spaces, inner gardens of housing groups) and social (life of the community, social bonds, memory of a locality) characteristics should be identified.

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5-The projects take legal status within plans. Legal land-use and planning instruments are important encouragements for authorities while implementing URPs.

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6- Project should be organized in realistic and easily manageable steps because certain budget and policies are determined for projects in certain time intervals.

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**Table 7.9. Urban Regeneration projects according to the *EU Guidance on Urban Rehabilitation*; (Source: Adapted from the *EU Guidance on Urban Rehabilitation*, 2004)**

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*7.3.2.5. The Set of Criteria for Urban Regeneration / Revitalization projects*

Following table 7.10 shows the final set of planning criteria for Urban Regeneration projects that this thesis developed based on the comparison of scholarly works, international charters, EU Guidance.

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**Table 7.10: Final set of criteria for urban regeneration / revitalization projects**

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FIELD OF ISSUES	FINAL SET OF PLANNING CRITERIA
<b>PLANNING PHYSICAL PLANNING</b>	1. Identifying and evaluating site properties (physical, economic, cultural)
	2. Improving living standards in the built environment
	3. Promoting and integrating heritage conservation in modern life
	4. Improving quality of housing stock for low income groups
	5. Revitalizing urban design

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<b>ECONOMIC PLANNING</b>	<ol style="list-style-type: none"> <li>1. Using economic potentials of the site               <ol style="list-style-type: none"> <li>a) Indigenous economic activities such as traditional jobs</li> <li>b) redundant lands and historical building stock</li> <li>c) training of unemployed or unskilled workers on site</li> </ol> </li> <li>2. creating new job</li> <li>3. financing shelter provision</li> <li>4. Controlling changes in ownership pattern and land speculation for residential stability</li> <li>5. Developing multi-functional economic activities in urban areas</li> <li>6. Promoting funds and economic international relationships</li> </ol>
<b>SOCIAL PLANNING</b>	<ol style="list-style-type: none"> <li>1. Providing shelter, health services and education opportunities</li> <li>2. Eradicating rural poverty</li> <li>3. Giving priority to marginal groups for access to basic services,</li> <li>4. Sustaining gender equity</li> <li>5. Minimizing rural to urban migration</li> <li>6. Protecting cultural identity and respecting living style of al</li> <li>7. Taking into account of social ties</li> </ol>
<b>PLANNING PROCESS</b>	<ol style="list-style-type: none"> <li>1. Developing a planning approach</li> <li>2. Improving decision making process</li> <li>3. Having a dedicated and consistent public authorities</li> <li>4. Organizing a technical –operational team to provide back-up</li> <li>5. Arranging appropriate legal instruments</li> <li>6. Taking into account of the time factor</li> <li>7. Developing access to information and knowledge about projects</li> </ol>

### 7.3.3. Step 3: Construction of the planning proposals:

After the relevant issues have been identified and put into the form of a question, step 3 of the study proposed a precise way to answer those questions regarding physical, economic and social sustainable revitalization planning proposal for the present study area. Planning proposals may already exist in the literature, which can be borrowed or adapted for the purpose of answering an issue question. According to many researchers in the cases where indicators are not readily available, new planning proposals may need to be constructed:

therefore, the study constructed a set of questions and its planning proposals relevant to the study through expert participants (table 7.11):

**Table 7.11: Construction of the planning proposals**

<b>Issues</b>	<b>Questions (considered sustainable planning)</b>	<b>Planning proposals (within the study area)</b>
<b>Physical Planning</b>	1. Is the present physical and environmental planning sustainable?	1. Riverside development and its physical condition
	2. Is this present planning considering context?	2. Drainage systems and Noise pollutions with the aim of improving its efficiency and facilities.
<b>Physical Planning</b>	3. Is local physical planning attracting visitors?	3. Provision of basic services such as waste management and sewage
	4. Is there any illegal built form?	4. Road network, transportation systems and level of service
	5. Are all roads connected to each other?	5. Provision of various means for public transport and its management
	1. Is the present Economic Planning healthy and considering sustainability issue?	1. Employment and unemployment condition
	2. Is present economic condition helpful for urbanity and businessmen?	2. Shopping environment, facilities and services
<b>Economic Planning</b>		3. Sustained increase in the economic standard of living within the study area, with the aim of balanced growth and stability.

<b>Social Planning</b>	<ol style="list-style-type: none"> <li>1. Is the present community healthy socially?</li> <li>2. Is this community considering accessibility and open spaces as a social interaction?</li> </ol>	<ol style="list-style-type: none"> <li>1. Accessibility towards public services</li> <li>2. Open spaces and recreation facilities</li> <li>3. Ensuring equal access and balance investment among all the neighborhood</li> </ol>
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7.3.4. Step 4: Evaluation of the planning Proposals:

Since there are many planning proposals available for the purposes of achieving sustainable revitalization, therefore the evaluation process of this study includes many stages. That is why the fourth step of the evaluation of the planning proposals process, which is that of evaluation, will be explained and outlined in more detail. This thesis therefore proposes an integrated evaluation process through a thorough understanding and final planning proposals of the study area by setting up an interview yet again with same experts group (chapter 6). Though there are three main goals of revitalization in urban neighbourhoods this research proposes to analyse and the sustainable revitalization framework against these goals. As such, the following effects: improving the physical environment; promoting economic vitality; and promoting social conditions, are the three main effects that will be consider again in this study. A more specific planning has therefore been established for evaluating the policy effectiveness of sustainable urban revitalization within the proposed *Boro Bazaar* area. The results from both the in-depth interviews (experts) and survey-based interviews (local people, previous results), as well as the results from the survey will then be consider against these effects (Table 7.3.4.).

However, to evaluate planning proposals this research process two types of consideration were scheduled through experts and local participants.

- The experts group requested to answer "*consideration 1*" which was developed by the author from the literature review / final set of possible outputs (previous section) and from the present situations of the study area (chapter 6; problems and present situations analysis phase–results and explanation). In this process again same experts group from – KCC (Khulna City Corporation), KDA (Khulna Development Authority), AC (Academician) and LC (Local Consultant) were selected to split their planning proposals concerning the study area.
- At this time local participants were not directly requested again to join this evaluation

process, therefore this study only relocate their previous survey results as an evaluation technique. Now this evaluation method planned to local participant's concerns "*consideration 2*" (satisfactions about present situations and sustainable issues; chapter 6) named as "*occupation*" group – DM (Daily Market), GM (Garments), HW (House Wife), SE (Service), SV (Street Vendor), ST (Student) and WS (Wholesale) were selected (chapter 6).

#### 7.3.4.1. Physical revitalization planning proposal in the study area

In the "*consideration 1*" the evaluation method (table 7.3.4.) has selected seven different issues and sustainable physical revitalization planning proposals within the study area by the expert's groups –

1. Identifying and evaluating site properties (physical, social, economic, cultural)
2. Improving living standards in the built environment to attract new functions
3. Recovering urban network and public services with existing situations
4. Reviving urban design
5. Providing inclusive & quality public space (including public realm such as street furniture)
6. Enhancing the accessibility in the study area (public traffic links~ pedestrian connection)
7. Promoting and integrating heritage conservation in modern life

Again in the "*consideration 2*" the evaluation method (table 7.3.4.) has selected five different issues and sustainable physical revitalization planning proposals within the study area by the both local and experts' participants. The local participants ("*occupation*" group) explained their satisfaction regarding present situations which are listed only in the evaluation method.

According to the findings of the interviews regarding physical planning proposal, all four respondent groups shared similar opinions on the first, second, third and fourth of the physical planning proposal within the study area. But respondent groups sheared different opinions on the fifth, sixth and seventh planning proposal. All experts agreed that the physical situation in the study area has been significantly improved if the study considers especially first four proposals for physical planning within the study area.

With regard to the sustainable development of physical planning this was generally viewed as been incompletely unsuccessful and unplanned within the study area. The respondent groups considered that if the existing physical planning has been enhanced, recovering urban network and public services with existing situations revive urban design, riverside development then the area will achieve a good urban area. The experts were able to identify a

number of examples of this present perceived lack of urban quality in the study area. For example, it was felt that few opportunities can be created for businessmen, visitors and local people to continue and spend time in this area. Indeed, a lack of street furniture and pedestrian connections was also noted by the AC (Academician) and LC (Local Consultant). The expert groups also shared their continued dissatisfaction with regard to accessibility within the study area and with the neighbouring city centre. Respondents commonly focussed on the lack of public transport links, the poor condition of pedestrian routes to and from the city centre, and considered that the traffic management was poor. The consensus was that improving accessibility needed to be top of the agenda for future interventions if the city is to achieve its aim and the area creating an attractive destination for residents, businessmen and investors. Significantly, there were contrasting opinions with regard to the assessment criterion of "Providing inclusive & quality public space and accessibility and promoting and integrating heritage conservation in modern life". Both the local authority (KDA and KCC) planning officer considered that presently without financial support it is very difficult to propose a better inclusive, quality public space and accessibility plan within this area" ... most of the pedestrian have been occupied by street vendors and narrow in width" ... used for either loading-unloading purpose or for extra space accumulated illegally." In contrast, the other two groups (AC and LC) considered that these desired situations can be achieved if the local authority manage it proper planning consideration. In addition, particularly the local respondents felt that many of the streets, drainage, river side and transportation systems inside the study area still needed "... urgent physical improvement and required physical planning" and that without this the area would still have a " ... poor image with local people and visitors. Following table 7.12 statistical information shows the previous survey results explained by the local participants regarding study area. Then these results have been listed in the evaluation table (table 7.15, Consideration 2).

**Table 7.12 : Statistical information of Occupation with physical facilities  
Occupation & Transportation Cross tabulation**

		Transportation			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	3	14	3	20
		% within Occupation	15,0%	70,0%	15,0%	100,0%
	Garments	Count	2	31	29	62
		% within Occupation	3,2%	50,0%	46,8%	100,0%
	House Wife	Count	1	6	2	9
		% within Occupation	11,1%	66,7%	22,2%	100,0%



Service	Count	2	1	2	5
	% within Occupation	40,0%	20,0%	40,0%	100,0%
Street Vendor	Count	0	4	2	6
	% within Occupation	0,0%	66,7%	33,3%	100,0%
Student	Count	1	7	2	10
	% within Occupation	10,0%	70,0%	20,0%	100,0%
Wholesale	Count	4	12	15	31
	% within Occupation	12,9%	38,7%	48,4%	100,0%
Total	Count	13	75	55	143
	% within Occupation	9,1%	52,4%	38,5%	100,0%

### Occupation & Riverside area Cross tabulation

		Riverside area			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	0	17	3	20
		% within Occupation	0,0%	85,0%	15,0%	100,0%
Garments	Count	0	56	6	62	
	% within Occupation	0,0%	90,3%	9,7%	100,0%	
House Wife	Count	1	8	0	9	
	% within Occupation	11,1%	88,9%	0,0%	100,0%	
Service	Count	0	5	0	5	
	% within Occupation	0,0%	100,0%	0,0%	100,0%	
Street Vendor	Count	0	5	1	6	
	% within Occupation	0,0%	83,3%	16,7%	100,0%	
Student	Count	1	9	0	10	
	% within Occupation	10,0%	90,0%	0,0%	100,0%	
Wholesale	Count	1	26	4	31	
	% within Occupation	3,2%	83,9%	12,9%	100,0%	
Total	Count	3	126	14	143	
	% within Occupation	2,1%	88,1%	9,8%	100,0%	

### Occupation & Width of Road and Side walk Cross tabulation

		Width of Road and Side walk			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	0	13	7	20
		% within Occupation	0,0%	65,0%	35,0%	100,0%
Garments	Count	5	44	13	62	
	% within Occupation	8,1%	71,0%	21,0%	100,0%	
House Wife	Count	1	6	2	9	
	% within Occupation	11,1%	66,7%	22,2%	100,0%	
Service	Count	0	4	1	5	
	% within Occupation	0,0%	80,0%	20,0%	100,0%	
Street Vendor	Count	1	4	1	6	

	% within Occupation	16,7%	66,7%	16,7%	100,0%
Student	Count	2	5	3	10
	% within Occupation	20,0%	50,0%	30,0%	100,0%
Wholesale	Count	5	20	6	31
	% within Occupation	16,1%	64,5%	19,4%	100,0%
Total	Count	14	96	33	143
	% within Occupation	9,8%	67,1%	23,1%	100,0%

### Occupation & Air and Noise pollution Cross tabulation

		Air and Noise pollution			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	0	17	3	20
		% within Occupation	0,0%	85,0%	15,0%	100,0%
	Garments	Count	4	51	7	62
		% within Occupation	6,5%	82,3%	11,3%	100,0%
	House Wife	Count	1	7	1	9
		% within Occupation	11,1%	77,8%	11,1%	100,0%
	Service	Count	1	3	1	5
		% within Occupation	20,0%	60,0%	20,0%	100,0%
	Street Vendor	Count	0	5	1	6
		% within Occupation	0,0%	83,3%	16,7%	100,0%
	Student	Count	0	10	0	10
		% within Occupation	0,0%	100,0%	0,0%	100,0%
	Wholesale	Count	4	25	2	31
		% within Occupation	12,9%	80,6%	6,5%	100,0%
Total	Count	10	118	15	143	
	% within Occupation	7,0%	82,5%	10,5%	100,0%	

### Occupation & Drainage system Cross tabulation

		Drainage system			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	1	18	1	20
		% within Occupation	5,0%	90,0%	5,0%	100,0%
	Garments	Count	3	54	5	62
		% within Occupation	4,8%	87,1%	8,1%	100,0%
	House Wife	Count	0	7	2	9
		% within Occupation	0,0%	77,8%	22,2%	100,0%
	Service	Count	0	2	3	5
		% within Occupation	0,0%	40,0%	60,0%	100,0%
	Street Vendor	Count	0	6	0	6
		% within Occupation	0,0%	100,0%	0,0%	100,0%
	Student	Count	0	10	0	10
		% within Occupation	0,0%	100,0%	0,0%	100,0%

Wholesale	Count	2	23	6	31
	% within Occupation	6,5%	74,2%	19,4%	100,0%
Total	Count	6	120	17	143
	% within Occupation	4,2%	83,9%	11,9%	100,0%

#### 7.3.4.2. Economic planning proposal in the study area

In the sustainable economic planning proposal process, four proposals have been set in the "consideration 1" by the study which were evaluated by the expert's participants for sustainable economic revitalization planning within the study area. These were:

1. Using economic potentials of the site
  - Sustainable policy for redundant lands and historical building accumulation
  - Training of unemployed or unskilled workers on site
2. Protecting and promoting local economic activities (e.g. traditional jobs).
3. Stimulating investment, creating new job and safe and secured places for all
4. Developing multi-functional economic activities in the study area
5. Increasing land (rent) values and reducing vacancy levels

Once more local participants also explained their views about employment area and shopping facilities which has been listed in the "consider 2" (table 7.15, "occupation" group) line for sustainable economic revitalization within the study area.

Exclusively, expert respondents considered that this study area has good economic potentials because of its traditional jobs which produce lot of revenue throughout the year. But they felt that the main problem is to use the area still without any sustainable economic policy, such as this area has some redundant lands and historical building which can attract visitors and earn funds by proper sustainable planning.

The expert groups (except KCC) explained that the study area has multi-functional range of economic activities and great possibilities to increase its economic circumstances by the revitalization planning proposal. Therefore, the planning proposal should have encouraged present multi-functional range of economic activities in the study area. Significantly, this was a key aim of many of the strategies for the *Boro Bazaar* and many new economic groups have been attracted to the area (such as a variety of residential hotel and small industries) and that many existing functions have been enhanced (such as resident community and business area). More recently, however, the area has seen greater diversity as more new employment opportunities particularly creative industry related, have been brought into the area which should take into consideration with innovative planning proposals.

All interviewees agreed that there is a causal relationship between encouraging multi-functional economic activities and the generation of employment opportunities. Indeed, the range of multi-functional economic activities in the area has created many job opportunities not only in business industries but also in innovative small industries. In particular, they concurred on the first of the economic planning proposal and there was only disagreement with regard to the panning of stimulating investment and increasing land (rent) values and reducing vacancy levels. Although expert from KCC groups argued with other’s ideas and explained that the investment should stimulated by planning strategies and it should be safe and secured for all. Expert groups also agreed with regard to the inevitability of new trained and skilled workers in the study area.

Significantly, with regard to the profile and image of the *Boro Bazaar area*, two expert groups - KCC, AC in the interviews agreed that the land and rental values have increased over the period. They argued that "increasing land (rent) values and reducing vacancy levels" are not proper way to increase the economical situations although vacant areas should be planned in a sustainable manner.

However mostly the local participants felt that many of the employment and shopping spaces are well planned and they showed their satisfaction inside this evaluation method. Although about these issues, the study and the expert groups are not fully satisfied with them. Expert groups believed that the local participants were not be aware or the study fails to explain them properly regarding the sustainable planning proposals within this area. Following statistical (Table 7.13) information shows the previous survey results explained by the local participants regarding study area and these results has been listed in the evaluation table (consideration 2).

**Table 7.13 : Statistical information of Occupation with economical facilities  
Occupation & Employment / Job Cross tabulation**

Occupation			Employment / Job			Total
			Don't know	Not Satisfied	Satisfied	
Daily Market	Count		2	4	14	20
	% within Occupation		10,0%	20,0%	70,0%	100,0%
Garments	Count		4	18	40	62
	% within Occupation		6,5%	29,0%	64,5%	100,0%
House Wife	Count		1	5	3	9
	% within Occupation		11,1%	55,6%	33,3%	100,0%
Service	Count		0	3	2	5
	% within Occupation		0,0%	60,0%	40,0%	100,0%
Street Vendor	Count		1	2	3	6

	% within Occupation	16,7%	33,3%	50,0%	100,0%
Student	Count	1	4	5	10
	% within Occupation	10,0%	40,0%	50,0%	100,0%
Wholesale	Count	2	9	20	31
	% within Occupation	6,5%	29,0%	64,5%	100,0%
Total	Count	11	45	87	143
	% within Occupation	7,7%	31,5%	60,8%	100,0%

### Occupation & Shopping Facilities Cross tabulation

Occupation		Shopping Facilities			Total
		Don't know	Not Satisfied	Satisfied	
Daily Market	Count	0	5	15	20
	% within Occupation	0,0%	25,0%	75,0%	100,0%
Garments	Count	1	15	46	62
	% within Occupation	1,6%	24,2%	74,2%	100,0%
House Wife	Count	1	2	6	9
	% within Occupation	11,1%	22,2%	66,7%	100,0%
Service	Count	1	0	4	5
	% within Occupation	20,0%	0,0%	80,0%	100,0%
Street Vendor	Count	0	2	4	6
	% within Occupation	0,0%	33,3%	66,7%	100,0%
Student	Count	0	5	5	10
	% within Occupation	0,0%	50,0%	50,0%	100,0%
Wholesale	Count	1	6	24	31
	% within Occupation	3,2%	19,4%	77,4%	100,0%
Total	Count	4	35	104	143
	% within Occupation	2,8%	24,5%	72,7%	100,0%

#### 7.3.4.3. Social planning proposal in the study area

In terms of achieving sustainable social revitalization in the study area there were four planning proposal considered by the experts:

1. Taking into account of social ties, equity and neighbourhood-social structure.
  - giving priority to minority groups for access to basic services
  - Social interaction with business men and local residents by creating more open spaces and provide recreation facilities
2. Protecting cultural identity and respecting living style for all
3. Enhancing the accessibility in the area (school, college, hospital, and mosque).
4. Minimizing rural to urban migration

Again from the previous field survey, the local respondents and experts group explain two different issues as their proposal for planning of social sustainability with the study area:

1. Accessibility towards Public services
2. Open spaces and Recreation facilities

Uniquely, all four expert respondents considered that the criteria within the sustainable social revitalization section have been very difficult to achieve in this study area. It was evident to all respondents that the social revitalization activities have not only retained the existing residential and business communities but also attracted a considerable number of new residents and workers. With the exception of the local authority planning officer, the other respondent groups did not have data to support this view, but all were confident that the visible signs of economic activity and people on the street were a clear indication of increased workers and residents. Indeed, the local authority planning officer was able to confirm that within the study area more jobs had been created in both traditional and newly attracted business and that many new illegal residences (slums) has been constructed.

The experts group in the interviews also all explained that there is a small group of non-Muslim community, who has been living and doing their business from ancient period. This minor group can be operating to produce a good social impression within this area, if planning proposal considers their life style, needs and give more access to the all public services.

The respondent groups in the interviews also felt that there was greater neighbourhood and social unity in the *Boro Bazaar* area over the past decade or so. Indeed, the respondents mentioned a number of new forums, representative and interest groups established in the *Boro Bazaar* area in recent years. For example, presently there are various associations for the businessmen group and the neighbourhood forum for the residential community. Interviewees commented on these new forums and the necessities of social planning proposal for this strength of the social relationship between local businessmen, employers and the residential community. This is significant as in many mixed use areas around the *Boro Bazaar* area there are commonly reports about the social conflicts between different functional users.

The interviewees also concurred on the view that " ... cultural identity and living style should be respected and protected" by the social revitalization planning inside the *Boro Bazaar* area. The local planning officer believed that the cultural identity of the area was also " ... going to places of interest and bringing more economic benefits to the area". Significantly, for the local business and community groups such as small or big wholesale business owners and

permanent-temporary residents, the respondents reported that the cultural identity of the *Boro Bazaar* area is a major reason they either stayed or relocated to the area.

The respondent groups also shared their continued dissatisfaction with regard to open spaces within the study area and with the neighbouring City Centre. They explained that open spaces within the study area can generate more social life among visitors, businessmen and local people. Although respondents commonly focussed on the poor condition of existing open space and considered that the management was poor. The consensus was that improving open spaces needed to be top of the agenda for future interventions if the City is to achieve its aim of the area creating an attractive destination for residents, businessmen and investors. Significantly, there were contrasting opinions with regard to the assessment criterion of "Enhancing the accessibility in the area (school, college, hospital, and mosque)". Both the local authority (KDA and KCC) planning officer and local consultant (LC) considered that presently without financial and political support, this agenda is always in bottom. In contrast, the group AC considered that these desired situations can be achieved if the local authority manage it proper planning consideration. In addition, particularly the local residents and business men felt that many of the school, college, hospital, and mosque inside the study area still needed "... urgent environmental improvement and required physical planning" and that without this the area would still have a " ... poor image with local people and visitors. In addition, following (table 7.14) survey results shows the local participants satisfactions level about the present situations (consideration 2, table 7.15).

**Table 7.14: : Statistical information of Occupation with social facilities  
Occupation and Accessibilities – hospitals, bazaar, services, schools / college Cross  
tabulation**

		Accessibilities – hospitals, bazaar, services, schools / college			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	0	6	14	20
		% within Occupation	0,0%	30,0%	70,0%	100,0%
	Garments	Count	2	29	31	62
		% within Occupation	3,2%	46,8%	50,0%	100,0%
	House Wife	Count	1	2	6	9
		% within Occupation	11,1%	22,2%	66,7%	100,0%
	Service	Count	0	4	1	5
		% within Occupation	0,0%	80,0%	20,0%	100,0%
	Street Vendor	Count	0	2	4	6
		% within Occupation	0,0%	33,3%	66,7%	100,0%

	Student	Count	0	4	6	10
		% within Occupation	0,0%	40,0%	60,0%	100,0%
	Wholesale	Count	1	16	14	31
		% within Occupation	3,2%	51,6%	45,2%	100,0%
Total		Count	4	63	76	143
		% within Occupation	2,8%	44,1%	53,1%	100,0%

### Occupation & Recreation Facilities and Public spaces Cross tabulation

		Recreation Facilities and Public spaces			Total	
		Don't know	Not Satisfied	Satisfied		
Occupation	Daily Market	Count	0	17	3	20
		% within Occupation	0,0%	85,0%	15,0%	100,0%
	Garments	Count	3	47	12	62
		% within Occupation	4,8%	75,8%	19,4%	100,0%
	House Wife	Count	0	9	0	9
		% within Occupation	0,0%	100,0%	0,0%	100,0%
	Service	Count	1	3	1	5
		% within Occupation	20,0%	60,0%	20,0%	100,0%
	Street Vendor	Count	1	4	1	6
		% within Occupation	16,7%	66,7%	16,7%	100,0%
	Student	Count	1	7	2	10
		% within Occupation	10,0%	70,0%	20,0%	100,0%
	Wholesale	Count	1	28	2	31
		% within Occupation	3,2%	90,3%	6,5%	100,0%
Total		Count	7	115	21	143
		% within Occupation	4,9%	80,4%	14,7%	100,0%

#### 7.4. Evaluation results of the sustainable urban revitalization planning proposals

A total of sixteen sustainable urban revitalization planning proposals are evaluated, examined and compared in table 7.15 by the selected experts group. Significantly, eight of the planning proposals by the study are considered and agreed by all four respondent interview groups. These include four out of seven of the physical planning proposals, two of five economic planning proposals and two of four social planning proposals. Three of the economic planning proposals and two of the social planning proposals are not fully agreed by the respondent groups for financial and political reasons. Significantly, the physical planning proposals for ' *Providing inclusive & quality public space, Enhancing the accessibility in the study area (public traffic links~ pedestrian connection) and Promoting and integrating heritage conservation in modern life* ' is considered to have been unsuccessful by both KCC and KDA expert's respondent interview groups again for the financial and political reasons.



**Table 7.15: Evaluations of the sustainable urban revitalization planning proposals**

Field of Criteria	Consideration 1  (Developed by the author from literature review / final set of possible results and the present situations of the study area;  previous section)	Evaluation 1				Consideration 2  (Present Situations, From previous survey results)	Evaluation 2						
		Experts Participants					Local Participants  (Occupation Group - Not Satisfied in %)						
		KCC	KDA	AC	LC		DM	GM	HW	SE	SV	ST	WS
PLANNING PROPOSAL  Physical Planning	1. Identifying and evaluating site properties (physical, social, economic, cultural)	√	√	√	√	Drainage systems	90,0%	87,1%	77,8%	40,0%	100,0%	100,0%	74,2%
	2. Improving living standards in the built environment to attract new functions	√	√	√	√	Air and Noise pollution	85,0%	82,3%	77,8%	60,0%	83,3%	100,0%	80,6%
	3. Recovering urban network and public services with existing situations	√	√	√	√	Transportation systems	70,0%	50,0%	66,7%	20,0%	66,7%	70,0%	38,7%
	4. Revitalizing urban design through river side and road network, side walk development	√	√	√	√	Width of Road and Side walk	65,0%	71,0%	66,7%	80,0%	66,7%	50,0%	64,5%

	5. Providing inclusive & quality public space (including public realm such as street furniture).	X	X	√	√	River side development	85,0%	90,3%	88,9%	100,0%	83,3%	90,0%	83,9%
	6. Enhancing the accessibility in the study area (public traffic links~ pedestrian connection).	X	X	√	√	<i>Drainage systems-83,9%, Air and Noise pollution-82,5%, Transportation-52,4%, Width of</i>							
	7. Promoting and integrating heritage conservation in modern life	X	X	√	√	<i>Road and Side walk -67,1%, River Side Area-88,1% (Not Satisfied in Total)</i>							
<b>Economic Planning</b>	1. Using economic potentials of the site - Sustainable policy for redundant lands and historical building accumulation - Training of unemployed or unskilled workers on site	√	√	√	√	Employment and job environment	20,0%	29,0%	55,6%	60,0%	33,3%	40,0%	29,0%
	3. Protecting and promoting local economic activities (e.g. traditional jobs).	√	√	√	√	Shopping Facilities	25,0%	24,2%	22,2%	0,0%	33,3%	50,0%	19,4%
	4. Stimulating investment, creating new job and safe and secured places for all.	X	√	√	√	<i>Employment condition-31,5%, Shopping Facilities 24,5% (Not Satisfied in Total)</i>							
	5. Developing multi-functional economic activities in the study area	X	√	√	√								

	6. Increasing land (rent) values and reducing vacancy levels	X	√	X	√									
<b>Social Planning</b>	1. Taking into account of social ties, equity and neighborhood-social structure.  - giving priority to minority groups for access to basic services  - Social interaction with business men and local residents by creating more open spaces and provide recreation facilities	√	√	√	√	<table border="1"> <tr> <td>Accessibility towards Public services</td> <td>30,0%</td> <td>46,8%</td> <td>22,2%</td> <td>80,0%</td> <td>33,3%</td> <td>40,0%</td> <td>51,6%</td> </tr> </table>	Accessibility towards Public services	30,0%	46,8%	22,2%	80,0%	33,3%	40,0%	51,6%
	Accessibility towards Public services	30,0%	46,8%	22,2%	80,0%	33,3%	40,0%	51,6%						
	2. Protecting cultural identity and respecting living style for all	√	√	√	√	<table border="1"> <tr> <td>Open spaces and recreation facilities</td> <td>85,0%</td> <td>75,8%</td> <td>100,0%</td> <td>60,0%</td> <td>66,7%</td> <td>70,0%</td> <td>90,3%</td> </tr> </table>	Open spaces and recreation facilities	85,0%	75,8%	100,0%	60,0%	66,7%	70,0%	90,3%
	Open spaces and recreation facilities	85,0%	75,8%	100,0%	60,0%	66,7%	70,0%	90,3%						
3. Enhancing the accessibility in the area (school, college, hospital, and mosque).	X	X	√	X	<i>Accessibility towards Public services - 44,1%, Open spaces and recreation facilities - 80,4%</i>  <i>(Not Satisfied in Total)</i>									
4. Minimizing rural to urban migration	X	X	√	√										

The evaluation results : (√) Agreed and Suggest by the Experts; (X) Not Agreed and Not Suggest by the Experts

Therefore, generally the planning proposals related to the sustainable urban revitalization within the study area are considered and agreed by selected expert groups. When evaluating the respondent group's views in the matrix of planning proposals in Table 7.4.1., it is clear that the revitalization policies planned in the Boro *Bazaar* area can be considered as reasonably effective for the future development. In addition, based on this analysis by the experts group explained that the sustainable urban revitalization planning proposals with regard to social and economic revitalization materialize to have been achieved more comprehensively after those for the physical revitalization planning proposals have been developed accordingly taking into account of the planning proposals.

### **7.5. Developing a Model for Proposing Sustainable Urban Revitalization strategy**

In order to proposing the Sustainable Urban Revitalization model by analysing the existing situations, problems, challenges and difficulties, the first step is to define urban policy, sustainability, urban revitalization and their relationship. This could be used as the proposals to study the efficiency of urban model. As Badescu (2009) points out in his evaluation study on urban Revitalization, the results of good practice could be used as the proposals for an evaluation test. Another relevant example is the model established by CABE & DETR (2001) that uses data from previous successful urban design projects to study the performance of new urban design proposals. It is clear, however, that there is no existing model, which is specific for proposing the Sustainable Urban Revitalization strategy of an urban neighbourhood.

#### **7.5.1. The Model**

Based on the relationship between sustainability and revitalization of a urban neighbourhood as discussed previously, the possible planning of physical, economic and social revitalization on the one hand and the possible planning of physical sustainability, economic sustainability and social sustainability on the other hand need to be determined in order to achieve sustainable urban revitalization which will lead the study to propose the planning of sustainable urban revitalization in the study area as is indicated in the model presented in Figure 7.5. As can be seen from the table, this model, in general terms, includes four major inter-related steps.

1. The first step is the identification of the probable planning of urban revitalization - physical, economic and social. This planning again needs the tangible time period to complete – short time strategy and longtime strategy. They are determined with the

support of literature reviews and urban revitalization examples from different countries and the concerns of the local community.

### SUSTAINABLE URBAN REVITALIZATION - *PROPOSED MODEL*

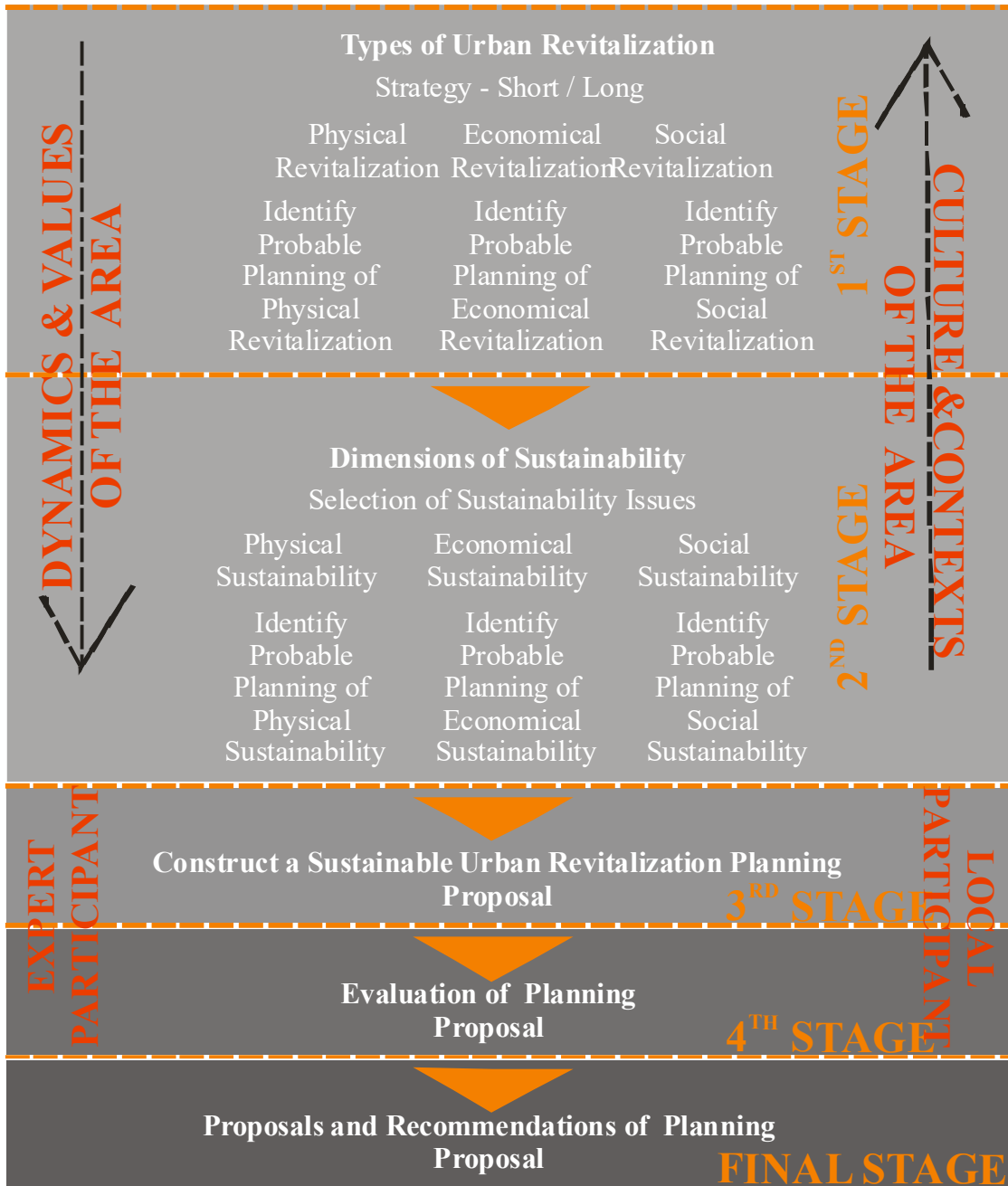


Figure 7.5: Proposed model for sustainable urban revitalization within the study area

2. The second step is concerned with the dimensions of sustainability with the help of selection of sustainability issues. The appropriate, assessable and available physical, economic and social issues of sustainability are selected, among many others. Those

which can fit these probable planning of urban revitalization concerning the study area, are also taken into consideration.

3. The next step is corresponding the probable planning of urban revitalization proposals and sustainability issues in order to construct a suitable planning proposal of sustainable urban revitalization.
4. All appropriate planning proposals of sustainable urban revitalization under dimensions of sustainability – physical, economic and social are separately grouped under common issues and finally evaluated by local experts and local communities.

### **7.6. Critical Explanation and Interpretation**

Although it cannot be confirmed that the planning proposals and evaluation process described above is comprehensive for this debate, it does, however, provide genuine insights into the mind-set of the decision makers and their attitude towards this topic. What is comforting about the results obtained through this study is the number of participants with specialist expertise in urban design and planning, who have been involved in this context, and whose experience span over the past thirty years of development and planning. Moreover, majority of these participants have already changed their organizations several times and were capable of providing critical assessment of present organizations, and of their own role when they were employed there. In addition, they were at ease in sharing their opinion about other organizations, and the overall performance of the new regime. In essence, it can be concluded that the role of bias in this outcome is minor.

In addition, the present study and the proposed planning proposals, model and the association connecting the two concepts; “a sustainable urban revitalization strategy” in the “physical, economic and social environments” of historic urban areas requires application in order to make them more sustainable. As previously stated, successful urban revitalization in any urban areas can only be achieved by identifying and applying the most relevant strategic approach. However, for a sustainable urban revitalization process, the level of sustainability should also be determined before identifying the most relevant strategic approach for historic urban areas. In other words, the types of values, development dynamic, contexts and the level of sustainability in historic urban areas should be determined through analysis in natural, built and socio-economic structures of historic urban areas before suggesting the strategic approach.

At the end of the analysis stage, the results will lead to the development of a strategy for the sustainability of these areas as an integral part of the sustainable urban revitalization process, which is presented in above figure 7.5.1.

### **7.7. Chapter Summery**

This chapter explained the *process analysis and proposing model* phase of this research project, which followed and continuation on from the *problem analysis* phase explained in the previous chapter 6. The main objective of this chapter was to address the stages that follow the present study for proposing planning proposals and a proposed model of sustainable urban revitalization project execution phase within the study area.

The chapter proceeded with the formulation and selection of sustainable revitalization planning proposal, in section 7.3, which explained *four steps planning proposal* of this research. Section 7.4, *evaluations of the sustainable urban revitalization planning proposals* provided of current thoughts and approaches towards urban development, and more precisely urban planning. This section uncovered new approaches that have replaced strategic development and its implementation which have never been described earlier in the literature, or properly recorded or brought into the public domain.

The two sections that followed were described for outlining planning proposals associated with strategy and implementation. These can be looked at as the main focus of this chapter, from which the interpretation and the conclusion evolves. Section 7.5 developing a Model for Proposing Sustainable Urban Revitalization strategy addressed the stages for implementation. The focus was to pinpoint critical issues derived from the results and which were extrapolated as general trends and themes of this dilemma.

Chapter 8 logically follows up with the potential for development and recommendations for an enhanced approach of planning towards sustainable urban revitalization in *Boro Bazaar Area*.

# **CHAPTER 08: PLANNING AND DEVELOPMENT** **PROPOSALS TOWARDS SUSTAINABLE URBAN** **REVITALIZATION**

## **8.1 Overview**

Subsequently on from the results of the *problem analysis* phase (Chapter 6) and *process analysis* phase (Chapter 7), the study culminates in this chapter by summarizing the possibilities, opportunities and the key recommendations for planning and development proposals towards sustainable urban revitalization concerns. Following chapter explains - recommendation results for final planning proposals (section 8.3), Understanding and summary of Proposals and Recommendations (section 8.4) and finally 8.5 trimmings with chapter summary.

## **8.2 Introduction**

The historic urban neighborhood ought to be reinforced to act as the commercial center of the metropolitan city of Khulna, so that the responsibility of the historic urban neighborhood is maintained by proper planning and it will become increasingly important in terms of its function to the wider region. The main tasks, therefore, will be to compose the surroundings of historic urban neighborhood sustainable, attractive and stimulating, not only as a

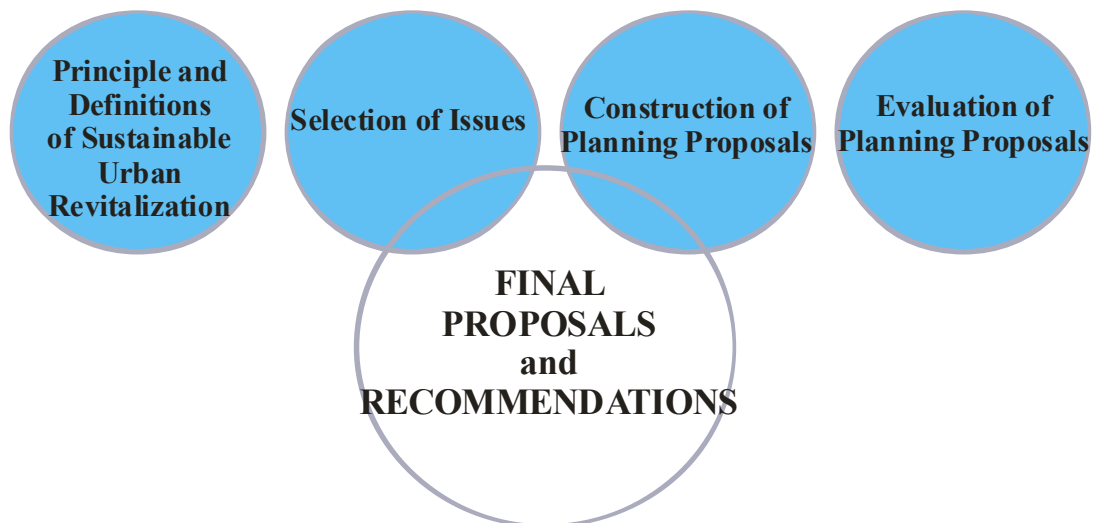


Figure 8.1: Final approach towards sustainable urban revitalization

commercial place and residential place but also as a place to enjoy as an art form in its own right. Meanwhile these whole processes need an inclusive planning proposal and recommendation for further development. Therefore, following describing previous 4 stages



in the previous chapter 7 for process analysis it will require a complete set of final proposals and recommendations (figure 8.1) for better approach towards sustainable urban revitalization. Many approaches will be used in the revitalization of the city and to explore and utilize the potential and opportunities within the historic urban area. The basic conceptual plan is to divide the city into different sectors according to its function and revitalization strategy. Afterward every part or sector will be examined through various urban design techniques with public participants and expert group's recommendations and the proper approach or principles will be employed, in several alternatives or straightforward planning proposals.

### **8.3 Recommendation results for final planning proposals**

This section has been composed with the final recommendation results for sustainable urban revitalization planning proposals. In this planning process selected nine different planning areas are measured with three main pillars – physical, social and economic as for sustainable urban revitalization proposals and recommendations. The interviewees raised a number of present issues that can be considered under the headings of physical, economy and social sustainable urban revitalization planning proposals designed for this study. In addition, these recommendations were identified and discussed with the following four components suggested by the experts, local people and the researchers (figure 8.2).

1. Present situations and feasibilities: are quantitative data obtained from the public questionnaires and the quick surveys with respect to specific sustainable urban revitalization planning proposals. Participants have covered the approaches towards a particular concern and their motivation to change their behaviour towards improving sustainability in the future.

2. Possibilities and prospects: are progress features which have positive effects on urban sustainability, but which have not yet been employed or fully employed. This means that the utilization of the potentials will benefit sustainable urban revitalization and reinforce its physical and socioeconomic arrangement.

3. Proposals and Recommendations: a suggestion or proposal to improve urban sustainability in the study area by selected expert participants. Some of these may have direct impact on the existing situation, especially when it comes to determine some of the problems and challenges. The reader will be faced with multiple tables that summarize the results obtained from various participants, and occasionally include quotes as evidence. The text that follows these tables complements the content of the table but most of the time does not replicate it.

4. *Drawing Proposals*: final recommendations which are developed by the author for planning and development proposals on the way to sustainable urban revitalization within the proposed study area. In this phase the study considered the present setup, context of the study



Figure 8.2: Selected sustainable urban revitalization’s planning areas and recommendation by participants

area besides the possibilities-prospects and proposals and recommendations suggested by the local and expert participants.

However same experts group from – KCC (Khulna City Corporation), KDA (Khulna Development Authority), AC (Academician) and LC (Local Consultant) were selected to describe their explanations regarding possibilities-prospects and proposals-recommendations concerning the study area.

Section below summarizes the *present situations, possibilities and recommendations* regarding nine (9) selected planning areas that were answered by the local people, suggested by the expert participants from the interviews (*section 6.8. Analysis Reporting Configuration, annex 01*) and finally for approaching to sustainable urban revitalization planning within the

study area as a design proposal has been drawn considering their suggestions and present local contexts.

### 1.3.1 Employment / Job:

#### Present situations and feasibilities

Below summarizes the *present situations and feasibilities* regarding employment and job within the study area explained by the local people who are living here for mainly business purposes (participants who have only residence, were not asked these questions). Therefore, tables 8.1, 8.2 and 8.3 below reviews that among 119 participants whom have directly relation with this neighbourhood by business or by business-residence (both), 72.4% businessmen were agreeing to do business within this area. Again 36.2% of them felt safe for business here. 77.1% businessmen said that there is no other business area they would rather do their business.

**Table 8.1 : Relation with Neighbourhood and Location of this Business Area**

			This business area is better for business				Total
			Agree	Disagree	Don't know	Not Asked	
Rel. with Nei.	Both	Count	9	3	2	0	14
		% within Rel. with Nei.	64,3%	21,4%	14,3%	0,0%	100,0%
	Business	Count	76	24	5	0	105
		% within Rel. with Nei.	72,4%	22,9%	4,8%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	85	27	7	24	143	
	% within Rel. with Nei.	59,4%	18,9%	4,9%	16,8%	100,0%	

**Table 8.2: Relation with Neighbourhood and Safety of this business Area**

			This business area is safe for business				Total
			Agree	Disagree	Don't know	Not Asked	
Rel. with Nei.	Both	Count	5	8	1	0	14
		% within Rel. with Nei.	35,7%	57,1%	7,1%	0,0%	100,0%
	Business	Count	38	63	4	0	105
		% within Rel. with Nei.	36,2%	60,0%	3,8%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	43	71	5	24	143	
	% within Rel. with Nei.	30,1%	49,7%	3,5%	16,8%	100,0%	

**Table 8.3: Relation with Neighbourhood and Environment / Surrounding facilities of this Business**

		Area				Total	
		There is no other business area I would rather do my business					
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	11	2	1	0	14
		% within Rel. with Nei.	78,6%	14,3%	7,1%	0,0%	100,0%
	Business	Count	81	18	6	0	105
		% within Rel. with Nei.	77,1%	17,1%	5,7%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	92	20	7	24	143	
	% within Rel. with Nei.	64,3%	14,0%	4,9%	16,8%	100,0%	

*Possibilities and Prospects*

Experts within the current set-up shared their views (table 8.4) that *Boro Bazaar* has a big advantage considering its river side location and present morphology, which leads to an organic pattern of development from the precedent. Present river side based morphology of the study area adds to the distinctiveness and aesthetics of Khulna city and this ensures a competitive advantage”.

Table 8.4: Employment / Job : Possibilities and Prospects		KCC	KDA	AC	LC
1	Location and Morphology of the study area	√	√	√	√
2	Good pace of Economic Development		√	√	
3	Variety of job and new investment area				√
4	River side area with different Ghats	√	√	√	√
5	Cheaper than other location		√		

KDA, AC and LC repeated that “there should be good planning between economic development and investment within this area and if we are not careful enough, there are a lot of sensitive areas around the city that may be at threat. Yes, there is a need for investment, but also there is a rational where to put it first. If the administration is not careful enough, they might end up losing what is the key advantage of the study area. So there is a fine balance to be struck; it’s where you develop and how much of it. You can achieve all of those by just being smart and controlling one way or another: between economic development and investment”.

### Proposals and Recommendations

Experts' recommendation (table 8.5) that has been studied but not passed: "Our earlier recommendations were the - Create Separate area for traditional job and activities and new business area with better exposure" are very important for the sustainable economic revitalization for the study area. Furthermore, there is a need to develop the river side area and Ghats with new mechanisms for planning and connections urban systems and public service with follow-up as well as urban development on a regular basis and to respond immediately with better solutions where required. All of this needs a strong response especially when the solutions are basically simple and straightforward. He also explained the importance of economical sustainability and recommends about vacant lands and historical building within the study area to plan with sustainable policy by the help of local authority.

Table 8.5: Employment / Job: Proposals and Recommendations		KCC	KDA	AC	LC
1	Connecting urban system and services with existing situations	√			√
2	Revitalize vacant lands and historical building with Sustainable policy			√	
3	Create Separate area for traditional job and activities	√		√	√
4	New business area with better exposure	√			√
5	Develop the river side area and Ghats	√	√	√	√
6	Additional interface with local public and private authority			√	√

### Drawing Proposals

Below figure 8.3 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present employment and job conditions within the study area. In addition, following figure 8.4 illustrates open space (detail 01, option 01) as a proposal for revitalize the vacant plots within the study area. Figure 8.3 also shows –

1. Proposed new business area with better exposure
2. Existing historical building and Ghats
3. River side area

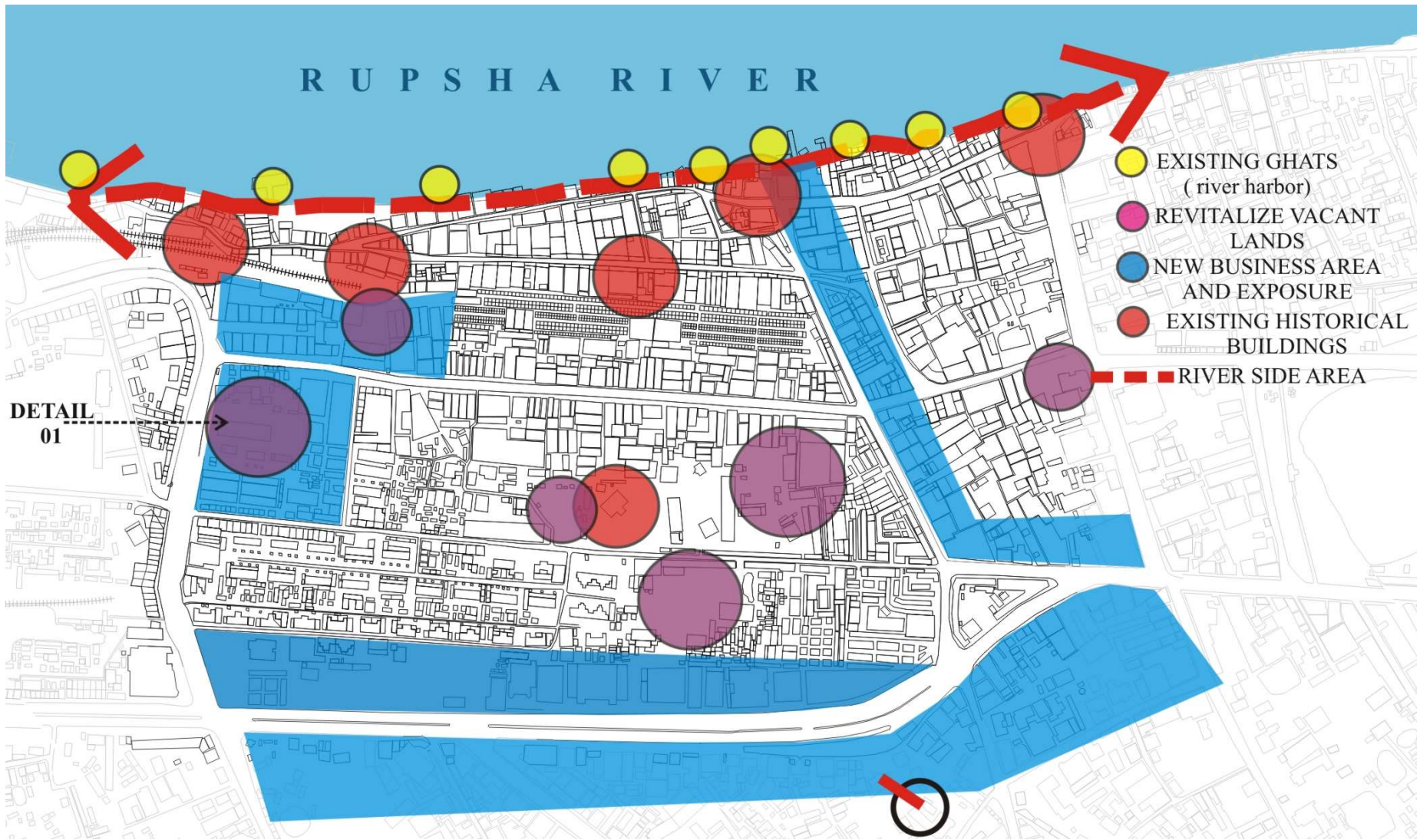


Figure 8.3: Proposed plan for sustainable urban revitalization for developing employment / job conditions

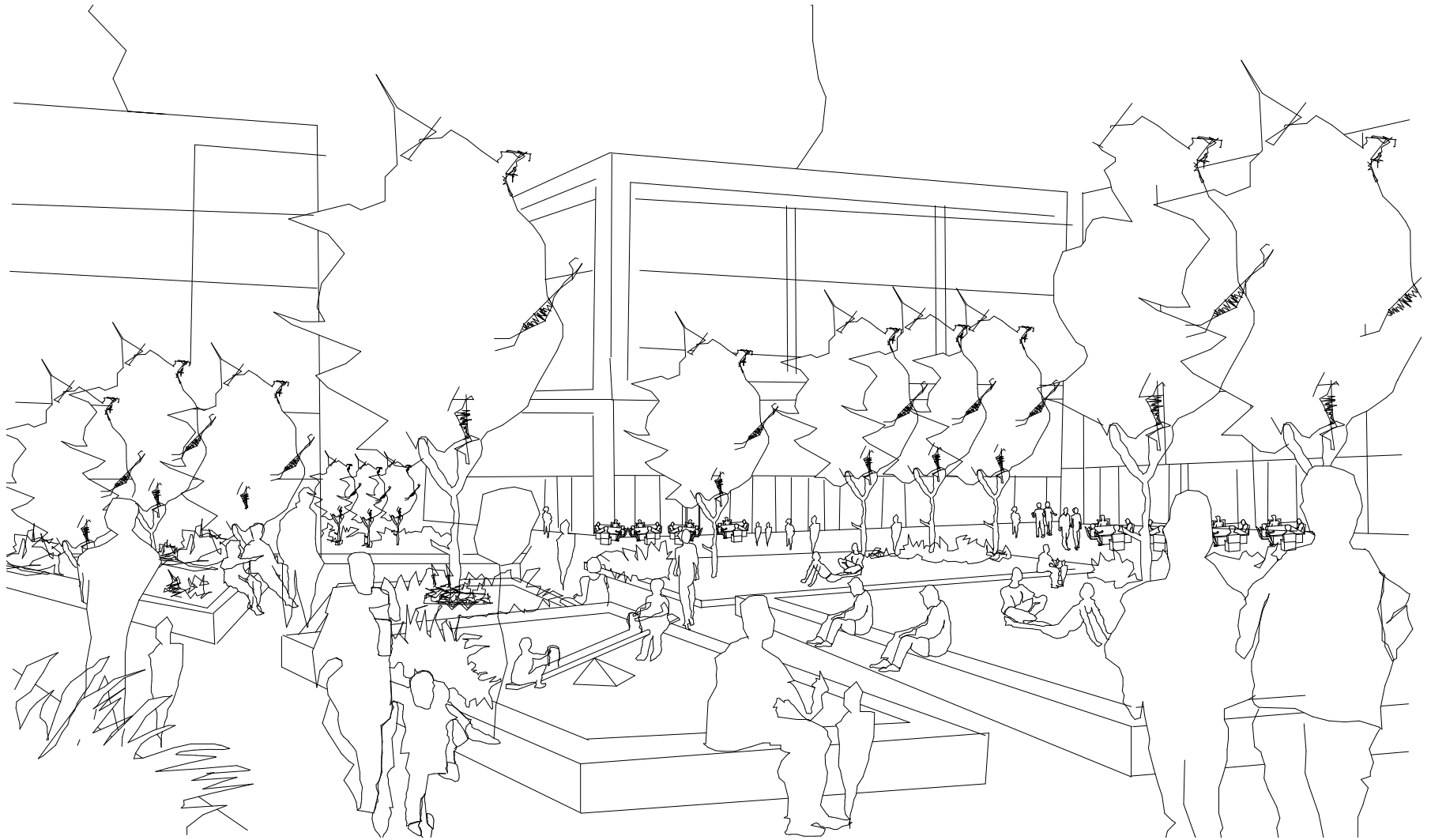


Figure 8.4: Detail 01, option 01: Proposed drawing for revitalization of vacant plot as an urban open space; Author, 2019.

### 1.3.2 Recreation Facilities and Public spaces:

#### Present situations and feasibilities

Below summarizes the *present situations and feasibilities* regarding recreation facilities and public spaces within the study area explained by the local people who are living here either residence or business purposes. This time participant who are directly related with business are not included. Therefore, table 8.6 below explains only 38 participant’s views that have directly relation with this neighbourhood by residence or business-residence (both). Along with 79.2% (residence) and 71.4% (both) participants disagreed with this “*neighbourhood has lot of relational facilities*” question.

**Table 8.6: Relation with Neighbourhood and Recreational Facilities**

		This neighbourhood has lot of recreational facilities				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	3	10	1	0	14
		% within Rel. with Nei.	21,4%	71,4%	7,1%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	2	19	3	0	24
		% within Rel. with Nei.	8,3%	79,2%	12,5%	0,0%	100,0%
Total	Count	5	29	4	105	143	
	% within Rel. with Nei.	3,5%	20,3%	2,8%	73,4%	100,0%	

#### Possibilities and Prospects

All expert groups add their views (table 8.7) in this regards that river within the side is the great benefit as a recreational facility. For AC and LC pointed out about the open spaces that could another way for adding extra recreational facilities. One expert felt that the site has different community and their individual culture and festival, which could create extra possibilities within the study area. A historical building within Station road and Voirob stand road still has good possibilities to attract visitors. Experts from KCC, KDA and AC explained that “Hadis Park and Railway Station” adjacent to the site could add another fine prospect for the study area.

Table 8.7: Recreation Facilities and Public spaces: Possibilities and Prospects		KCC	KDA	AC	LC
1	River side area within Voirob Stand Road	√	√	√	√
2	Several open spaces within study area			√	√



3	Muslim-Hindu, Businessmen-Residence with different community and culture			√
4	Traditional bazaar and variety of shopping facilities			√ √
5	Historical, Religious and colonial buildings within Boro bazaar, Voirob Stand and Railway Hospital road			√ √
6	“Hadis Park and Railway Station” are adjacent to the site	√	√	√

### Proposals and Recommendations

Following table 8.8 illustrates the possibilities and prospects of recreation facilities and Public space within the study area –

Table 8.8: Recreation Facilities and Public spaces: Proposals and Recommendations		KCC	KDA	AC	LC
1	Revitalize vacant lands and historical building with Sustainable policy				√
2	Utilizing river side area (Voirob Stand Road) as a breathing space			√	√
3	Rethink the “Dac Bang law” site as an open space			√	√
4	Increasing green areas and Maintaining natural landscapes				√
5	Need to motivate the public to do landscaping	√	√		√
6	Provide Street furniture towards Upper Jessore, Sher-E-Bangla, Clay and Sir Ikbal road area			√	
7	Need to protect the identity of <i>Boro Bazaar</i> Area				√
8	Strengthen the presence of public services				√

It is true; there is a need for a new scheme for open spaces as there is undoubtedly prevalent lack of open space within the study area. Another recommendation is that there are some vacant lands and ancient buildings which can be used as a recreation purposes. They also recommend about rethink the “Duck Bungalow” site as an open space. LC adds to this recommendation: “Increasing green areas and maintaining natural landscapes is significance to improve the social sustainability”. Again children playground is not provided by the required extent in the detailed plans and this is the role of public authority. “If they find a

way for the small play areas within the residential areas within a walking distance from everybody's house, that's will create social value within this area".

They further recommend starting with improving the existing infrastructure: "street furniture along Clay road, traditional bazaar and shopping facilities and historical, religious and colonial buildings within *Boro Bazaar*, Voirob Stand and Railway Hospital road" and make sure you put the right facilities for it.

### Drawing Proposals

Below figure 8.5 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present Recreation Facilities and Public spaces within the study area. Following figure 8.6 illustrates open spaces (detail 02, option 2), figure 8.7 "Duck Bungalow" Node (detail 02) and figure 8.8 revitalize *Nil Kuthi* (detail 03) as a proposal for revitalize the recreations facilities within the study area. Figure 8.5 also shows –

1. Street furniture and green area towards road network
2. Revitalize vacant area as an urban open spaces or children park
3. River side area as a breathing area
4. Revitalize historical buildings with sustainable policy.
5. More green landscaping as required for sustainable environment

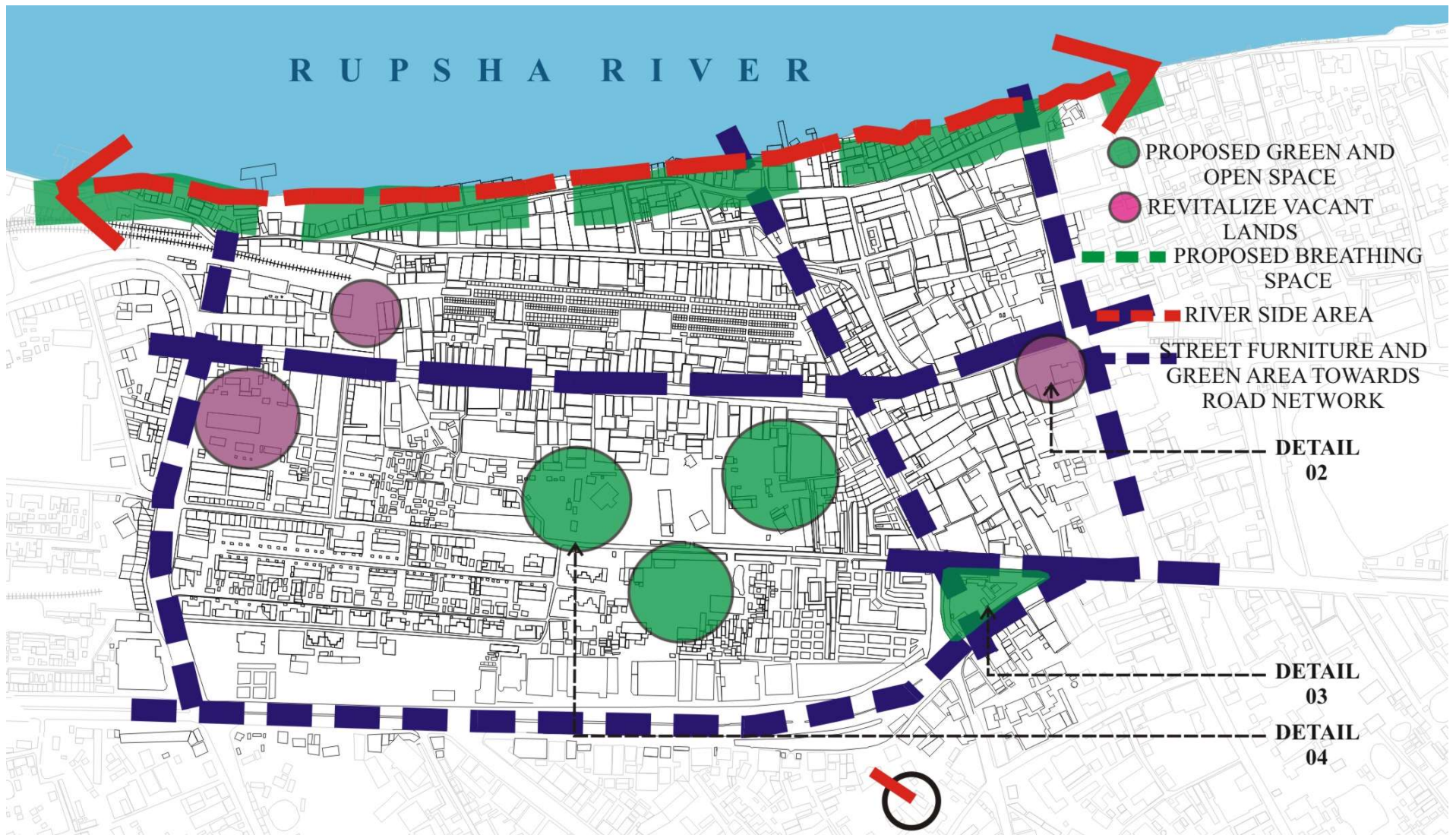


Figure 8.5: Proposed plan for sustainable urban revitalization for developing recreational spaces

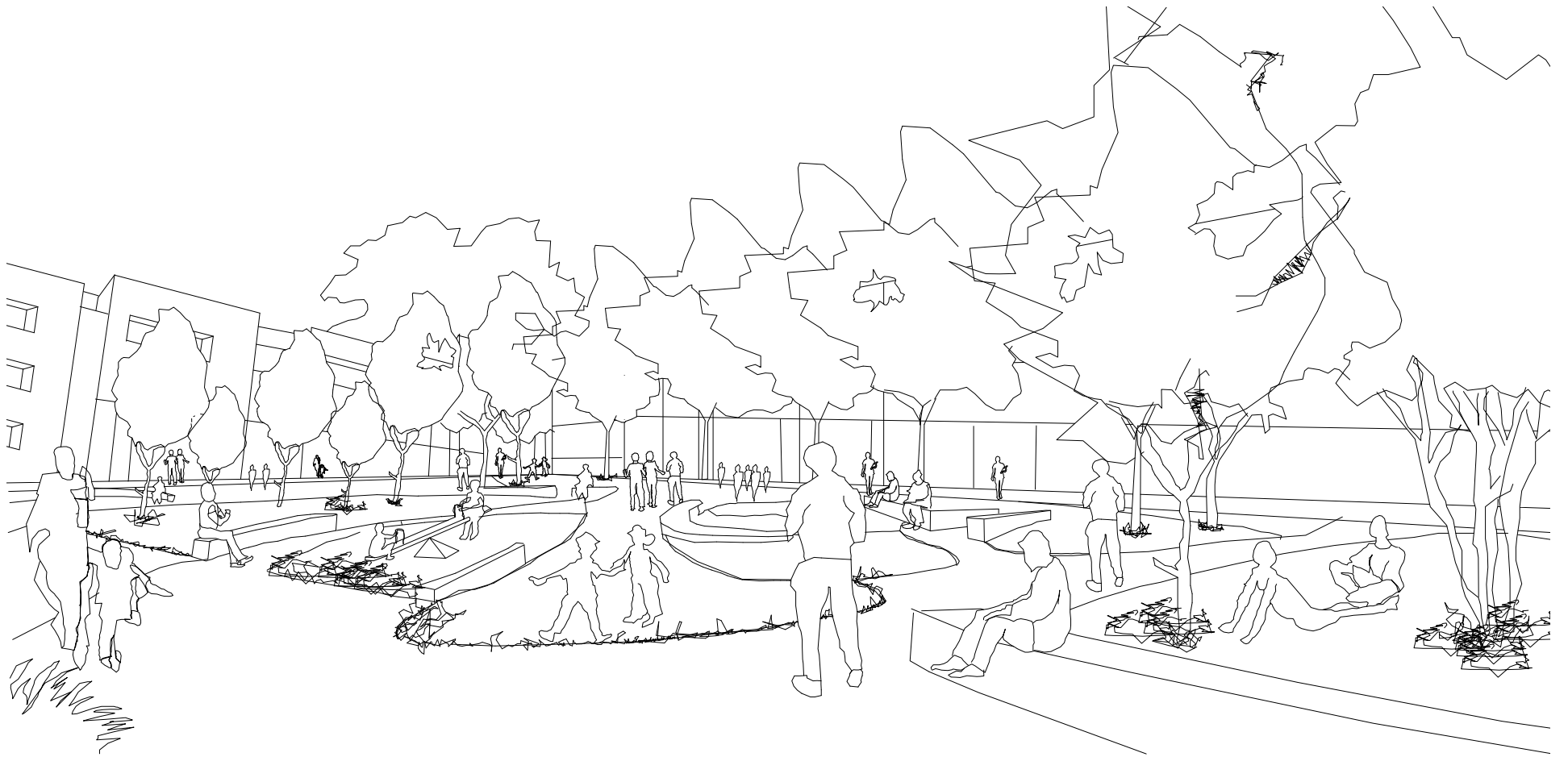


Figure 8.6: Detail 02, option 02: Proposed drawing for revitalization of vacant plot as an urban open space; Author, 2019.

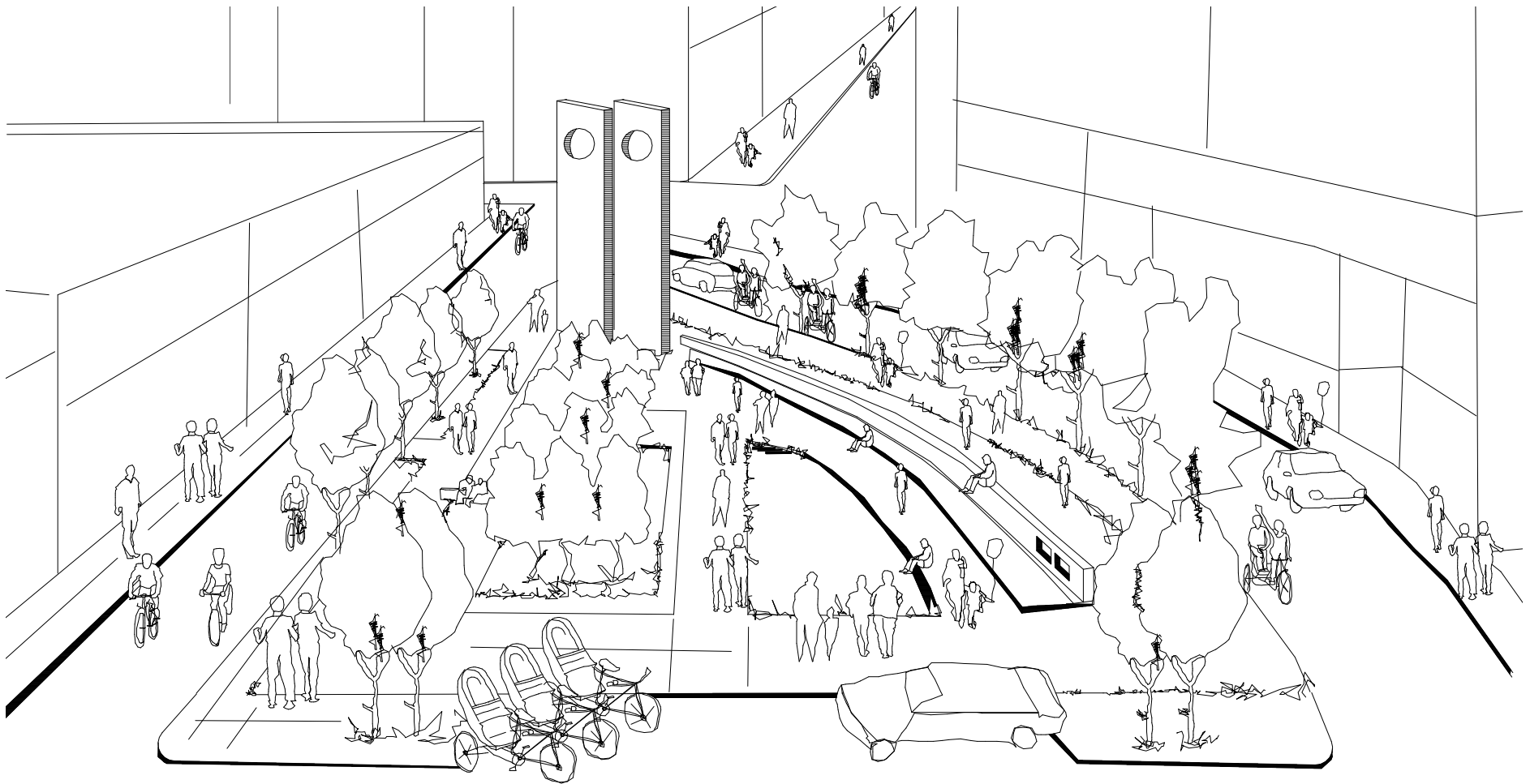


Figure 8.7: Detail 03, option 02: Proposed drawing for revitalization of the present Duck Bungalow Node; Author, 2019.



Figure 8.8: Detail 04: Proposed drawing for revitalization of the present *Nil Kuthi*; Author, 2019.

### 1.3.3 Shopping facilities:

#### Present situations and feasibilities

Following table 8.9, 8.10 and 8.11 shows the *present situations and feasibilities* regarding shopping facilities within the study area explained by the local people who are living here for mainly business purposes (participants who have only residence, were not asked these questions). Table below reviews that among 119 participants whom have directly relation with this neighbourhood by business or business-residence (both), 63.8% businessmen explained that to monthly rent a shop is cheaper than other area. Again only 18.1% of them felt that shopping environment is better for customers. 83.8% businessmen were not satisfied with storage (loading-unloading) facilities of this area.

**Table 8.9: Relation with Neighbourhood and Monthly Rentable Space within this Business Area**

			To rent a shop is cheaper than other business area				
			Agree	Disagree	Don't know	Not Asked	Total
Rel. with Nei.	Both	Count	11	3	0	0	14
		% within Rel. with Nei.	78,6%	21,4%	0,0%	0,0%	100,0%
	Business	Count	67	35	3	0	105
		% within Rel. with Nei.	63,8%	33,3%	2,9%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	78	38	3	24	143	
	% within Rel. with Nei.	54,5%	26,6%	2,1%	16,8%	100,0%	

**Table 8.10: Relation with Neighbourhood and Shopping Environment Customers**

			Shopping environment is better for customers				
			Agree	Disagree	Don't know	Not Asked	Total
Rel. with Nei.	Both	Count	2	12	0	0	14
		% within Rel. with Nei.	14,3%	85,7%	0,0%	0,0%	100,0%
	Business	Count	19	85	1	0	105
		% within Rel. with Nei.	18,1%	81,0%	1,0%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	21	97	1	24	143	
	% within Rel. with Nei.	14,7%	67,8%	0,7%	16,8%	100,0%	

**Table 8.11: Relation with Neighbourhood and Storage facilities within this Business Area**

			Storage (loading-unloading) facilities are better from other business area				
			Agree	Disagree	Don't know	Not Asked	Total
Rel. with Nei.	Both	Count	3	10	1	0	14

	% within Rel. with Nei.	21,4%	71,4%	7,1%	0,0%	100,0%
Business	Count	12	88	5	0	105
	% within Rel. with Nei.	11,4%	83,8%	4,8%	0,0%	100,0%
Resident	Count	0	0	0	24	24
	% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	15	98	6	24	143
	% within Rel. with Nei.	10,5%	68,5%	4,2%	16,8%	100,0%

### Possibilities and Prospects

In which many commercial areas around the city suffer from maintenances or poor conditions for shopping environments, all experts explained that *Boro Bazaar* is far from these situations. Experts highlight this opportunity (table 8.12): “*Boro Bazaar* is the main whole sale and retail shopping area and located in the city centre. The main force of this area is traditional setup and cheaper than other shopping area”. In general, the businessmen are willing to business here for its suitable location. LC believes there is an opportunity that will present verity of products and shopping area that will come up in the commercial areas that have already been distributed but not yet developed.

Table 8.12 : Shopping Facilities: Possibilities and Prospects		KCC	KDA	AC	LC
1	Main shopping area and city centre	√	√	√	√
2	Good facilities of whole sale and retail shopping	√	√		√
3	Traditional job and Bazaar	√		√	
4	Cheaper than other business area	√	√		
5	Verity of products and shopping area			√	√
6	Willing to do business here				√

### Proposals and Recommendations

Following table 8.13 illustrates the possibilities and prospects of Shopping Facilities within the study area –

Table 8.13: Shopping Facilities: Proposals and Recommendations		KCC	KDA	AC	LC
1	Improve shop's space quality—especially towards Railway Station and <i>Boro Bazaar</i> Road			√	√
2	Increasing trend for vertical expansion	√	√		



3	Create more connections with recreational spaces	√	√
4	More focused Shopping area in the right location with good accessibility		√
5	Loading-unloading facilities should be more accessible towards <i>Boro Bazaar</i> , Sher-E-Bangla and Clay road	√	√
6	More investment within this sector	√	
7	Planning should have proper legislation	√	√
8	Strong implementation and enforcement of legislation by both KDA and KCC or public sector	√	√

The most important recommendation in this regards is that *Boro Bazaar* needs a new comprehensive sustainable plan. There seems to be a cry-out for this to the extent that some participants wanted a suspension in terms of more investment until this sustainable plan is developed and become a road map for the future planning of the city. Along with this, there should be more emphasis on focused shopping area in the right location with good accessibility and loading-unloading facilities, such as they felt to give emphasis on vertical extension with good internal spaces. Then this area can generate more open and recreational spaces. In addition, they also believe that strong implementation and enforcement of legislation by both KDA and KCC or public sector is very much important to implement this planning.

#### Drawing Proposals:

Below figure 8.9 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present shopping facilities and its environment within the study area. Following figure 8.10 illustrates existing bazaar area. Again figures 8.11 and 8.12 shows proposed drawing for open space within shopping area (detail 05, option 01) and (detail 06, option 02). Figure 8.9 also shows –

1. Separate loading-unloading area
2. More focused shopping area within study area
3. Connection with urban open spaces

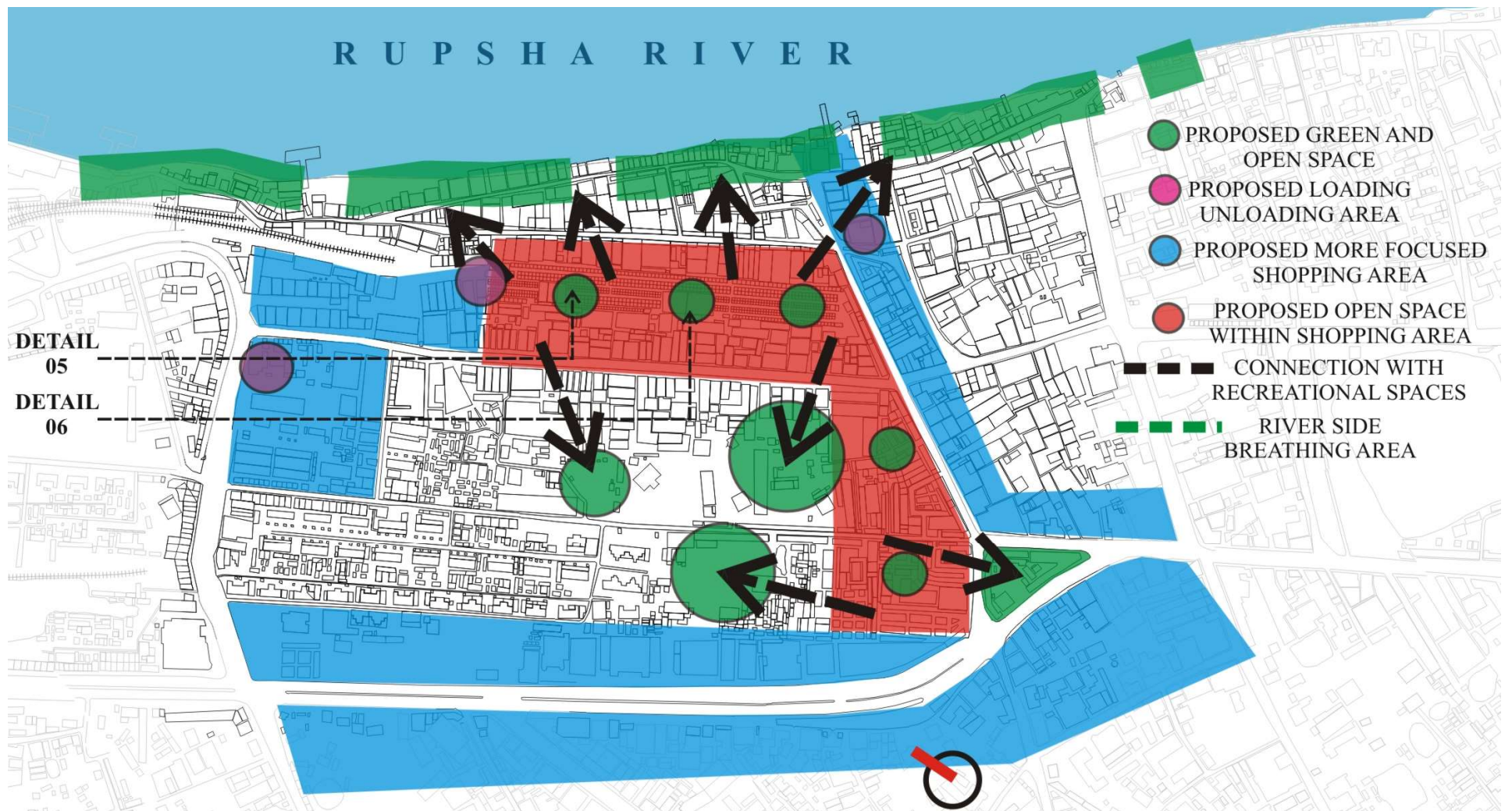


Figure 8.9: Proposed plan for sustainable urban revitalization for developing shopping areas



Figure 8.10: Existing bazaar within *Boro Bazaar* road; Author, 2019.

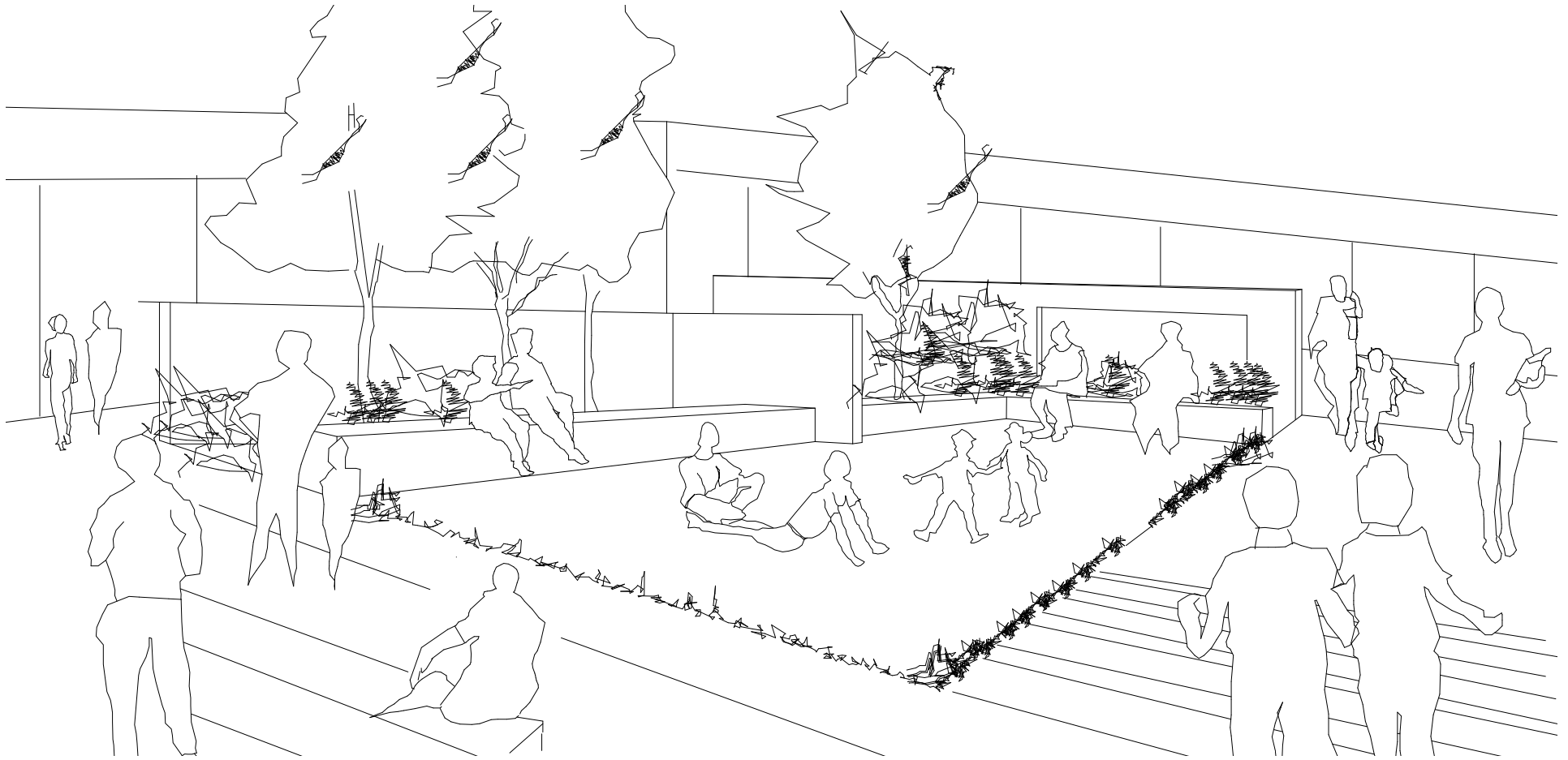


Figure 8.11: Detail 05: option 01: Proposed drawing for open space within shopping area; Author, 2019.

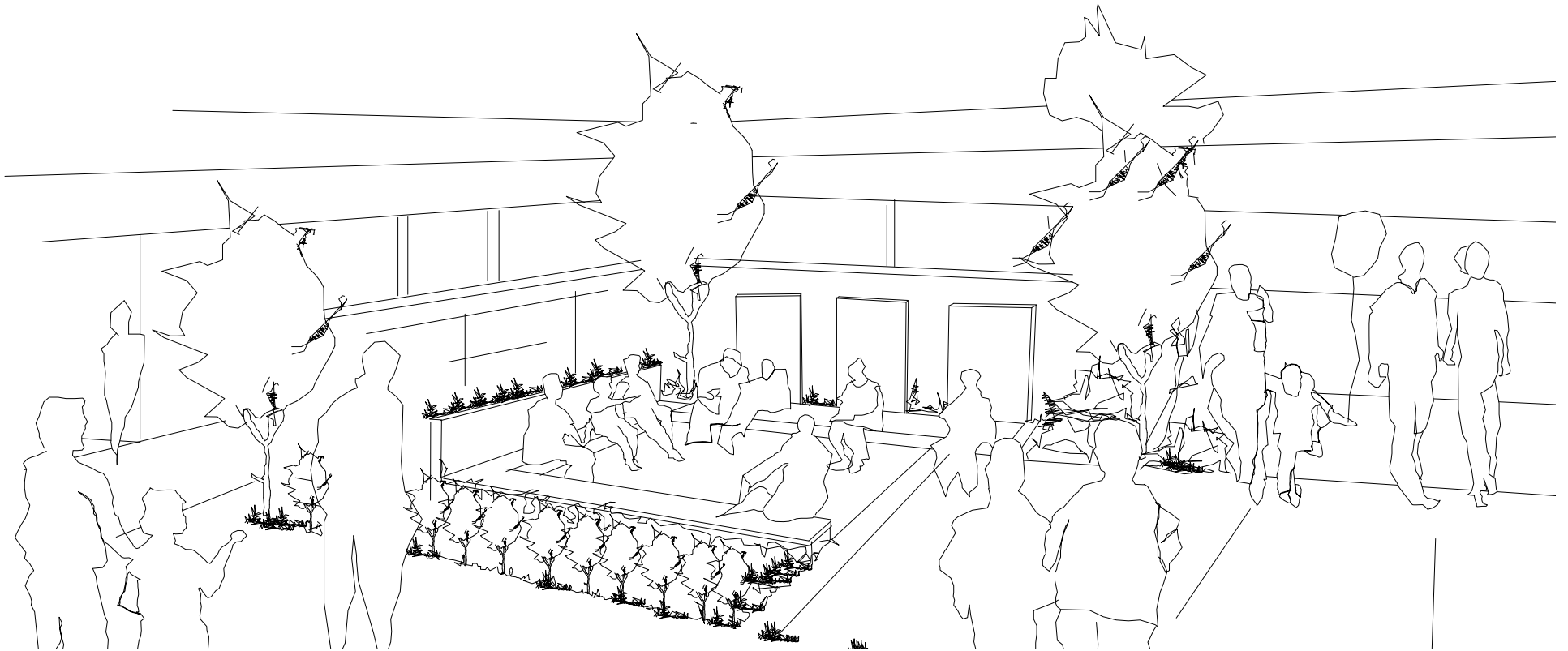


Figure 8.12: Detail 06, option 02: Proposed drawing for open space within shopping area; Author, 2019.

### 8.3.4: Transportation:

#### Present situations and feasibilities

Table 8.14 illustrates an assessment of the participant's satisfaction with the current level of sustainability regarding transportation within the study area. It undoubtedly demonstrates a variance in the responses whereby 77.1% of the businessmen and 79.2% of the residence participants complained that this area is "Unsustainable in all respects". Again 28.6% of the business-residence (*both*; who have both these connections with this neighbourhood) participants explained that this area is "Partially Sustainable". In addition, next table 8.15 shows that 73.3% businessmen complained their residence is not close to their business area.

**Table 8.14: Relation with Neighbourhood and the present Transportation Situation within this neighbourhood**

		What is the present situation within your neighbourhood			Total	
		Don't Know	Partially Sustainable	Unsustainable in all respects		
Rel. with Nei.	Both	Count	0	4	10	14
		% within Rel. with Nei.	0,0%	28,6%	71,4%	100,0%
	Business	Count	3	21	81	105
		% within Rel. with Nei.	2,9%	20,0%	77,1%	100,0%
	Resident	Count	0	5	19	24
		% within Rel. with Nei.	0,0%	20,8%	79,2%	100,0%
Total	Count	3	30	110	143	
	% within Rel. with Nei.	2,1%	21,0%	76,9%	100,0%	

**Table 8.15: Relation with Neighbourhood and Distance of Residence from Business area**

		My residence is close to my business area				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	1	13	0	0	14
		% within Rel. with Nei.	7,1%	92,9%	0,0%	0,0%	100,0%
	Business	Count	26	77	2	0	105
		% within Rel. with Nei.	24,8%	73,3%	1,9%	0,0%	100,0%
	Resident	Count	0	0	0	24	24
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
Total	Count	27	90	2	24	143	
	% within Rel. with Nei.	18,9%	62,9%	1,4%	16,8%	100,0%	

### Possibilities and Prospects

Following table 8.16 illustrates the possibilities and prospects of transportation within the study area -

Table 8.16: Transportation: Possibilities and Prospects		KCC	KDA	AC	LC
1	Sustainable and inclusive transport development for Khulna City developed by KCC	√	√	√	
2	Pro-poor and green urban transport by KCC	√			
3	Inland Water Freight Transport System		√		
4	BRT service within city area	√			
5	The regional railway and water way terminal			√	√
6	Future connection with international highway	√		√	√

Experts believe that the road transport system in Khulna city is now challenged with rapid urbanization which would be the causes of social, economic and environmental degradation. Sustainable transport may become a key tool for dealing with these problems and to provide a better guideline to cope with the future demand. Experts from KCC, KDA, AC explains that KCC is responsible to provide sustainable and inclusive transport development within this area. A study carried out by CDIA on the “pro-poor and green urban transport in Khulna, For enhancing transport accessibility and sustainability” financed by German Financial Cooperation through KFW. Local Government Engineering Department (LGED) is the Executing Agency and Khulna City Corporation (KCC) is the Implementing Agency of this project. This is a good opportunity to build a sustainable transportation within this area. Again the experts considered that the study area has good possibilities due to its inland water freight transportation system, BRT, the regional railway and water way terminal around the area and future connection with international highway within the site.

### Proposals and Recommendations

Certainly, the recommendation for Increasing Pedestrian and convenient water transport from river side and improving existing stations, ghats and coordination in implementation of basic infrastructure and services has been voiced by almost everybody who participated in these interviews. Pedestrian connections within this area are not well accessible especially towards Sir Iqbal, Clay and Helatala roads. These areas should be well linked with pedestrian network. KCC and LC experts added that access to all public transport needs to be restricted

in pick hour within this area. In addition, experts also recommended that it is essential to Increase public participation and awareness in planning and strong implementation and enforcement of legislation towards illegal transport and structure. This is because of the lack of management, policy execution and transparency of the project in the implementation phase.

Next table 8.17 illustrates the possibilities and prospects of transportation within the study area –

Table 8.17 Transportation: Proposals and Recommendations		KCC	KDA	AC	LC
1	Increase Pedestrian and convenient water transport from river side	√	√	√	√
2	Improve existing transport stations and river side Ghats	√	√		√
3	Advance coordination in implementation of basic infrastructure and services	√	√	√	√
4	Needs to restrict public transport access in pick hour	√			√
5	Increase public participation and awareness in planning			√	
6	Strong implementation and enforcement of legislation towards illegal public transport i.e auto rickshaw				√

Drawing Proposals:

Below figure 8.13 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present transportation facilities and its environment within the study area. Following 8.14 (detail 07) shows proposed separate Ghat area for transferring goods and passengers. Figure 8.13 also shows –

1. Separate Ghats for transferring loading-unloading goods and passengers
2. Existing Ghats and transport stations
3. Proposed water transportations
4. Proposed barriers free pedestrian area



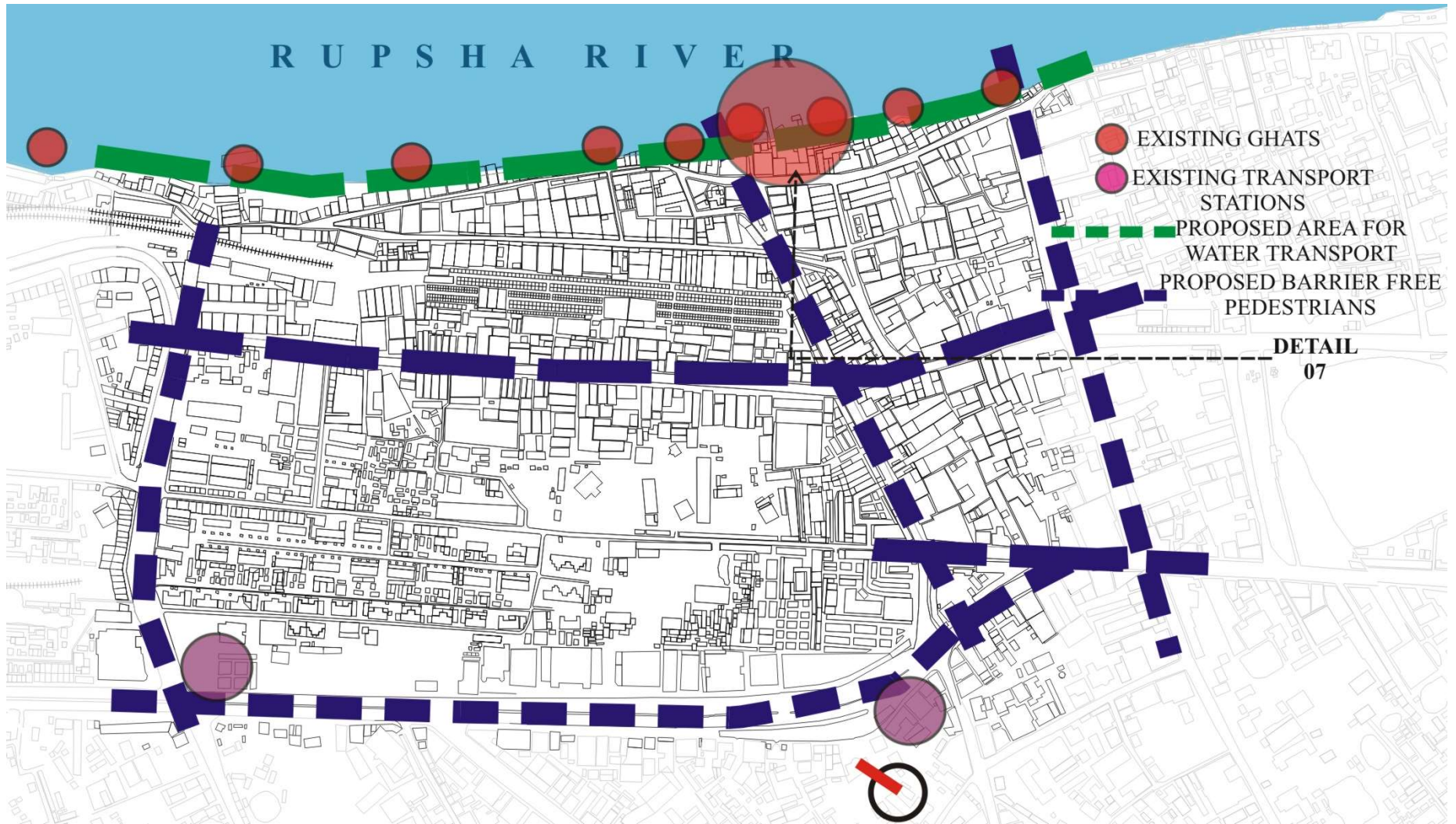


Figure 8.13: Proposed plan for sustainable urban revitalization for developing Transportation

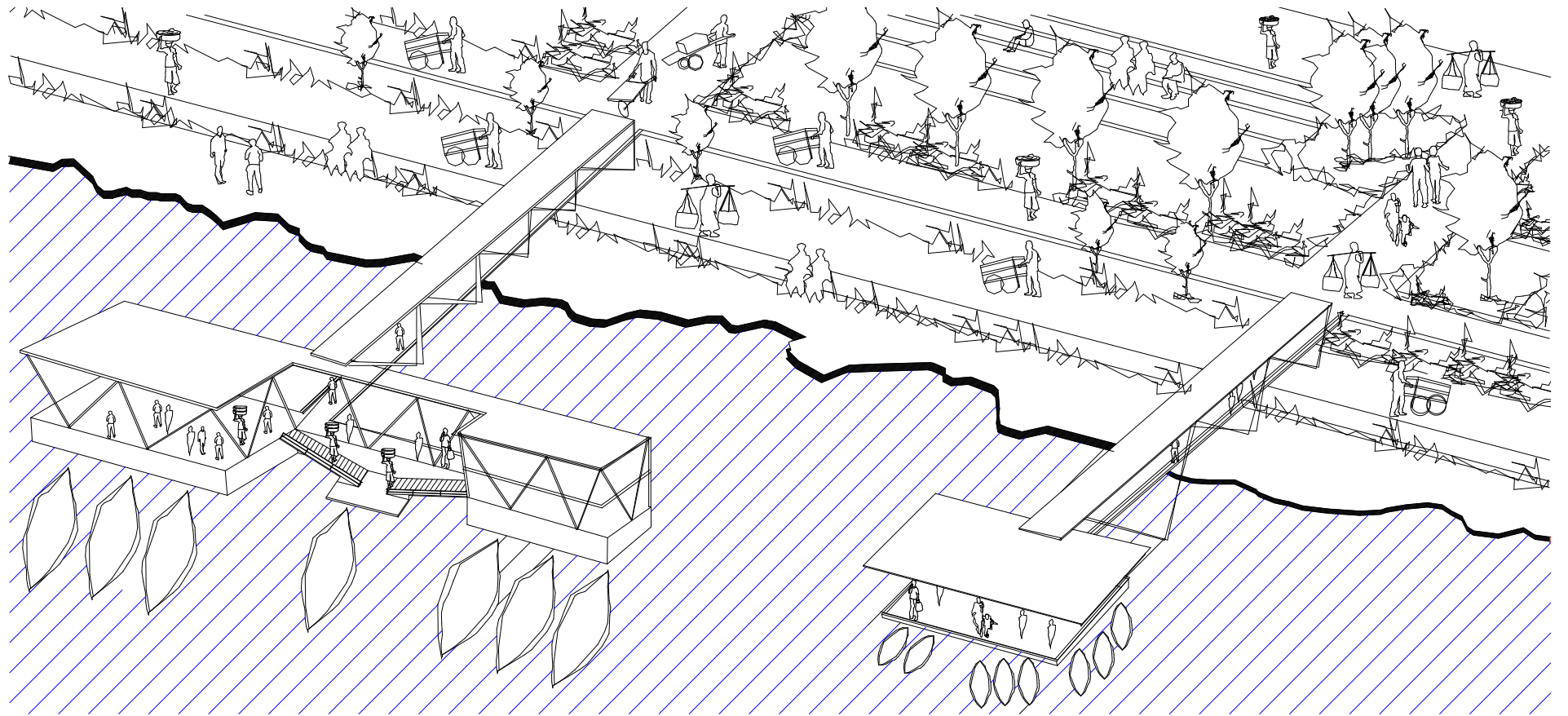


Figure 8.14: Detail 07: Separate Ghat area for transferring goods and passengers; Author, 2019.

8.3.5: Riverside area:

Present situations and feasibilities

Table 8.18 illustrates an assessment of the participant’s proposals regarding river side development within the study area. It undoubtedly demonstrates a variance in the responses whereby 90.5% of the businessmen and 87.5% of the residence participants proposed that the river side area should be developed in a sustainable approach. In addition, both the participants felt that Financial / Political issue is main problem than Planning / Management issue for sustainable development within this area. Next table 8.19 shows that 58.1% and 66.7% businessmen and residence respectively noticed the main problem for sustainable development is financial / political rather than Planning / Management.

**Table 8.18: Relation with Neighbourhood and opinions for sustainable development of river side area**

		Do you agree to do sustainable development within your neighbourhood			Total	
		Agree	Disagree	Don't Know		
Rel. with Nei.	Both	Count	14	0	0	14
		% within Rel. with Nei.	100,0%	0,0%	0,0%	100,0%
	Business	Count	95	8	2	105
		% within Rel. with Nei.	90,5%	7,6%	1,9%	100,0%
	Resident	Count	21	1	2	24
		% within Rel. with Nei.	87,5%	4,2%	8,3%	100,0%
Total	Count	130	9	4	143	
	% within Rel. with Nei.	90,9%	6,3%	2,8%	100,0%	

**Table 8.19: Relation with Neighbourhood and problems for sustainable development of river side area**

		What is the main problem for sustainable development within your neighbourhood			Total	
		Don't Know	Financial / Political	Planning / Management		
Rel. with Nei.	Both	Count	0	7	7	14
		% within Rel. with Nei.	0,0%	50,0%	50,0%	100,0%
	Business	Count	8	61	36	105
		% within Rel. with Nei.	7,6%	58,1%	34,3%	100,0%
	Resident	Count	0	16	8	24
		% within Rel. with Nei.	0,0%	66,7%	33,3%	100,0%
Total	Count	8	84	51	143	
	% within Rel. with Nei.	5,6%	58,7%	35,7%	100,0%	

Possibilities and Prospects

Following table 8.20 illustrates the possibilities and prospects of river side within the study area -

Table 8.20: River side area: Possibilities and Prospects		KCC	KDA	AC	LC
1	Both rural and urban fabric towards the site			√	
2	Mixed culture and economy			√	
3	Easy transportation from both the side	√	√	√	√
4	Scenic area from Voirob Stand road				√
5	The regional water way (BIWTA) station near by		√		√
6	River based trade economy			√	
7	Short travel time to work area				√
8	Traditional “Ghats” (river harbour)			√	
9	River protection and embankment by KCC	√			

Mainstream of the above opportunities are already explained by experts in different issues that river is in this study area is the best opportunities among all. Now they added its rural and urban fabric, easy transportations, scenic environment which are also extra value of this site. The regional water way (BIWTA) station which is adjacent the site will be again good opportunities, explained by the KDA and LC experts. It seems that, one of the major issues with the river based trade economy which generally done by different “Ghats” (river harbour) explained by the AC experts, should be taken as another good possibility to earn more revenue for local authority.

Proposals and Recommendations

Following table 8.21 demonstrates the possibilities and prospects of River side area within the study area -

Table 8.21: River side area: Proposals and Recommendations		KCC	KDA	AC	LC
1	Improve as breathing and recreational space		√	√	√
2	Improve “Ghats” (river harbour) within this area	√		√	√
3	Transfer street vendors and Holiday market within the Voirob Stand road area				√
4	Control river erosion and better accessibility with all primary roads	√	√	√	

5	Need to remove all illegal structure within Voirob Stand road		√
6	More investment within the river side area	√	
7	Strong implementation and enforcement of legislation towards Illegal structure over the ride area	√	√
8	Learn from other successful models – international projects		√

An expert from local consultant (LC) in the current set-up, shared his views that “Boro Bazaar Area” has a big advantage considering its river side and rural texture on the other side, which leads to an organic pattern of development.

Most significance recommendation is that to improve this river side area as breathing and recreational space and Improve “Ghats” (river harbour) within this area. Then another recommendation was to transfer street vendors from Clay, Helatala, Station, Hospital road to this area for sustainable revitalization. But they also argued that main barriers of this task are river erosion, investment and illegal structure of this area. Experts recommend that: “You look at certain cities of developing countries how they revitalize their river side area which exist for many of years as if they were done yesterday –Because they have simply planned them in a sustainable manner. We need to work around the same thing. Make sure the quality of the design, the life span of the structure itself, contextual elements and the beautification go (whether landscaping or architecture) go hand in hand with each other and should not really be segregated”. They further recommend to start with improving the existing infrastructure: “there is a focus on improving what is exist to start with and make sure you put the right facilities for it. In addition, there is a need to develop new mechanisms and strong implementation and enforcement of legislation for planning follow-up and to measure master planning as well as river side development with public participants on a regular basis and to respond immediately with better solutions where required.

Drawing Proposals:

Below figure 8.15 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present river side area and its environment within the study area. Again figure 8.16 shows proposed drawing for urban breathing space towards Voirob Stand Road (detail 08). Figure 8.15 also shows –

1. Separate area for holiday market and street vendors
2. Better accessible area

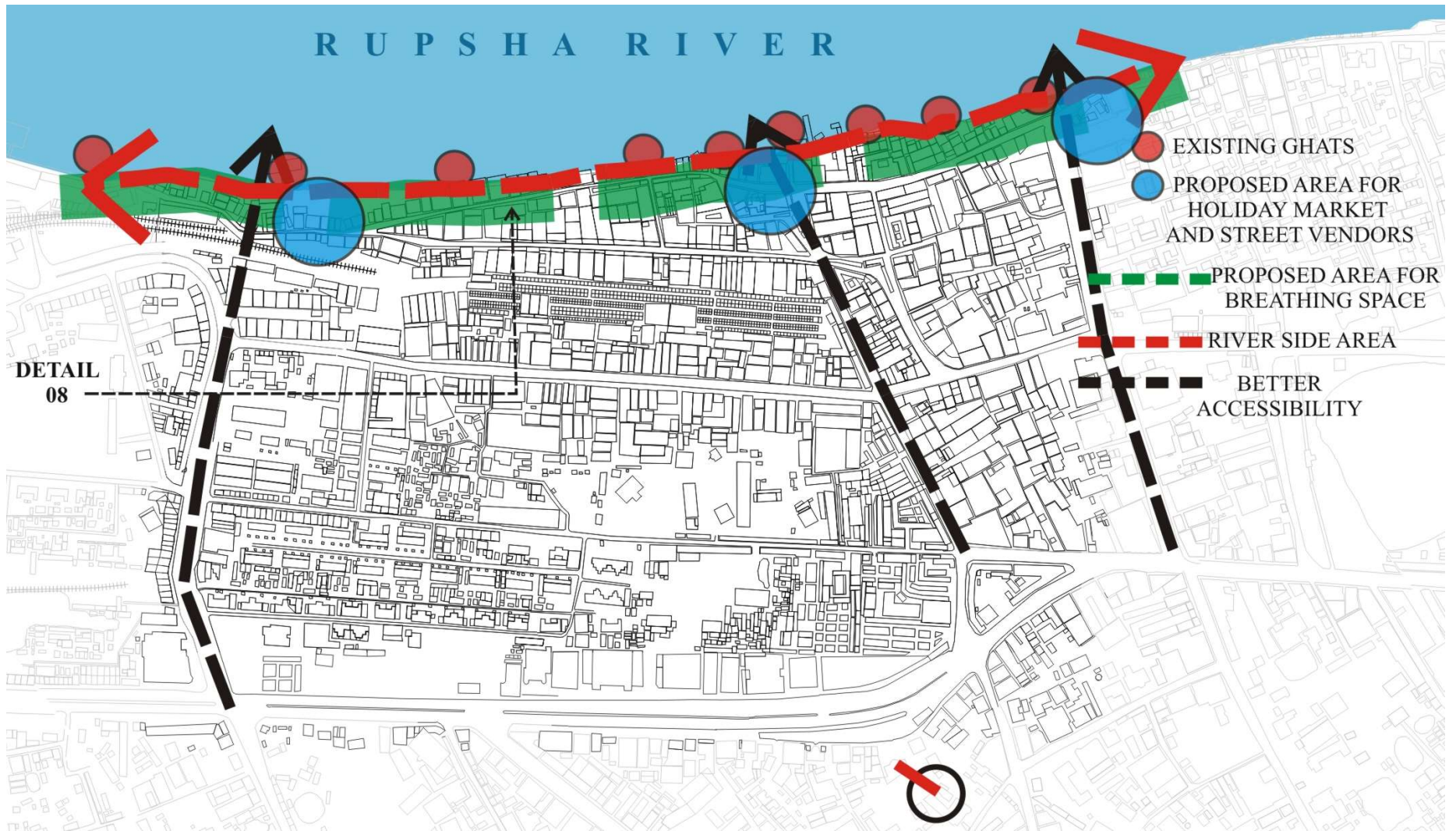


Figure 8.15: Proposed plan for sustainable urban revitalization for developing river side area

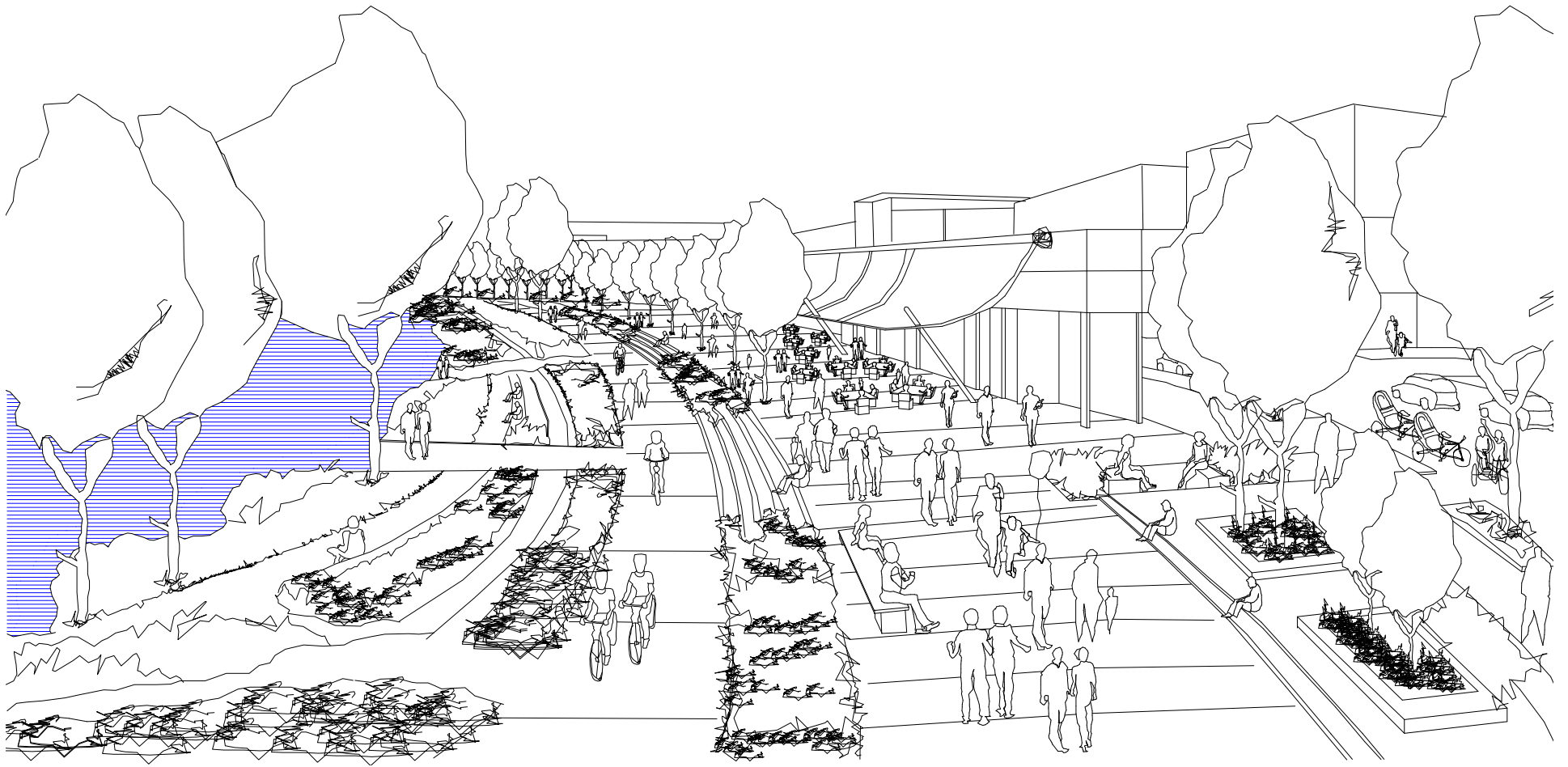


Figure 8.16: Proposed drawing for urban breathing space towards Voirob Stand Road (detail 08); Author, 2019.

8.3.6: Road network and Side walk:

Present situations and feasibilities

Again underneath summarizes the *present situations and feasibilities* regarding road network and side walk within the study area explained by the local people who are living here either residence or business purposes. This time participant who are directly related with business are not included. Therefore, table 8.22 and 8.23 below reviews that among 38 participants who have directly relation with this neighbourhood by residence or business-residence (both). Along with 70.8% (residence) and 92.9% (both) participants explained that they don't enjoy taking walks through my neighbourhood. Again most participants' shows that this neighbourhood is not safe for live regarding its road network and side walk.

**Table 8.22: Relation with Neighbourhood and opinions regarding walking environment within this neighbourhood**

		I enjoy taking walks through my neighbourhood				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	1	13	0	0	14
		% within Rel. with Nei.	7,1%	92,9%	0,0%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	4	17	3	0	24
		% within Rel. with Nei.	16,7%	70,8%	12,5%	0,0%	100,0%
Total		Count	5	30	3	105	143
		% within Rel. with Nei.	3,5%	21,0%	2,1%	73,4%	100,0%

**Table 8.23: Relation with Neighbourhood and Safety-Security of this area**

		This neighbourhood is safe for live				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	0	12	2	0	14
		% within Rel. with Nei.	0,0%	85,7%	14,3%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	4	20	0	0	24
		% within Rel. with Nei.	16,7%	83,3%	0,0%	0,0%	100,0%
Total		Count	4	32	2	105	143
		% within Rel. with Nei.	2,8%	22,4%	1,4%	73,4%	100,0%



### Possibilities and Prospects

Following table 8.24 illustrates the possibilities and prospects of present Road network and Side walk within the study area -

Table 8.24: Road network : Possibilities and Prospects		KCC	KDA	AC	LC
1	Local authority has different plans to improve road network	√	√		√
2	Connection with all major roads				√
3	The regional water way (BIWTA) station near by		√	√	√
4	Future connection with international highway	√	√		

Local authorities have many teams working hard to manage the elements of road network to maximize the performance and serviceability but road construction and maintenance, parking facilities, safety review, traffic signals sometimes not so effective of better management and strategic view of the overall road network strategy. In Khulna Metropolitan City, Khulna City Corporation (KCC) is responsible for the maintenance and monitoring of the roads. Local authority thinks that the best exercise of enhancing urban roads is currently being delivered by ITC (Intelligent Transport System) and GIS-T (Geographic Information System in transportation) projects. Under the new team for Khulna Municipality, enhancing urban roads has been used as the main task for the Municipality. They also added the opportunities of the future connection with international highway with the area. In addition, Local Consultant and Academician believe that connection with other area by roads and regional water way (BIWTA) station creates more opportunities for the site.

### Proposals and Recommendations

Following table 8.25 illustrates the Proposals and Recommendations of present Road network and Side walk within the study area -

Table 8.25: Road network and Side walk :Proposals and Recommendations		KCC	KDA	AC	LC
1	Improve and widen Pedestrian network towards Clay, Sir-Ikbal, Sher-E-Bangla and Station road				√
2	Clear all roads and nodes from illegal structure and should connected accordingly			√	√
3	River based road network – water taxi	√		√	

4	Barrier free accessible road network	√	√
5	Repair and rethink the “Ghats” (river harbour) area	√	√
6	Need to forecast future Road network	√	
7	Improve coordination in implementation of basic infrastructure and services		√
8	Increase the transparency and quality construction should exist in planning		√

Although it came into view in the problem analysis phase, some of the participants felt the problem was not with the road network system; in fact, some identified it as an opportunity and suggest improving barrier free accessible pedestrian within this area. (AC, LC) said to importance of “Clear all nodes from illegal structure, should connected accordingly, barrier free accessible road network for all, river based road network – water taxi and repair and rethink the “Ghats” (river harbour) area within the Voirob Stand road”. Additionally, one Local Consultant (LC) said that “Improve coordination in implementation of basic infrastructure and services and Increase the transparency and quality construction should exist in planning” for sustainable road network within this area. Although experts from KCC said the total road network should to forecast the future needs.

Drawing Proposals:

Below figure 8.17 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present road network within the study area. Figure 8.17 illustrates the following proposals –

1. Existing Ghats and illegal structure
2. Proposed water transportations and river side area
3. Proposed pedestrian network within the study area
4. Proposed secondary roads

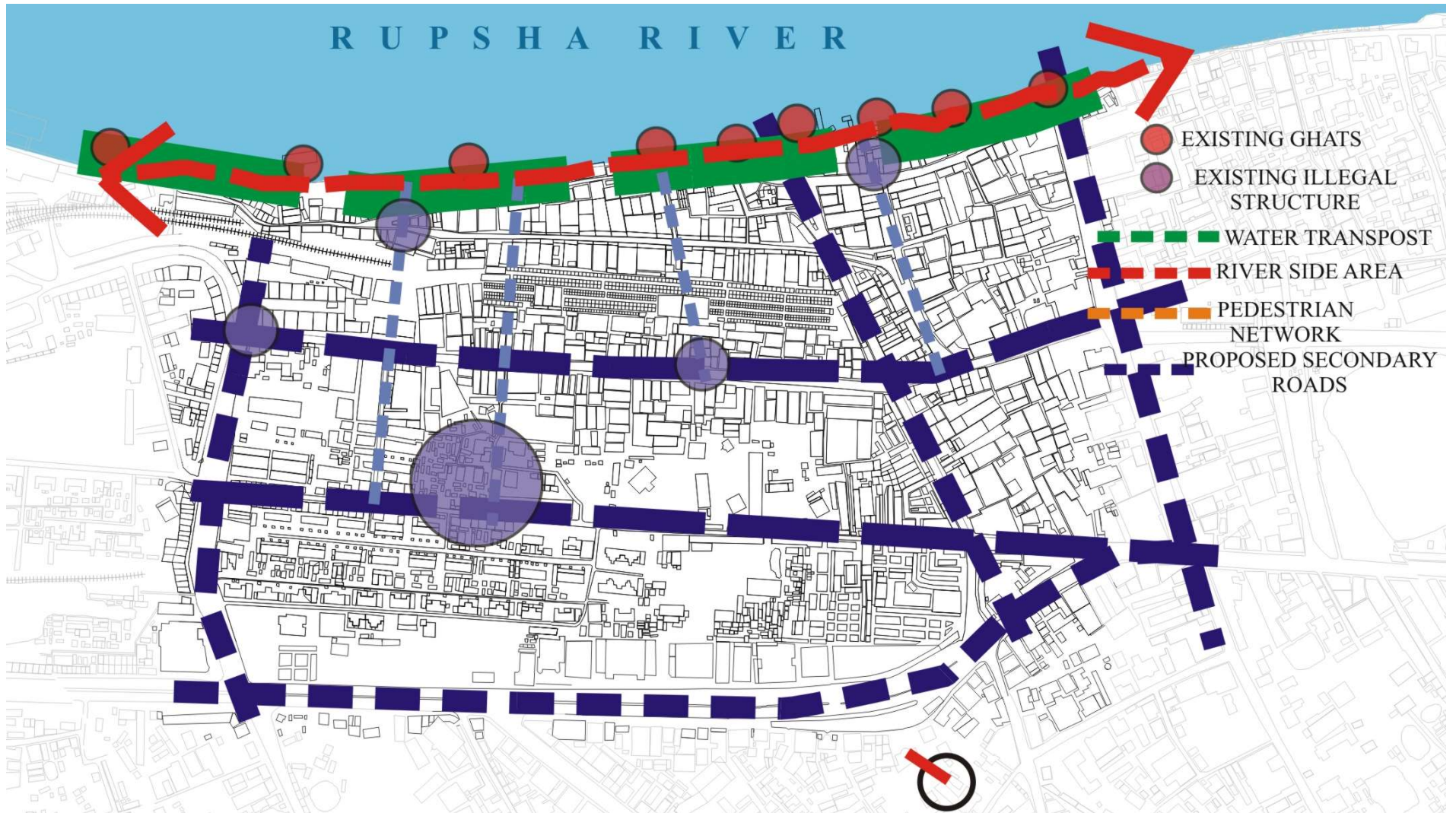


Figure 8.17: Proposed plan for sustainable urban revitalization for developing road network within the study area

8.3.7: Noise pollution:

Present situations and feasibilities

Table 8.26 and 8.27 below summarizes the *present situations and feasibilities* regarding pollution within the study area explained by the local people who are living here either residence or business purposes. This time again participants who are directly related with business are not included. Therefore, table below reviews that among 38 participants who have directly relation with this neighbourhood by residence or business-residence (both). Along with 66.7% (residence) and 64.3% (both) participants explained that this neighbourhood is not better to live. Again most of the residence (62.5%) participants' explained that they have other neighbourhood that they would rather to live.

**Table 8.26: Relation with Neighbourhood and Living Environment of this area**

		This neighbourhood is better to live				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	4	9	1	0	14
		% within Rel. with Nei.	28,6%	64,3%	7,1%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	8	16	0	0	24
		% within Rel. with Nei.	33,3%	66,7%	0,0%	0,0%	100,0%
Total	Count	12	25	1	105	143	
	% within Rel. with Nei.	8,4%	17,5%	0,7%	73,4%	100,0%	

**Table 8.27: Relation with Neighbourhood and Services and Pollutions of this area**

		There is no other neighbourhood I would rather to live				Total	
		Agree	Disagree	Don't know	Not Asked		
Rel. with Nei.	Both	Count	8	4	2	0	14
		% within Rel. with Nei.	57,1%	28,6%	14,3%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	8	15	1	0	24
		% within Rel. with Nei.	33,3%	62,5%	4,2%	0,0%	100,0%
Total	Count	16	19	3	105	143	
	% within Rel. with Nei.	11,2%	13,3%	2,1%	73,4%	100,0%	

Drawing Proposals:

Under figure 8.18 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the proposed noise pollution control within the study area.

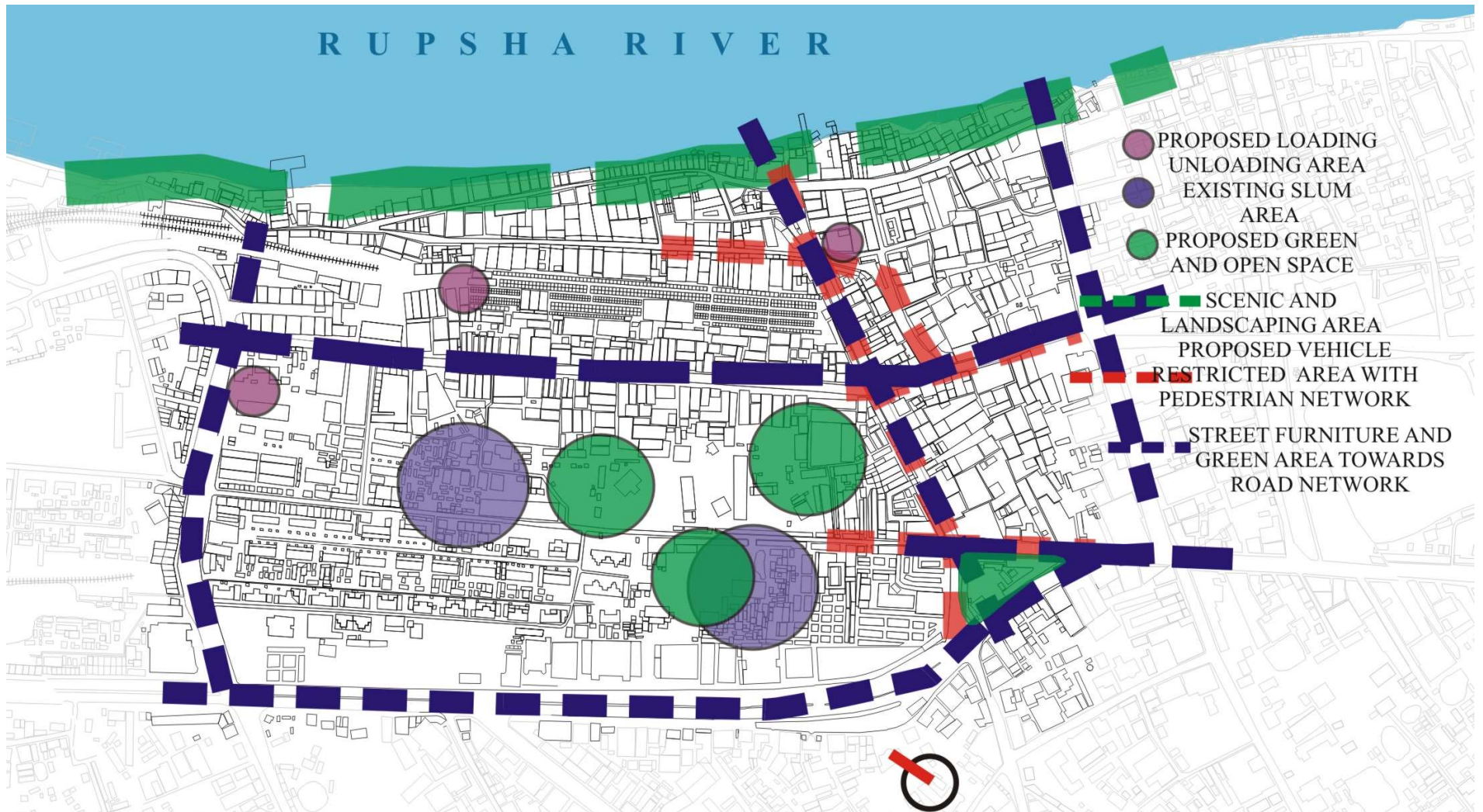


Figure 8.18: Proposed plan for sustainable urban revitalization for pollution control within the study area

Possibilities and Prospects

Following table 8.28 illustrates the possibilities and prospects of present pollution condition within the study area -

Table 8.28: Noise pollution: Possibilities and Prospects		KCC	KDA	AC	LC
1	More aware from the past by the local authority	√	√	√	
2	Ensure carbon emission reduction by KCC	√			
3	German Development Cooperation's support to KCC for Climate Adaptive Urban Development	√			
4	Sustaining initiatives for achieving low carbon development by KCC	√			
5	People are becoming more responsible towards the environment and pollution			√	√

All of these Possibilities and Prospects are similar in nature, although responsiveness still needs more functioning to control all pollutions; explained by the AC and LC. However, over the past few years, to control pollution there is an ever increasing awareness from past by the local authority and this should be encouraged. KCC expert's highlighted the plan taken within this year for controlling pollutions - German Development Cooperation's support to KCC for Climate Adaptive Urban Development and Sustaining initiatives for achieving low carbon development by KCC.

Proposals and Recommendations

Following table 8.29 illustrates the Proposals and Recommendations concerning present pollution condition within the study area -

Table 8.29: Noise pollution: Proposals and Recommendations		KCC	KDA	AC	LC
1	Controlling pollution from now	√	√		√
2	Remove slum within station and hospital roads	√	√		√
3	Increase Pedestrian network and open space			√	√
4	Increase Scenic value and visual landscape		√		√
5	Separate area for loading – unloading facilities				√
6	Restrict to heavy vehicle within office and business hour				√
7	Create buffer zone from residence to business area			√	
8	Restricted all kind of vehicle which create more noise and air pollution			√	√

While experts from KDA, KCC felt that all pollution should control from now and slums within these areas should remove for new development. Although other participants believes that giving attention to creating green areas, pedestrian network, create more green landscape fields and open space would improve the environmental protection and pollution. Academicians also suggested the same. Local consultants support this recommendation, and add to it: “we need separate area for loading – unloading facilities, create buffer zone from residence to business area and restricted all kind of vehicle which creates more noise and air pollution”.

8.3.8: Drainage system:

Present situations and feasibilities

Next table 8.30 illustrates an assessment of the participants of sustainable development concerning drainage systems within the study area. It certainly demonstrates a variance in the responses whereby 82.9% of the businessmen and 83.3% of the residence participants explained that there was no sustainable development (Drainage) introduced before in this area. Again total 10.5% of all respondents said yes, there was sustainable development (Drainage) introduced before in this area.

**Table 8.30: Relation with Neighbourhood and Introduction of sustainable development regarding Drainage facilities**

			Was there any sustainable development introduced before			Total
			Don't Know	No	Yes	
Rel. with Nei.	Both	Count	1	13	0	14
		% within Rel. with Nei.	7,1%	92,9%	0,0%	100,0%
	Business	Count	5	87	13	105
		% within Rel. with Nei.	4,8%	82,9%	12,4%	100,0%
	Resident	Count	2	20	2	24
		% within Rel. with Nei.	8,3%	83,3%	8,3%	100,0%
Total	Count	8	120	15	143	
	% within Rel. with Nei.	5,6%	83,9%	10,5%	100,0%	

Drawing Proposals:

Below figure 8.19 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present drainage systems proposals within the study area.

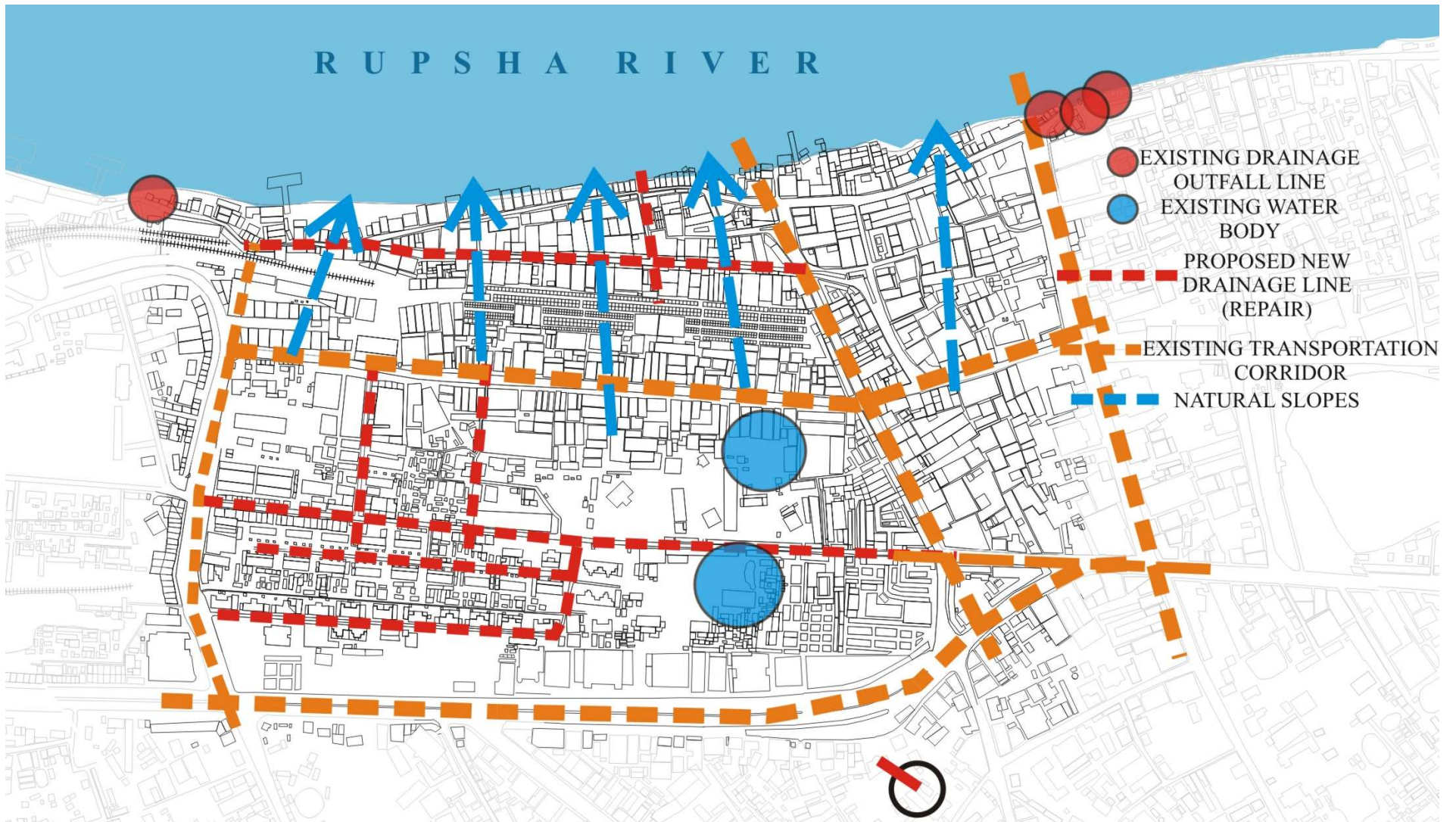


Figure 8.19: Proposed plan for sustainable urban revitalization for developing drainage systems within the study area



### Possibilities and Prospects

Following table 8.31 illustrates the possibilities and prospects of present drainage system within the study area -

Table 8.31: Drainage system: Possibilities and Prospects		KCC	KDA	AC	LC
1	Proposed Mitigate Water Logging Problem in Khulna City by KCC and Sheltech (PVT) LTD.	√			
2	Newly improved drainage Master Plan by KCC	√			
3	Protect municipal infrastructure investment by maintaining the existing drainage and treatment facilities	√	√		
4	Provide an acceptable level of services to city dwellers		√	√	√
5	River side area			√	

In terms of drainage system within city area, local authority provides ample examples of this: “Khulna city drainage system master plan, Proposed Mitigate Water Logging Problem in Khulna City by KCC and Sheltech (PVT) LTD, protect municipal infrastructure investment by maintaining the existing drainage and treatment facilities”. In addition, Khulna City Corporation (KCC) will soon begin a mega project involving Taka 1,431.35 crore with a view to improving roads and drainage system as well as making the city free from water logging. Another possibility pointed by the ac is that presently provide an acceptable level of services to city dwellers and the benefits of river side area.

### Proposals and Recommendations

Following table 8.32 illustrates the possibilities and prospects of present drainage system within the study area -

Table 8.32: Drainage system: Proposals and Recommendations		KCC	KDA	AC	LC
1	Construction of new drains and Repairing the existing drains	√		√	√
2	More secondary drains have been recommended in this area	√			
3	Revive water body and natural canal within station road			√	√
4	Observing Present Practice of Drainage and its existing outfall pattern within and outside the study area	√			
5	Improve the drainage around transport corridors		√		
6	Drainage line should clear from all garbage deposited by small industry and residential area			√	√
7	Increase the transparency in planning process				√

Construction of new drains and repairing the existing drains was suggested by various participants: KCC, AC and LC. Experts from KCC also recommended secondary drains in this area. Again In terms of existing water body and natural canal within station road should be revitalize and clear drainage line from all garbage deposited by small industry and residential area. KDA participants added that drainage line should continue with transport corridors and should observed present practice of drainage system and its existing outfall pattern within and outside the study area. Increase the transparency in planning process was recommended by LC for future proposal of drainage system within this area.

1.3.9. Accessibilities:

Present situations and feasibilities

Table 8.33 and 8.34 below reviews that the *present situations and feasibilities* regarding Accessibilities (hospitals, bazaar, services, schools / college) within the study area explained by the local people who are living here either residence or business purposes. This time once more participants who are directly related with business are not included. Therefore, table below explains only 38 participant's views that have directly relation with this neighbourhood by residence or business-residence (both). Along with 58.3% (residence) and 42.9% (both) participants explains that with this resident in this area are willing to help their neighbours. Yet again 50.0% residence and 71.4% business-residence felt that residence in this neighbourhood is cheaper than other area.

**Table 8.33: Relation with Neighbourhood and Social Activities of the neighbours**

			Residents in my area are willing to help their neighbours				
			Agree	Disagree	Don't know	Not Asked	Total
Rel. with Nei.	Both	Count	6	8	0	0	14
		% within Rel. with Nei.	42,9%	57,1%	0,0%	0,0%	100,0%
	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	14	8	2	0	24
		% within Rel. with Nei.	58,3%	33,3%	8,3%	0,0%	100,0%
Total	Count	20	16	2	105	143	
	% within Rel. with Nei.	14,0%	11,2%	1,4%	73,4%	100,0%	

**Table 8.34: Relation with Neighbourhood and Monthly Rent of the Residence of this area**

			Residence in this neighbourhood is cheap				
			Agree	Disagree	Don't know	Not Asked	Total
Rel. with Nei.	Both	Count	10	4	0	0	14
		% within Rel. with Nei.	71,4%	28,6%	0,0%	0,0%	100,0%

	Business	Count	0	0	0	105	105
		% within Rel. with Nei.	0,0%	0,0%	0,0%	100,0%	100,0%
	Resident	Count	12	11	1	0	24
		% within Rel. with Nei.	50,0%	45,8%	4,2%	0,0%	100,0%
Total		Count	22	15	1	105	143
		% within Rel. with Nei.	15,4%	10,5%	0,7%	73,4%	100,0%

### Possibilities and Prospects

Subsequent table 8.35 illustrates the possibilities and prospects of present Accessibilities (hospitals, bazaar, services, schools / college) systems within the study area –

Table 8.35: Accessibilities: Possibilities and Prospects		KCC	KDA	AC	LC
1	City centre and main commercial hub	√	√	√	√
2	Variety of Transport and road network around the site	√	√		
3	Diverse community and culture			√	
5	Railway and River station near to the study area			√	√
6	People are more aware towards the Social responsibility			√	

Majority of the above opportunities are already considering by the city authority who are responsible for developing good accessible network, or at least this is what they have announced by this recent year. Apparently, one of the major issues with the organizations is the management of information and how it is shared between organizations. Local authority explained that this site is in main city center and main commercial hub and it is the main possibility for a good example of good accessible network. Because of its location it has verity of transport, community and road network. Another facility is the railway and river station is very near to the study area. One expert AC believed that people within this area are more aware towards the social responsibility from the past.

### Drawing Proposals:

Following figure 8.20 shows the drawing proposals according the recommendation composed from experts, interviews, public participants and concerning the present accessibilities proposals within the study area.

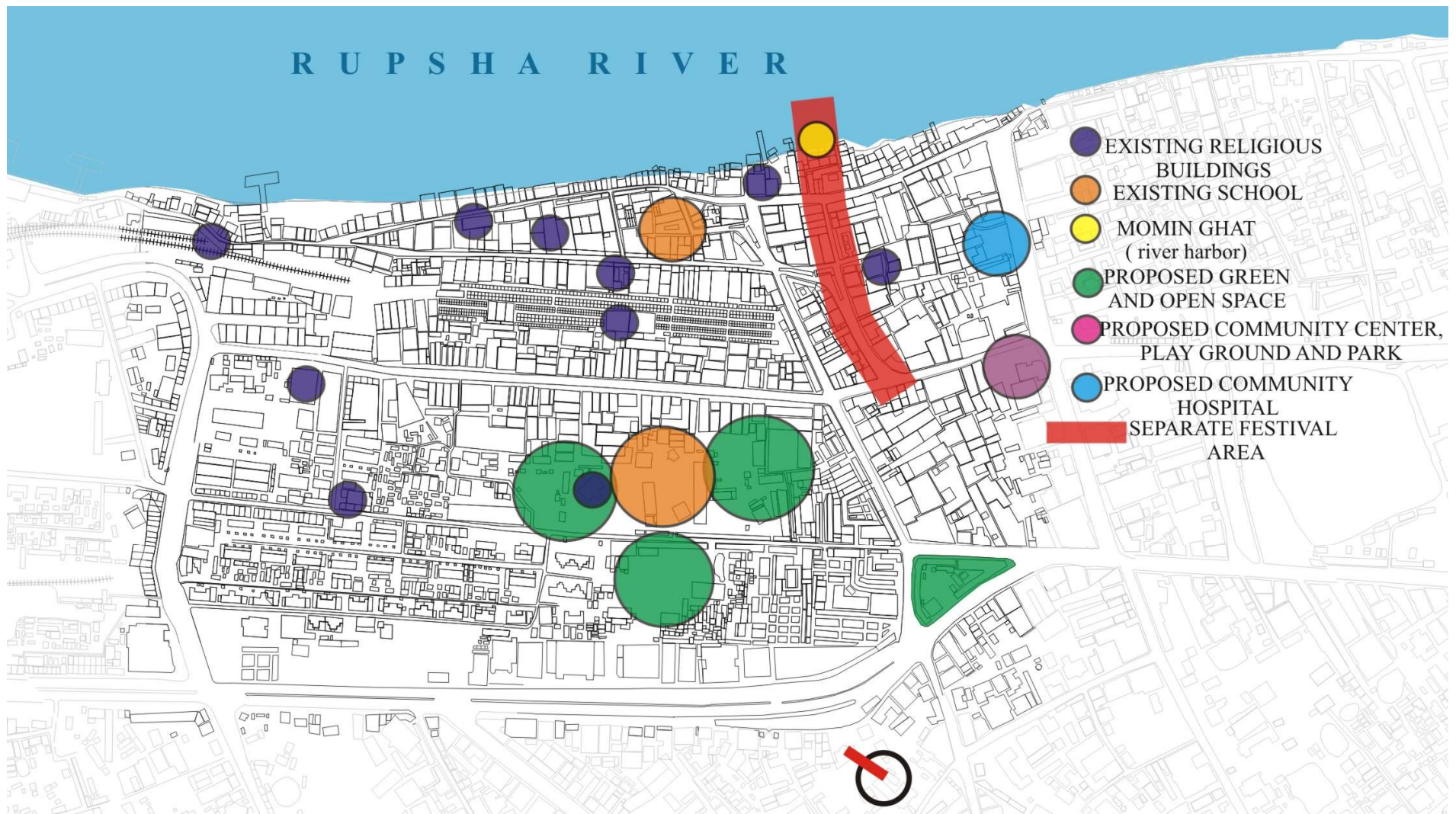


Figure 8.20: Proposed plan for sustainable urban revitalization for developing accessibility within the study area

### Proposals and Recommendations

Following table 8.36 illustrates the proposals and recommendations concerning Accessibilities (hospitals, bazaar, services, schools / college) systems within the study area –

Table 8.36: Accessibilities: Proposals and Recommendations		KCC	KDA	AC	LC
1	Create community centres, children park and clubs	√			√
2	Living environments and business area should be vibrant			√	√
3	Need to allocate land for new school, hospital and religious buildings for more social interaction and accessibility			√	√
4	Consider “Helatala Road” as a festival area for Hindu Community			√	√
5	Enhancing more public awareness and public participation about accessible social sustainability			√	
6	Pay attention to neighbouring aged and experienced people			√	√
7	Improve coordination in implementation of basic infrastructure and services	√	√		

Experts highlighted the important of creating community centres, Children Park and clubs within the study area for increasing social accessibility. Also added to create more open spaces and these should connect with better accessibly planning. In addition, they believe that giving attention to allocate land for new school and religious buildings especially a hospital are important requirements for building better accessibility within the study area. They also suggested that living environments and business area should be vibrant for creating more social interaction and accessibility. Every year Hindu community performed their most important festival within the “Helatala Road”. Therefore, experts from AC and LC recommended announcing this area towards “Momin Ghat” as a festival area for Hindu community. AC and LC again suggested paying attention to neighbouring aged and experienced people and also recommended the importance of coordination in implementation of basic infrastructure and services.

#### **8.4 Summary of Proposals and Recommendations**

The next section classifies some trends associated with the proposals and recommendations results classified in the previous section for various sustainable urban revitalization planning

proposals. Finally, it concludes with the final recommendation through design guideline towards sustainable urban revitalization planning strategies.

#### 8.4.1 Summary of results – Possibilities-Prospects and Proposals-Recommendations

Table 8.37 below illustrates the results towards the possibilities and prospects and proposals and recommendations connected with the proposed sustainable urban revitalization planning schemes. Then put these results into a table for comparison involving various research methods: survey, field observations, mapping, interviews, expert’s participants and public questionnaires. In this stage of the study, the above process was required to recognize and identify the approaches of self-assessments by the selected expert’s participants towards the probable possibilities and prospects and proposals and recommendations required.

Table 8.37: Comparison of Results – Possibilities and Prospects / Proposals and Recommendations

Serial no	Components of Sustainable Urban Revitalization	Experts Group					Position
		Possibilities and Prospects	Proposals and Recommend	Total	(%)		
1	Employment / Job	5	6	11	9.5	5 <sup>th</sup>	
2	Recreation Facilities and Public spaces	6	8	14	12	2 <sup>nd</sup>	
3	Shopping Facilities	6	8	14	12	2 <sup>nd</sup>	
4	Transportation	6	5	11	9.5	5 <sup>th</sup>	
5	Riverside area	9	8	17	14.7	1 <sup>st</sup>	
6	Road network and Side walk	4	8	12	10.4	4 <sup>th</sup>	
7	Noise pollution	5	7	12	10.4	4 <sup>th</sup>	
8	Drainage system	5	6	11	9.5	5 <sup>th</sup>	
9	Accessibilities – hospitals, bazaar, services, schools / college,	6	7	13	11.3	3 <sup>rd</sup>	
<b>Total</b>		<b>52</b>	<b>63</b>	<b>115</b>	<b>100</b>		

The above result of interviews with experts shows that the participants identified more possibilities and prospects, and more proposals and recommendations for sustainable urban revitalization planning towards the riverside area, then recreational and shopping facilities.

In total, there were 52 Possibilities and Prospects and 63 Proposals and Recommendation that were conveyed by the expertise participants.

#### 8.4.2 Final Recommendations

The following table 8.38 shows final recommendations recognized through the incessant interviews with various participants and their different planning proposals towards improvement in urban design, urban development, urban planning and achievement of a recovered and potential sustainable urban area.

**Table 8.38: Final recommendations with design guideline**

Design criteria	Proposed Design Guideline	Initiated to <i>Boro Bazaar</i> Area	Strategy	Responsible Authority
Recreational areas	<ul style="list-style-type: none"> <li>- Create landmark structures with more emphasis and focused that provide visual interest, a sense of place and identity.</li> <li>- Extend and link existing riverside area and new public open spaces to form a continuous legible network of public spaces, and integrate the provision of pedestrian paths with river side and open space network.</li> <li>- Adopt landscape and street-furniture design that match and enhance the character of the area.</li> </ul>	<ul style="list-style-type: none"> <li>- Landmark structures and historical buildings should be revitalized again in a sustainable way to enhance its visual image and identity which may have cultural and historical elements.</li> <li>- Open spaces within the visual corridors, river side breathing space and small open spaces within shopping area can be linked to form part of a network of open spaces for public use.</li> <li>- More service facilities for this area should be provided because of business of this area.</li> </ul>	Long time strategy	KDA, BIWTA

<p style="text-align: center;"><b>Accessibility and Connectivity with Adjacent</b></p>	<ul style="list-style-type: none"> <li>- Provide public transport facilities near places of concentration and make sure about office time and separate loading-unloading area with different time periods.</li> <li>- Provide convenience and direct links from adjacent areas to the shopping, bazaar and river side area.</li> </ul>	<ul style="list-style-type: none"> <li>- Vehicle parking within this area should be introduced in new developments for convenience and more accessibility.</li> <li>- Public transport terminals should be placed at the periphery of this area and provide more and easy service to the public.</li> </ul>	<p style="text-align: center;">Short time strategy</p>	<p style="text-align: center;">KDA</p>
<p style="text-align: center;"><b>Treatment of Cultural and Historical Build forms</b></p>	<ul style="list-style-type: none"> <li>- Enhance and preserve historical build forms that promote unique identity and character of the area for public interest.</li> <li>- Enhance and inject activities that reflect the history and local character of the area for public enjoyment.</li> <li>- More concentration to different religion for participations their diverse religious festivals in different time in the year.</li> </ul>	<ul style="list-style-type: none"> <li>- The Historic Nil Kuthi and Kali Bari Temple should serve as attractions and reflect historical aspect of the area, respecting the cultural and built heritage.</li> </ul> <p>The character of <i>Boro Bazaar</i> area can be reinforced through the followings:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduction of historic track, repair, renovation and revitalize of historic Buildings considering context.</li> <li><input type="checkbox"/> Co-ordination of street furniture, information boards and direction signs;</li> <li><input type="checkbox"/> Introduction of buildings' façade treatment; and</li> <li><input type="checkbox"/> Introduction of traditional building material workshops, to reinforce a sense of place and regenerate historic built forms for public interest.</li> </ul>	<p style="text-align: center;">Both Short time strategy and Longtime strategy</p>	<p style="text-align: center;">KDA, BIWTA, BR</p>



Shopping and Bazaar facilities	<ul style="list-style-type: none"> <li>- Make available a better publicity, facilities and attractions that sustain the developments at different periods and attract different users to the area.</li> <li>- Offer more accomplished employer and improve native job activities that cloud creates additional economic development.</li> <li>- Provide more space for bazaar with separate light parking zone, waste disposal and storage area.</li> </ul>	<ul style="list-style-type: none"> <li>- A mixed type of developments for the new proposed shopping centres and bazaar of this area should be created to provide diverse uses and activities and attract a variety of users to the waterfront.</li> <li>- Traditional activities and attractions should be placed by creating new open spaces within every shopping centres and bazaar area to achieve vibrancy.</li> </ul>	Long time strategy	KCC, KDA, BIWTA, BR and Private Authority
Circulation and Movement System	<ul style="list-style-type: none"> <li>- Provide and introduce alterative and convenient modes of transportation within the area.</li> <li>- Maximize public accessibility to shopping area, bazaar and open spaces with easy pedestrian circulation and discourage through traffic circulation to provide pedestrian-friendly environment.</li> <li>- Enhance the attractiveness of transportation linkages by providing active street frontage and various street activities.</li> </ul>	<ul style="list-style-type: none"> <li>- New mode of transportations such as water taxi to promote public transport links should be introduced in this area.</li> <li>- A network of circulation and movement systems should be created to connect places of interest within the <i>Boro Bazaar</i> Area. New or enhanced open spaces in visual corridors which should be interconnected with pedestrian circulation network and river side area walkway to improve accessibility and connectivity, and strengthen the linkage.</li> <li>- Better and clear directional signage, information boards should be provided</li> </ul>	Short time strategy	KDA, BIWTA, BR

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>- Maximize accessibility to the river side for pedestrian by providing physical linkages from inland.</li> <li>- Adopt a stepped height profile with lower buildings near the river side stepping up to higher buildings to respect hinterland views and create a varying building height profile where appropriate for visual interest.</li> <li>- Develop new developments in terms of building height, massing and built form harmonizing with existing developments.</li> <li>- Create an active river side with diversity in activities and functions to generate open gathering activity.</li> </ul> | <ul style="list-style-type: none"> <li>- Suitable pedestrian areas should be used for a variety of activities such as performances, street vendors, holiday and flea markets to provide vibrancy of the area.</li> <li>- The scale and proportion and massing, style and form of this area should be respected.</li> <li>- Remove all illegal and temporary structure and consider the Ghats as a separate functional zone for loading – unloading goods and passengers.</li> </ul> |
|---|---|

### 8.5 Chapter summary

This chapter explained in brief the planning and development proposals towards sustainable urban revitalization within the proposed area. It is already being highlighted that one of the key issues associated with sustainable urban revitalization is to identify the dynamics of the examined area and then planning proposals for future needs. Section 8.2 and 8.3 has provided two different frame works as persistence from previous chapters. It was very obvious that there was an extensive range of frameworks on sustainable urban revitalization and its planning proposals and that the word has been used for different principles and with different explanations within different departments.

In addition, section 8.3 covered the results around recommendations and proposals for specific sustainable urban revitalization gathered from various research methods. These results have been finally tabulated with present situations, possibilities and recommendations through participant's final observations. It was pursued by final recommendations and summary, section 8.5, which compared the results and developments, and presented the final recommendations towards the problem and process analysis phases.

## **CHAPTER 09: CONCLUSION**

### **9.1. Overview**

This final chapter will reaffirm the contribution to information concerning the proposed objectives and aims of the study and how the research questions were answered throughout this study. With that basic overview, it will continue by addressing the implications of the study (section 9.4), identifying the challenges met throughout this research development (section 9.5) and highlight opportunities for future or further study within the subject area. Finally, it will provide further studies and possible project areas in section 9.6 and summary of research conclusions in section 9.7.

### **9.2. Introduction and contribution to information**

The theory of sustainability has been gradually included into urban planning, design and development strategies, but there are constant debates on how to transfer such an abstract theory into planning, design and development practices at the local level and how to measure their actual performance. Nonetheless, identifying how to deliver sustainable outcomes, strategy and planning process through urban revitalization scheme was a critical research question. A great effort has been made by scholars, professionals and policy makers to seek practical ways to implement the theory of sustainable development. Again, the study found according to aims of sustainable urban revitalization and depending on the sustainable urban revitalization model, it can be argued that: “sustainable urban environments can be achieved through the revitalization of three dimensions of structures, such as - physical, economic and social, of such areas”. To explain this relationship more succinctly, we may argue that in order to achieve sustainability at all the aforementioned three levels, economic, physical, social, urban revitalization should also be sustainable at all three levels. For example, markets and their neighbourhoods can have strong and positive economic, social, environmental, cultural and physical links. From these links the city in general, the neighbourhood and the market can profit, making the market a driver for sustainable urban development.

As stated before, one of the aims of this study is to provide the local city planners and designers associated with the information and assessment tools they need to improve the important urban services and sustainability of the urban revitalization schemes they are involved with and to speed this process through the planning system. Furthermore, the study examined former and contemporary planning and urban development approaches at the local level as well. The way to do this is by understanding and applying the essential values of the

local context, history, tradition and planning proposals with regards to their underlying physical, social and economic implications. This integration has to be adapting to meet the present and future needs of several urban areas within the country.

Through the research process, this study stressed that urban revitalization is a suitable means to achieve sustainable redevelopment. Therefore, it made an attempt to investigate its relationship of urban revitalization with the concept of sustainability, to identify relevant urban development possibilities, recommendations and to highlight the development criteria that should be taken into account in the urban revitalization planning in order to create sustainable cities.

This chapter presents the final summary of research conclusions of the study, which mostly refer to this experience and also summarises potential elements of future strategies for the sustainable urban revitalization within the study area and Khulna city as well, strategies that combine physical and socioeconomic development in an effort to improve the liveability and the vitality of the urban environment. Finally, the chapter identifies the implications of this study and proposes additional relevant recommendations and suggests potential fields for further study and investigation.

### **9.3. Answering to the research questions**

The aim of this present study is to formulate, selection, evaluate sustainability and then proposed sustainable urban revitalization planning proposals which are introduced to stimulate the *Boro Bazaar* area and assist to familiarize these proposals on the way to more sustainability within this area in the future. Through the research process the study attempted to meet the aim and objectives that were predetermined at the commencement of the study (chapter – 1) and also attempted to address the research questions. Below is an explanation about how the research process was employed to achieve the objectives and answer the key questions of present study. Furthermore, to highlight the most important contributions made to knowledge in this research, the following 5 (five) research aims with their respective objectives and research questions are recalled again. Within each sub-section, it will be clarified how each was addressed throughout this research and where within this dissertation it is reported and documented.

### 9.3.1. Research Aim 1: Concept and strategy of sustainable urban revitalization planning

Above section (9.3.1) – research aim, objective and questions was explained within the following chapters of this thesis:

1. **Chapter 02: Urban Design and Sustainability in the Global Perspective**
2. **Chapter 03: Urban Public Places and Market Revitalization in the International View**

- *Question 1: How different countries adopted the concept of sustainability as the guiding principle for sustainable urban revitalization development within city centers?*

This question is related to the theoretical background, which was engaged to appreciate the major research topics and the relation between them and how they will be used to achieve the research aims and objectives. By drawing together, the theories on sustainability and urban revitalization in chapter (2) and Chapter (3), the importance of achieving sustainability in urban areas through the urban revitalization process was emphasised and the variables that link between the major research topics could also be concluded. Although sustainable community and/or city and sustainable urban revitalization planning both can be achieved by improving and adapting the economic, social and physical environments of cities in order to accomplish the required global standards of the urbanization process, therefore the principles and their associated criteria and assessment indicators were also identified. Then chapter (3) highlighted the principles of urban revitalization and the meaning and aim of revitalization processes in achieving sustainable urban revitalization in city areas as another major theme in the research.

- *Question 2: What are the challenges, barriers, dimensions and indicators in achieving sustainable urban revitalization development within the city centers?*

The challenges, barriers, dimensions and indicators in achieving sustainable urban revitalization development is exposed and a theoretical framework for a sustainable urban revitalization approach is built by correlating these challenges, barriers, dimensions, indicators and principles with their assessment criteria that were used to build the final evaluation representation. These chapters 2 and 3 introduced the theoretical background about the sustainable urban revitalization assessment approaches, and explained how these four issues are involved with proposed research topic.

Based on the investigation of the theoretical framework which is specified briefly in chapters 2-3 in addition to the conceptual framework in chapter 6, 7 and 8, a number of sustainable principles and indicators were generated as sustainability parameters (represent the positive performance of a revitalization scheme) to encourage the promotion of more sustainable urban revitalization within the study area, these principles will be the main components of the evaluation model.

- Question 3: How can the use of sustainable development as a physical, social and economic stimulus for neighborhood revitalization?

Accordingly, the two different concepts - revitalization and sustainable development is related according to their holistic, comprehensive character. The research revealed so as to different communities are beginning to realize that the decline of their neighbourhoods needs to be addressed these two concepts, looking at all the issues to incentives physical, social and economic involved within the context of the entire local situation. This study also realised that this revitalization process can addresses the issues that are related to mixed land uses, tourism and high-income people with job opportunities. Again Roger Kemp (chapter 3) who have provided a little more explanation and has set up several basic framework principles - evoke a sense of place, restore and establish the unique urban ecology, invest in the public realm, broaden the mix of uses, improve connectivity, ensure that buildings support city building goals, build on existing strengths, preserve and enhance heritage resources, provide a balanced network for movement and foster public safety which serve as the basis for building the urban environment of sustainable development and revitalization for stimulating physical, social and economic development.

- Question 4: How the role of the market places can act significantly as an urban revitalization development?

The role of market places as a 'place for commercial and cultural interchange' in implementing the principles and concepts of sustainable urban revitalization is revealed. Although the study illustrated that the market places serves the local community and has been a significant part of the local traditions that is rich with arts and cultural practices. By achieving this program properly, urban market's localness inadvertently entices visitors from outside to come to the market, which gradually turns the marketplace into an urban tourist attraction. Based on these concepts it is clearly established that urban market places can play

a major role by developing - sense of place, place attachment, place image and identity, place dependence.

### **9.3.2. Research Aim 2: History of urban development and planning in Khulna City**

This was concentrate on at length within the next section of this thesis:

#### **1. Annex 01**

#### **2. Chapter 04: History and Urban Development Strategy of Khulna City**

#### **3. Chapter 05: Demography, Background and Analysis of Boro Bazaar Area**

- *Question 5: What are the major landmarks (strategies, policies) in urban development and planning in Khulna city?*

To answer this query, chapter (4) presented an overview of the history and urban development strategy that has been faced within the Khulna city and highlighted the different policies, visions and its role in achieving integrated redevelopment, which links the various development issues with the sustainable urban revitalization schemes in Khulna city. To confirm the validity of these development criteria and to consider the status of contextual development in Khulna city, the questionnaire survey (annex 01) was conducted by using the developed assessment in this chapter to gather the expert's opinions. The research has found that until recently, various researchers concluded to themselves that Khulna city lacked any meaningful urban planning strategies or plans, and that, to them, was the reason why we have certain weaknesses in urban planning results in the city today. Although certain strategies were more significant than others and those were outline in various chapters, but more in depth in sections 4.12 to 4.15.

- *Question 6: Who are the major group of actors throughout the history of urban development and planning in Khulna city?*

The first ever master plan of Khulna city was prepared by a British Architects and Town Warning firm Minoprio, Spencely and McFarland in 1961. In the same year Khulna Development Authority (KDA) was created to execute the plan KDA put its effort to execute the plan whenever funds are available with limited manpower and expertise. In addition, the study also given away that before the introduction of a master plan in 1961, Khulna city grew randomly without any spatial organization, control and regulation. Sections 4.8, 4.9 and 4.10 outlined in full details of the present key government organizations, planning in Khulna city, institutional arrangements for urban planning and development, the planning process, urban

planning and governance as well as various consultants and entities that participated in the progress of urban development throughout the last fifty years. Of particular importance are three government organizations that have left significant footprints on the face of the urban environment: Ministry of Housing, Khulna City Corporation (KCC) and government constituted Khulna Development Authority (KDA), all of which were introduced in section 4.8, 4.9 and 4.10 as well. These sections identified the major consultants that have contributed to urban development in Khulna city.

- *Question 7: How has the Khulna city Master Plan's strategy and implementation since 1961 guided to current visions and policies?*

This can be a complicated research query to respond in exact terms since this research has one of the limitations to collect satisfactory authorized documents to prepare this section what the study desired at first. Although chapter 4 and chapter 5 identified this question and narrated the outcome of the implementation of certain strategies, policies and additionally highlighted certain existing approaches with visions that bended away from such strategies which were used to drive present urban planning and policies in Khulna city.

Section 4.13 to 4.15 again identified the introduction of master plan and it's executing policies over the last fifty-nine (1961 to 2020) years of urban development in Khulna city, in particular. It is obvious that after the introduction of first Khulna city master plan in 1961, there were only four basic sets of proposals: land use zoning, development, basic infrastructure development and administration and implementation of the plan. This master plan does not go for the detailed analysis of the situation and background of the proposals. Although this land use allocation of the 1961 Master Plan served as one of the major guides to Khulna Master Plan 2001 as many parts of the city and its infrastructure were developed based on this plan. However, since this plan expired in 1981, it has little significance to the current planning exercise. Then the 2001 Khulna Master Plan titled 'Structure Plan, Master Plan and Detailed Area Plan for Khulna City' was launched in 1997 and was approved in 2001 (section 4.13.2.). That particular section describes the policies, proposals, objectives, functions, purposes of master plan throughout the last fifty-nine (1961 to 2020) years.

Furthermore, what is apparent is that between these time periods, there was significant strategy development approach within city planning, road network and environment. However, from the beginning this strategy approach came to an end to exist apart from a few sustainability studies that were mostly within conceptual planning. The current master plan highlights the purpose of the government to deal with the upcoming years or so of urban



planning and development in the country through another phase of policy development. The two questions that should clear here is whether the past will repeat without implementation of urban sustainability issues and whether any significant result toward sustainable urban development will occur as a result of this new policy which will not only in conceptual level?

### **9.3.3. Research Aim 3: The gap between policy and execution**

This part again was deliberated and explained on at length within the next section of this thesis:

**1. Annex 01**

**2. Chapter 04: History and Urban Development Strategy of Khulna City**

• *Question 8: What are the challenges and successes in the execution of these strategies?*

It is evident that the Khulna city master plan has a gap between the strategy development and execution process. The selected expert groups explained about the present gap and limitations (section 4.16.1) of Khulna urban planning process and policies which were executed by local authority. The fact that all participants have been hopeful by the way forward for present sustainable urban development policies in Khulna city although it is being considered as misconception of the vision and lots of challenges in support of execution. These do appear to be more inclusive, more practical than academic or theoretical, and many have come up with specific dimensions for action plans, especially in terms of execution projects and prerequisite of economic circumstances.

Following is a list of challenges in the execution of these strategies that were identified through various interview sessions. Section 4.16.1 reported detailed explanation of the statements and where appropriate excerpts were taken from other Khulna city's literature resources to examine these opinions furthermore.

1. To ensure coordination and were adopted international standard techniques for policy making without considering the local context. For example - There are nine strategic options in the plan, none of these option was elaborated through local context neither there was subsequent policy measures to implement those policies.
2. The new strategic planning hardly had any implications on metropolitan development except being used as instrument of planning permission and development control.
3. To ensure the participation of community and promote organizational coordination to implement the present planning proposals.
4. To identify common goals and interest that leads to equity. For example - In terms of

infrastructure, housing and service provision the plan fails to articulate a single policy for the urban poor.

5. To create an enabling environment for employment and income considering environmental issues, to recognize the employment opportunities for the rural urban migrant and to identify the impact of different climatic event.

#### **9.3.4. Research Aim 4: Existing approaches in sustainable urban planning and development within *Boro Bazaar* Area.**

This segment (9.3.4) – present situations, problems and challenges were explicated within the "Chapter 6: Analysis of the Problems and Present Situations – Results and Explanation" of this thesis. By means of qualitative research methods, such as interviews with local peoples and expert's groups, the results and the understanding of the *problem* and Present Situations Analysis Phase for proposed each planning area (section 6.8. analysis reporting configuration) used with the following components: *problems, difficulties, challenges and present situations*. This was followed by a completed understanding of this analysis, which presented a quantitative outline of the *problem analysis* phase, trend analysis for selected nine planning areas and other completed understanding.

- *Question 9: What are the main opportunities-possibilities and problems, difficulties, challenge and present situations related with sustainable urban revitalization planning proposals within Boro Bazaar area?*

Following table 9.1 summarizes (section 6.11) the quantitative result of this *problems and present situation analysis phase* for the selected sustainable urban revitalization concerns. It tabulates the results obtained for 3 research methods: interviews, experts and public questionnaires. Among 143 participants from questionnaires survey, following table 9.4.4 excluded the participants who didn't know the present situation and final position is considered from the total percentage of "not satisfaction" group. Finally, it is clear that the emphasis amongst the participants to certain sustainable urban revitalization concerns gave way the following positioning of importance:

- Interviews with experts: first was *riverside area*; second were *recreation facilities and public spaces*; and third were *transpiration system, road network and side walk and noise*. In total, there were 23 *problems*, 27 *challenges* and 19 *difficulties* that were conveyed by the expertise participants.

- Public questionnaire: first was *riverside area*; second was *drainage system*; and third was *noise pollution*.

Table 9.1: Problem analysis and Present Situation Phase – Results Comparison

Serial no	Satisfactions and Perfections	Interview from Expertise						Public Questionnaires			
		Problems	Difficulties	Challenges	Total	%	Position	Participants	Satisfaction (%)	Not Satisfaction (%)	Position
1	Employment / Job	2	1	3	6	8.7	4 <sup>th</sup>	132	60.8	31.5	8 <sup>th</sup>
2	Recreation Facilities and Public spaces	5	1	3	9	13	2 <sup>nd</sup>	136	14.7	80.4	4 <sup>th</sup>
3	Shopping Facilities	2	1	3	6	8.7	4 <sup>th</sup>	129	72.7	24.5	9 <sup>th</sup>
4	Transportation	1	4	3	8	11.6	3 <sup>rd</sup>	130	38.5	52.4	6 <sup>th</sup>
5	Riverside area	4	3	6	13	18.8	1 <sup>st</sup>	140	9.8	88.1	1 <sup>st</sup>
6	Road network and Side walk	2	2	4	8	11.6	3 <sup>rd</sup>	129	23.1	67.1	5 <sup>th</sup>
7	Noise pollution	3	4	1	8	11.6	3 <sup>rd</sup>	133	10.5	82.5	3 <sup>rd</sup>
8	Drainage system	2	1	2	5	7.2	5 <sup>th</sup>	137	11.9	83.9	2 <sup>nd</sup>
9	Accessibilities – hospitals, bazaar, services, schools / college	2	2	2	6	8.7	4 <sup>th</sup>	139	53.1	44.1	7 <sup>th</sup>
Total		23	19	27	69	100					

### 9.3.5. Research Aim 5: Planning and development proposals towards sustainable urban revitalization within *Boro Bazaar Area*.

Above section (9.3.5) – Process analysis phase and planning proposals towards sustainable urban revitalization were explained within the following chapters of this thesis:

1. **Annex 02**
2. **Chapter 07: Process Analysis and the Sustainable Urban Revitalization Model.**
3. **Chapter 08: Planning and Development Proposals towards Sustainable Urban Revitalization.**

For each selected planning areas considered in this study, possibilities and prospects besides proposals and recommendations were developed which should assist those concerned in recognizing areas for spotlight and reflection while trying to distributing sustainable solutions within a city perspective. The approaches of various participants were also reported in

relation to certain planning areas to support opinions made within the results. Although the sustainable urban revitalization model and the set of opportunities, proposals and recommendations were very important and spoke to an extensive range, therefore these chapter 7 and chapter 8 concluded with projected revitalization model and opportunities, proposals and recommendations that are answer to this argue, several of which that can be accomplished in the other circumstances.

- Question 10: What are the processes and how can these processes are enhanced to offer a better sustainable urban prospect within this area?

This was explained in chapter 7 where the study has aimed to formulate and select the sustainable urban revitalization planning proposal with four steps planning schemes –

1. *Step 1: Principles and definitions of sustainable urban revitalization*
2. *Step 2: Selection of issues*
3. *Step 3: Construction of the planning proposals*
4. *Step 4: Evaluation of the planning proposals*

These four steps planning schemes and along with evaluation results those considered from the all participants in a method that is rational and finally proposed a model for sustainable urban revitalization strategy within the study area.

- Question 11: What are the possibilities and recommendations that can be used for better execution of the prospect of sustainable urban revitalization strategies within the study area?

Table 9.2 below illustrates the results towards the possibilities and prospects and proposals and recommendations connected with the proposed sustainable urban revitalization planning schemes. Then put into a table 9.3.5 as comparison between various research methods: survey, field observations, mapping, interviews, expert's participants and public questionnaires. In this stage of the study, the above process was required to recognize and identify the approaches of self-assessments by the selected expert's participants towards the probable possibilities and prospects and proposals and recommendations required.

Table 9.2: Comparison of Results – Possibilities and Prospects / Proposals and Recommendations

Serial no	Components of Sustainable Urban Revitalization	Experts Group					Position
		Possibilities and Prospects	Proposals and Recommend	Total	(%)		
1	Employment / Job	5	6	11	9.5	5 <sup>th</sup>	
2	Recreation Facilities and Public spaces	6	8	14	12	2 <sup>nd</sup>	
3	Shopping Facilities	6	8	14	12	2 <sup>nd</sup>	
4	Transportation	6	5	11	9.5	5 <sup>th</sup>	
5	Riverside area	9	8	17	14.7	1 <sup>st</sup>	
6	Road network and Side walk	4	8	12	10.4	4 <sup>th</sup>	
7	Noise pollution	5	7	12	10.4	4 <sup>th</sup>	
8	Drainage system	5	6	11	9.5	5 <sup>th</sup>	
9	Accessibilities – hospitals, bazaar, services, schools / college,	6	7	13	11.3	3 <sup>rd</sup>	
<b>Total</b>		<b>52</b>	<b>63</b>	<b>115</b>	<b>100</b>		

The above result of interviews with experts shows that the participants identified more possibilities and prospects, and more proposals and recommendations for sustainable urban revitalization planning towards the riverside area, then recreational and shopping facilities. In total, there were 52 possibilities and prospects and 63 proposals and recommendation that were conveyed by the expertise participants.

#### 9.4. Implications of this Research

This research was conducted in the context of Khulna city as an attempt to explore how an urban neighbourhood can meet the sustainable development objectives through urban revitalization planning in order to ensure the local development projects can effectively meet the global trend towards sustainability. It would also generate a platform for those who would like to adopt the same research approach in their regions in the future. To inspect whether the urban development and sustainability removed here have been taken into account when planning urban revitalization project within the Khulna city context, the study tried to develop a useful, methodical and consistent dimension instrument.

At the local level it was found that there is no acceptable model that is readily available or developed for planning the scope to which the urban redevelopment or revitalization scheme meet the sustainability objectives from the local perspectives. Therefore, this study has been initiated to make its own with the assist of various research methods to set up a planning and acceptable model from the neighbouring perspective. By planning the revitalization scheme with the help of several numbers of qualitative and quantitative methods, and questionnaire assessment a clear picture of the development details and dynamics of the context can be drawn and the possible impacts of the planning on the community as well as on sustainable development can be revealed. Based on the questionnaire assessment along with evaluations, possibilities and recommendations results, necessary adjustments and alterations can be made before implementation to optimize its positive impacts and mitigate its undesirable effects. The projected questionnaire assessment of this research is also important for the evaluation of the urban revitalization planning proposals which is able to understand the most important sustainable issues, revealing the present situations concerning urban development and reflecting the level of satisfaction of the local people with the planning proposals. The problems, challenges and difficulties of this area can be observed and its efficiency in sustaining the redevelopment area from different field can be evaluated.

In addition, the shortage of an urban revitalization planning and sustainability issues can be easily identified during the assessment. Therefore, the planning process gives adequate prospects for the key stakeholders including the urban planning and design professionals, the concerned groups, etc. to raise their consciousness and communicate their visions on the sustainable and urban revitalization planning issues. The concerned groups especially the local authority can make reference to the assessment results in order to find out whether the objectives of urban revitalization stated beforehand have been achieved and a sustainable planning has been implemented for the benefit of the community. Therefore, a systematic and effective review of existing urban revitalization and redevelopment policies can be facilitated from time to time, and more sustainable urban strategies can be generated for the local context within Khulna city and the study area as well.

### **9.5 Challenges of the study**

Throughout the commencement and planning of a sustainable urban revitalization process the study has faced with many challenges that impact the performance and intermittently the result of the study. It includes preparing for its research aim, questions, methodology concerning the local context and global perspectives, establishing a method of preparing

questionnaire assessments and evaluation to steer the intervention, utilising the appropriate practical expertise along with the arrangements of public participants and a range of other types of considerations which are crucial for such complex undertakings. The following are the challenges that have come across all through this study, which believed that did not force considerably on the summary of the results:

1. Selection of public and expert's participation.
2. Application of research methodology.
3. Definition associated with sustainability and urban revitalization issues.
4. Short of local scholarly and literature resources.
5. Lack of previous appropriate guidelines to illustrate and to demonstrate the best delivery methods of sustainable urban planning and design policy.
6. Absence of evaluation / assessment strategies to properly review the sustainability and appropriateness of the new interventions in the existing urban fabric based on official urban planning and development standards.
7. Contact to certain potential participants for the questionnaire assessments and interviews.
8. A poor awareness of the importance of urban services, urban development issues to local residents and authorities. Also as the concept of urban sustainability and revitalization at the local context is at a relatively early stage, work is concentrated mainly on planning on the proposed area.
9. Total time frame of the study.

#### **9.6 Suggested further studies and possible project areas**

Urban sustainability and revitalization within a prospective urban area is a long-term task that should be based on up-to-date information and an in-depth understanding of its urban dynamics. Also, this task cannot be successfully undertaken as a separate “project”, without a more general planning framework. It cannot be achieved once and forever, but must rather result from a continuous process and be implemented through programs and projects reflecting priorities and objectives that respond to changing needs and resources. As discussed, this study has identified a list of planning issues with evaluation mechanism and developed an assessment strategy with a planning diagram. As such I believe, it is a positive step in achieving sustainable urban revitalization within the city and the study area, and more study has to be conducted to meet such a long term goal in the field. The current study

approach and findings can be stimulating for interesting areas for further investigations. Based on these outcomes, the following recommendations can be made for future studies:

- The framework of the developed of Formulation and Selection of Sustainable revitalization planning proposal is flexible with field of criteria and planning issues that can be introduced or removed, and the priorities position of the sustainable development objectives and planning proposal can be adjusted to suit the needs from time to time without affecting the consistency and validity of the whole proposed model. Due to the research limitation, most of the planning issues adopted the qualitative considerations. The study suggests conducting more studies in the future by using quantitative considerations to increase the accuracy, objectivity and ease of the evaluation. Furthermore, the investigation of a larger number of considerations to extend the scope of study and increase the total numbers of field of criteria and planning issues in the model would also be interesting in future studies when more resources are available.
- This present research has designed around *problem analysis* (chapter 6) phase and *process analysis* (chapter 7) phase, but it would have been more inclusive if another phase - *product analysis* has introduced. This would involve case studies within Khulna as a city to identify the association of the outcome with the strategies developed and their execution.
- It would be more practical if additional research can be carried in a more quantitative method to identify the implication of decision making into the overall sustainable development. This could be done by properly designed questionnaires that are intended at decision makers, similar to the participants in this study that will defer measurable results as compared to the interviews and selected expert groups.
- The present study has investigated the physical, economic and social dimension of sustainability and urban revitalization according to the scope of the current research. Further research adopting other dimensions such as culture, governance, environmental etc. would be desirable, upon availability of the appropriate resources, in order to obtain a wider viewpoint and come up with more robust solutions at the local context.
- The investigation adopted in this study relied mostly on expert opinion. In order for future studies to be more inclusive, more public opinion as well as expert opinions could be engaged in order to evaluate the overall contentment and quality of life



generated from the sustainable urban revitalization development.

- Present study has identified a final set of criteria for urban regeneration / revitalization schemes and developed an evaluation strategy. One of the future aspects of this study is by using computer software to carry out the same procedure of evaluation. This may be done by designing a computer program which contains an extensive variety of criteria and planning issues. By adopting these techniques, the evaluation process would be easier, quicker and more precise; further, different kinds of results would be obtained. All the identified data can be supplied to the program as well. The development of a user friendly computerized form of the evaluation model could be a motivating area in supplementary planning scheme.

### **9.7. Summary of research conclusions**

This study examines the subjects of communication of sustainable development and urban revitalization within global perspectives, urban development planning within the Khulna city and analysis of the study area and their interface in details. The research process confirmed that sustainable development is the most appropriate trend for achieving urban revitalization to meet the needs of present and future generations. Based on the evaluation of the local context, more urban developments are accepted to be put into practice in the future. Therefore, sustainable urban revitalization approaches should be established through in-depth investigations concerning the local context. The findings of this study were produced with the help of various local people, professionals and experts; these findings have made a substantial contribution to the existing information about the achievement of sustainable urban development with revitalization planning at the local level. The role of various local people, professionals and expert's participations in urban revitalization planning proposals which leads to sustainable outcomes was clarified through the study processes; in addition, a number of relevant urban planning features that should be taken into account in development proposals were carried in focus.

The research investigation found that as a term - "*sustainability*" is broadly used for different means. The explanation of sustainability is an argument for more grown-up study streams and for the wider urban development experts and professionals. Therefore, sustainable urbanism has several distinctive periods and concepts which have developed over time within present sustainable global context. Meanwhile the concept of urban sustainability has become integrated through urban design and planning scheme. Currently completing urban sustainability within urban design and planning scheme will provide better physical and

environmental quality, economic and social benefits. On the other hand, sustainable urban revitalization and its planning play a decisive responsibility in helping decision makers ensure the constant success of their cities. In addition, one of the most important conquerors for sustainable urban revitalization and its planning during this century are dealing with the unrecorded challenges and barriers facing cities. Particularly demographic, environmental, economic and social transitions will move cities to new models of development that are fundamentally different from their development during this century.

Hence, the study made an attempt to explore the theories of urban development, investigate its relationship with sustainability and urban revitalization concepts, and identify relevant urban development principles and aspects that should be taken into account in the sustainable urban revitalization projects in order to create better sustainable urban neighbourhood. After identifying the list of relevant urban development possibilities, opportunities and recommendations, the second aspect of the current study was to examine the applicability of these recommendations and their related planning proposals to the local context by means of experts' questionnaire survey. Subsequent to analysing the data collected through different methods, a number of factors for achieving physical, social and economic sustainable urban revitalization in this area were recommended. The study used these factors to formulate and selected the sustainable revitalization planning proposal by developing an evaluation approach to examine the capability of local context to meet these three - physical, social and economic sustainability dimensions. Afterwards, the study defined the evaluation methods of the model and demonstrated how the evaluation method is competent of determining the present situations and the sustainability level of urban revitalization planning proposal at the neighbouring perspective.

By developing an evaluation method, which is built on different urban planning issues and planning proposals for the study area and performance of urban revitalization scheme, sustainability in these development can be forecasts. The main and final outcome of the developed strategy is the evaluation method and its result, the structure of which includes a wide range of planning of field of criteria and in addition to review and its considerations with experts and local participants. These components will help in raising awareness of local stockholders and professionals about the sustainability aspects of urban development's and encourage them to achieve long term sustainable projects with revitalization principles, in addition the elements of the model will be used as development guidance and evaluation implements. As a result, the developed strategy will help to achieve sustainable urban

revitalization in the future and encourage the use of sustainability aspects in urban planning and development at the local stage.

The development of this evaluation strategy for considering the present positions and further development of sustainable urban revitalization planning proposals and its implementation model can be regarded as the main achievement of the present research. It will provide a simple and clear means for the local authorities, decision makers and stakeholders to evaluate the sustainable issues and to the performance of the sustainable urban revitalization planning proposals and produce an effective tool for the local authorities, decision makers and stakeholders to review and reform the sustainable urban revitalization planning proposals or strategies in this study area in particular and other prospective areas within the city in general. Consequently, the proposed developed model for "*sustainable urban revitalization*" can be used either for assortment of the most suitable urban revitalization planning proposal or for evaluation of the urban revitalization scheme before or after execution.

In addition, another two points to take into account are –

1. *When collecting the relevant statistics*, was the possibility of limitation of the present resources of the research.
2. *When conducting the survey*, was the possibility of understanding of the participants about the study area.

Due to these, it is difficult to build up an appropriate "*sustainable urban revitalization*" model which can cover a wide range of planning scheme and its consequent considerations. As a result, the relevant physical, economic and social planning proposals for the local context at this stage were included, and a reasonable and manageable amount of planning proposals was finally selected. The extracted planning proposals were backed up by a comprehensive literature review, a series of analyses processes, and a number of discussions and by the expert's questionnaire survey.

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**WHAT IS THE QUALITY AND SUSTAINABLE CONCERN OF YOUR NEIGHBORHOOD?**

You're requested to contribute in a study exploring the spatial quality of this neighborhood as a part of a doctoral thesis project on the subject of Art, Architecture and Planning. Your perspective on these questions is important to ensure that the results of this research are relevant to this community. The results of this research will be used for academic purposes only. This should take approximately 15 minutes. There are no risks to you in participating and your responses will remain anonymous. If you do not feel comfortable answering any of the questions, please feel free to decline.

**1. Basic Information of the Respondent**

- a. What is the name of your neighbourhood? .....
- b. Gender: Male ..... Female .....
- c. Civil Status: Married ..... Single .....
- d. How older you? **A.**20-30- **B.**30-45- **C.**45-65-
- e. What is your current Occupation? Garments.... Wholesale... Daily Market... Street Vendors.... House Wife.... Service Holder..... Student.....
- f. How many years have you been a resident / business of this neighbourhood? .....
- g. What Kind of residence you have - Permanent ..... Temporary .....
- h. How many people live in your household?
- i. How much money you income in a month (BD Taka in Thousand)?
- j. **A.**20-30 –...**B.**30-45-...**C.**45-60 **D.**60-80-.....
- k. What is your relationship to this neighborhood - Resident ..... Business man.....Both.....

**2. Perception of your Neighbourhood (Residence)**

Answer Options	Agree	Disagree	Don't know
1. This neighborhood is better to live			
2. Residents in my area are willing to help their neighbors			
3. This neighborhood has lot of relational facilities			
4. Residence in this neighborhood is cheap			
5. This neighborhood is safe for live			
6. I enjoy taking walks through my neighborhood			
7. There is no other neighborhood I would rather to live			

**3. Perception of your Neighbourhood (Businessmen)**

Answer Options	Agree	Disagree	Don't know
1. This business area is better for business			
2. My residence is close to my business area			
3. This business area is safe for business			

- 
4. Storage (loading-unloading) facilities are better from other business area
- 
5. Shopping environment is better for customers
- 
6. There is no other business area I would rather do my business
- 
7. To rent a shop is cheaper than other business area
- 

**4. Satisfaction with your neighbourhood (Residence / Businessmen)**

How satisfied are you with the following in your neighbourhood (*mark tick*)–

Answer Options	Satisfied	Not Satisfied	Don't know
Employment / Job			
Recreation Facilities and Public spaces			
Shopping Facilities			
Transportation			
Riverside area			
Width of Road and Side walk			
Air and Noise pollution			
Drainage system			
Accessibilities – hospitals, bazaar, services, schools / college			
Are you generally satisfied with your neighborhood?			

**5. Quality of life**

When you think about your overall quality of life, what are the three main things that contribute most to your quality of life? ( <i>Circle three</i> )	Family and friends	Community	Health, work, job or career	Income (including financial stability)	House or home / Lifestyle	Interests and activities (exercise, hobbies)
	Location (including country, the city)	Education or spirituality (mosque)	Safety / Happiness	None	Don't know	Other – Specify

**6. About Sustainable Neighbourhood**

Do you agree to do sustainable development within your neighbourhood	Strongly Agree	Agree
Were there any sustainable development introduced	Yes	No
What is the present situation within your neighbourhood	Unsustainable in all respects	Approaching unsustainable conditions
What is the main problem for sustainable development within your neighbourhood	Financial/ Political	Management/ Planning



**WHAT IS THE QUALITY AND SUSTAINABLE CONCERN OF YOUR NEIGHBORHOOD?**

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**PART A (5 QUESTIONS)**

Personal information

1. Age:.....
  2. Sex:.....
  3. Education (degree and field of study):.....
  4. Occupation: (please tick the relevant boxes)
    - Local Consultant (Architect / Urban Planner)
    - Academician (Architect / Urban Planner)
    - Urban planner and Designer or Architect (KDA)
    - Urban planner and Designer or Architect (KCC)
    - Other fields
- Please specify: .....
5. Working status: (please tick the relevant boxes)
    - Private Company
    - Public (Local authority/governmental organization)

**PART B (3 QUESTIONS)**

This part is for priority to focus on the sustainable urban revitalization planning proposals within Boro Bazaar Area

1. If you were asked to design a sustainable urban revitalization plan within the Boro Bazaar area, which one of these three following aspects you will more focus on? Please rate your choices in importance from 1 to 3.

NOTE: Priority 1: highest focus and Priority 3: lowest focus

Category of Sustainability	Priority 1	Priority 2	Priority 3
Physical			
Social			
Economical			

2. How would you rate the overall state of sustainable urban development and planning programme situation in Khulna city? (please tick the relevant field)

Excellent	Good	Satisfactory	Poor	Very poor

3. If you were asked to design a sustainable urban revitalization planning proposals for Boro Bazaar area, how would you prioritise the following ‘Planning field’, to improve the physical, social and economic situations?

*NOTE: Priority 1: highest priority and Priority 9: lowest priority*

Planning field	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8	Priority 9
Employment / Job									
Recreation Facilities and Public spaces									
Shopping Facilities									
Transportation									
Riverside area									
Road / Pedestrian Network									
Pollution control									
Drainage systems									
Accessibilities									

### **PART C (3 QUESTIONS)**

*This part is for evaluations, considerations and recommendations of the sustainable urban revitalization planning proposals within Boro Bazaar Area*

1. If you were asked to answer the circumstances regarding present sustainable planning programme within the *Boro Bazaar* area, how would you answer the following questions?

Planning issues	Questions (considered sustainable planning)	Yes	No
<b>Physical Planning</b>	1. Is the present Physical and Environmental Planning sustainable?		
	2. Is this present planning considering context?		
	3. Is local physical planning attracting visitors?		
	4. Is there any illegal built form?		
	5. Are all roads connected to each other?		
<b>Economic Planning</b>	1. Is the present Economic Planning healthy and considering sustainability issue?		

	2. Is present economic condition helpful for urbanity and businessmen?		
<b>Social Planning</b>	1. Is the present community healthy socially?		
	2. Is this community considering accessibility and open spaces as a social interaction?		

2. Should the following physical, economic and social planning proposals / considerations be included within the *Boro Bazaar* area for sustainable urban revitalization planning programmes?

<b>Planning issues</b>	<b>Planning proposals / considerations</b>	<b>Agree</b>	<b>Not Agree</b>
<b>Physical Planning proposals / considerations</b>	1. Identifying and evaluating site properties (physical, social, economic, cultural)		
	2. Improving living standards in the built environment to attract new functions		
	3. Recovering urban network and public services with existing situations		
	4. Revitalizing urban design through river side and road network, side walk development		
	5. Providing inclusive & quality public space (including public realm such as street furniture)		
	6. Enhancing the accessibility in the study area (public traffic links~ pedestrian connection)		
	7. Promoting and integrating heritage conservation in modern life		
<b>Economic Planning proposals / considerations</b>	1. Using economical potentials of the site - Sustainable policy for redundant lands and historical building accumulation - Training of unemployed or unskilled workers on site		
	2. Protecting and promoting local economic activities (e.g. traditional jobs)		
	3. Stimulating investment, creating new job and safe and secured places for all.		
	4. Developing multi-functional economic activities in the study area		
	5. Increasing land (rent) values and reducing vacancy levels		
<b>Social Planning proposals / considerations</b>	1. Taking into account of social ties, equity and neighborhood-social structure. - giving priority to minority groups for access to basic services - Social interaction with business men and local residents by creating more open spaces and provide recreation facilities		

	2. Protecting cultural identity and respecting living style for all		
	3. Enhancing the accessibility in the area (school, college, hospital, and mosque).		
	4. Minimizing rural to urban migration		

3. Should the subsequent planning field as ‘possibilities and proposals headline’ be incorporated within the Boro Bazaar area for sustainable urban revitalization planning programmes?

Planning field	Possibilities and Prospects	Agree	Not Agree	Proposals and Recommendations	Agree	Not Agree
<b>Employment / Job</b>	Location and Morphology			Connection of urban system and services		
	Good pace of Economic Development			Revitalize vacant lands and historical building with Sustainable policy		
	Variety of job and new investment area			Create Separate area for traditional job and activities		
	River side area with different Ghats			New business area with better exposure		
	Cheaper than other location			Develop the river side area and Ghats		
				Additional interface with local public and private authority		
<b>Recreation Facilities and Public spaces</b>	River side area within Voirob Stand Road			Revitalize vacant lands and historical building with Sustainable policy		
	Open spaces within study area			Utilizing river side area (Voirob Stand Road) as a breathing space		
	Muslim-Hindu, Businessmen-Residence with different community and culture			Rethink the “Dac Bang law” site as an open space		
	Traditional bazaar and variety of Shopping facilities			Increasing green areas and Maintaining natural landscapes with motivation		

	Historical, Religious and colonial buildings within Boro bazaar, Voirob Stand and Railway Hospital road			Provide Street furniture towards Upper Jessore, Sher-E-Bangla, Clay and Sir Ikbal road area		
	“Hadis Park and Railway Station” are adjacent to the site			Need to protect the identity of Boro Bazaar Area		
				Strengthen the presence of public services		
<b>Shopping Facilities</b>	Main shopping area and city centre			Improve shop’s space quality—especially towards Railway Station and Boro Bazaar Road		
	Good facilities of whole sale and retail shopping			Increasing trend for vertical expansion		
	Traditional job and Bazaar			Create more connections with recreational spaces		
	Cheaper than other business area			More focused Shopping area in the right location with good accessibility		
	Verity of products and shopping area			Loading-unloading facilities should be more accessible towards Boro Bazaar, Sher-E-Bangla and Clay road		
	Willing to do business here			More investment within this sector		
				Proper legislation, strong implementation and enforcement of legislation by both KDA and KCC or public sector		
<b>Transportation system</b>	Sustainable and inclusive transport development for Khulna City developed by KCC			Increase Pedestrian and convenient water transport from river side		
	Pro-poor and green urban transport by KCC			Improve existing transport stations and river side Ghats		

	Inland Water Freight Transport System			Advance coordination in implementation of basic infrastructure and services		
	BRT service within city area			Needs to restrict public transport access in pick hour		
	The regional railway and water way terminal			Increase public participation and awareness in planning		
	Future connection with international highway			Strong implementation and enforcement of legislation towards illegal public transport		
<b>River side area</b>	Both rural and urban fabric towards the site			Improve as breathing and recreational space		
	Mixed culture and economy			Improve “Ghats” (river harbour) within this area		
	Easy transportation from both the side and river protection and embankment by KCC			Transfer street vendors and Holiday market within the Voirob Stand road area		
	Traditional “Ghats” (river harbour)			Control river erosion and better accessibility with all primary roads		
	The regional water way (BIWTA) station near by			Need to remove all illegal structure within Voirob Stand road		
	River based trade economy			More investment within the river side area		
	Scenic area from Voirob Stand road			Learn from other successful models – international projects		
<b>Road network</b>	Local authority has different plans to improve road network			Improve and widen Pedestrian network towards Clay, Sir-Ikbal, Sher-E-Bangla and Station road		
	Connection with all major roads			Clear all roads and nodes from illegal structure and should be connected accordingly		
	The regional water way (BIWTA) station near by			River based road network – water taxi		



	Future connection with international highway			Barrier free accessible road network		
				Repair and rethink the “Ghats” (river harbour) area		
				Need to forecast future Road network		
				Improve transparency, coordination in implementation of basic infrastructure and services		
<b>Pollution Control</b>	More aware from the past by the local authority			Controlling pollution from now		
	Ensure carbon emission reduction by KCC			Remove slum within station and hospital roads		
	German Development Cooperation’s support to KCC for Climate Adaptive Urban Development			Increase Pedestrian network and open space		
	Sustaining initiatives for achieving low carbon development by KCC			Increase Scenic value and visual landscape		
				Restrict to heavy vehicle and without fitness vehicle in office time and to control pollutions		
				Create buffer zone from residence to business area		
<b>Drainage system</b>	Proposed Mitigate Water Logging Problem in Khulna City by KCC and Sheltech (PVT) LTD.			Construction of new drains and Repairing the existing drains		
	Newly improved drainage Master Plan by KCC			More secondary drains have been recommended in this area		

	Protect municipal infrastructure investment by maintaining the existing drainage and treatment facilities			Revive water body and natural canal within station road		
	Provide an acceptable level of services to city dwellers			Observing Present Practice of Drainage and its existing outfall pattern within and outside the study area		
	River side area			Improve the drainage around transport corridors		
				Drainage line should clear from all garbage deposited by small industry and residential area		
Accessibilities	City centre and main commercial hub			Create community centres, children park and clubs		
	Variety of Transport and road network around the site			Living environments and business area should be vibrant		
	Diverse community and culture			Need to allocate land for new school, hospital and religious buildings for more social interaction and accessibility		
	Railway and River station near to the study area			Consider “Helatala Road” as a festival area for Hindu Community		
	People are more aware towards the Social responsibility			Enhancing more public awareness and public participation about accessible social sustainability		
				Pay attention to neighboring aged and experienced people		
				Improve coordination in implementation of basic infrastructure and services		