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Role of Union Plan Book in Rural Development: A Case Study of Dighalia Upazila under Khulna District

Mamun, Sheikh Md. Mursalin

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ROLE OF UNION PLAN BOOK IN RURAL DEVELOPMENT:

A CASE STUDY OF DIGHALIA UPAZILA UNDER KHULNA DISTRICT

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November, 2006

ROLE OF UNION PLAN BOOK IN RURAL DEVELOPMENT:
A CASE STUDY OF DIGHALIA UPAZILA UNDER KHULNA DISTRICT

THESIS SUBMITTED TO
INSTITUTE OF BANGLADESH STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF PHILOSOPHY IN URBAN AND RURAL PLANNING

November, 2006

INSTITUTE OF BANGLADESH STUDIES
RAJSHAHI UNIVERSITY
BANGLADESH

DEDICATED TO

PIONEER TEACHERS WHO SPENT THEIR WHOLE LIVES
FOR THE PROMOTION OF
PLANNING PROFESSION IN BANGLADESH

Certificate

I have the pleasure to certify that the thesis entitled "ROLE OF UNION PLAN BOOK IN RURAL DEVELOPEMENT: A CASE STUDY OF DIGHALIA UPAZILA UNDER KHULNA DISTRICT" is the original work of Mr. Sheikh Md. Mursalin Mamun. As far as I know, this is the candidate's own accomplishment and is not a collective work. He has finished this dissertation under my direct supervision. The references cited in it have duly acknowledged. I also certify that I have gone through the thesis and found it suitable for submission to the Institute of Bangladesh Studies (IBS), University of Rajshahi, for the degree of Master of Philosophy in Urban and Rural Planning.

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Declaration

I do hereby declare that the thesis entitled "ROLE OF UNION PLAN BOOK IN RURAL DEVELOPEMENT: A CASE STUDY OF DIGHALIA UPAZILA UNDER KHULNA DISTRICT" submitted to the Institute of Bangladesh Studies (IBS), University of Rajshahi for the degree of Master of Philosophy in Urban and Rural Planning is my original work. I did not take any direct help from any body for writing this thesis. This is completely my own product. No part of it in any form, has been submitted to any other university or institute for any degree, diploma or for other similar purposes. My indebtedness to other works and publications has been duly acknowledged in the relevant places.

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Acknowledgement

First of all, I would like to express my humble gratitude and thanks to Almighty Allah, whom enable me to complete this thesis.

I convey my sincere thanks to my supervisor Prof. Dr. M. Zainul Abedin, Institute of Bangladesh Studies (IBS), Rajshahi University, for his generous guidance and help at different stages of my research work.

I would express my profound gratitude to all the faculty members of IBS for their inspiration to undertake this research work and also for their guidance during my course work.

I would like to record my indebtedness to the Khulna University Authority for patronisation of the work in the form of awarding me Khulna University Higher Studies Fellowship.

I am grateful to different institutions of Dighalia and Khulna for providing me access to their document regarding this research. I am also grateful to all of the respondents for providing me valuable information relating to the study.

I am thankful to Mr. M. Mizanur Rahman for his linguistic suggestions. I am also thankful to Mr. Kamruzzaman Polash, Mr. Sujit Kumar Sikdar, Mr. Md. Imran Reza, Mr. Komol and Mr. Reza who helped me in the field and lab work. I am deeply thankful to Ms. Sheuli for assisting me in computer composing.

Sheikh Md. Mursalin Mamun

Abstract

The upliftment of rural area is necessary for overall development of Bangladesh where it comprises of about 85% the total landmass with 76.61% of population. Rural Development (RD) is facing challenges due to high incidence of poverty, low resource endowment and low productivity, vulnerability to natural disasters, high unemployment and underemployment, high population growth rate and high density, diminishing land-man ratio, low level of economic growth, uneven social structure, unbalanced growth, and inappropriate development approaches. Besides these socio-economic problems, there are acute lack of physical infrastructures like road, embankment and drainage, irrigation channel, rural centre, and relevant service and facilities. To deal with rural problems, a series of RD efforts have emerged as well as practised and in the course of time, some of the efforts have been changed, modified, and also rejected. To address the overall rural development from physical and infrastructural perspective, the most recent and pragmatic RD effort is Union Plan Book (UPB). UPB is a mechanism for rural development which contains guidelines relating to physical infrastructure— road, drainage and embankment, irrigation, and land-use. It gives detail instructions about how the plan book and the maps of various components are to be drawn up, along with the rolling plan. To take the lessons and to guide the future planning and development of rural Bangladesh, a systematic evaluation of UPB has not yet been done. This research has taken the initiative of doing so from the view point of rural planning and development. The study objectives are: to review the past RD efforts in Bangladesh; to examine and analyse the origin, history and concept of UPB; to evaluate the performance of UPB of Dighalia Upazila under Khulna District; to identify the problems and prospects of UPB in the study area; and to suggest measures for better implementation of UPB.

It is an exploratory and evaluation types of study, in which documentary analysis, land-use and infrastructure survey, institutions survey, different tools of participatory rural appraisal, and mapping with geographic information system are combindly used.

It has reviewed the past RD efforts, discussed the origin and concept of UPB, evaluated the UPB considering outputs, effects and impacts with the aim of identifying the problems and potentials, and finally suggesting the remedies.

In ancient and medieval periods, due to interruption and discontinuity in administrative system- there was no systematic record of RD, except few scattered evidences. In 2nd and 3rd quarters of twentieth century, some important thoughts and theories on planning and physical development were developed around the globe, such as- to deal with great depression, the theory of Keynes ultimately introduced the rural development concepts in modern time. For Bangladesh, a continuation and formal shape of RD is seen from 1950s through different experiments of Comilla Model, under the leadership of Dr. Akther Hameed Khan who lead a group of social scientists provided with the basic orientation of RD. From different experiments and development interventions of Comilla model, UPB was originated in the 1960s.

Some achievements regarding UPB were found, particularly in road sector where some major improvements are seen. But the other components of UPB have not been considered properly by UPB team and so failed to bring desired changes in drainage, embankment, irrigation and rural land-use aspects. The achievement in terms of length of new road is not significant, but enormous changes are seen in road condition, accessible road length and user satisfaction level. After UPB, the length of accessible road, length of good condition road and user satisfaction level on roads increased by about two times, three times, and two times respectively. After UPB, the roadside land values have increased three to four times and others have almost doubled. Vehicle ownership has increased more or less two times. Moreover, there is land-use conflict between crop agriculture and settlements where the per capita cultivable land is only 0.055 acre. On the basis of land-use survey— physical infrastructures, services and facilities are inadequate in the study area where the sum of the area of roads, commercial, service-facilities and institutional land are less than 2% of the total study area. In the study area road density is 1.62 km/sq km which is slightly below the

national standard that is 1.74 km/sq km. In spite of aforesaid successes and road improvements, still the study area lacks in some rural infrastructures.

The study has found that UPB is highly biased in favour of physical infrastructure due to having no planning norms and standards. There is no trained manpower specialised in planning at grassroots level where it also requires a full-fledged planning and development organisation/institution to guide and control the overall development of the area under a multidisciplinary framework.

From theoretical point of view UPB has promoted bottom-up planning and also provided with a good mechanism for rural development. The UPB team, at initial stage, due to poor perception of systematic planning and implementation, had hindrances to bring significant impact on rural development through UPB in the study area. There is a direct relationship between unorganised union planning and lack of trained manpower/expertise, local resource mobilization, implementation capacity at union level.

Finally, it presents some suggestions for UPB from the view-point of planning; it was found that UPB is not holistic and comprehensive where total planning is required with proper planning norms and standards for rural Bangladesh. Moreover, some modification in its planning and implementation process can expedite rural development.

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Abbreviations

ADP	: Annual Development Plan
BARD	: Bangladesh Academy for Rural Development
BIDS	: Bangladesh Institute of Development Studies
BNCS	: Bangladesh National Conservation Strategy
BRDB	: Bangladesh Rural Development Board
BUET	: Bangladesh University of Engineering and Technology
BUP	: Bangladesh Unnayan Parishad
BWDB	: Bangladesh Water Development Board
CIRDAP	: Centre on Integrated Rural Development for Asia and the Pacific
CPM	: Critical Path Method
CVDP	: Comprehensive Village Development Programme
CWS	: Comparison with Standard
DPHE	: Department of Public Health and Engineering
FAO	: Food and Agricultural Organization
EPZ	: Export Processing Zone
ESCAP	: Economic and Social Commission for Asia and the Pacific
FGD	: Focus Group Discussion
FR	: Feeder Road
GIS	: Geographical Information System
HYV	: High Yield Variety
HQ	: Head Quarter
HBB	: Herring Brick Bond (one type of semi-pacca road)
IBS	: Institute of Bangladesh Studies
IMP	: Irrigation Management Programme
IRD	: Integrated Rural Development
IRDP	: Integrated Rural Development Programme
KDA	: Khulna Development Authority
KSS	: Krishak Samabay Samity
KU	: Khulna University
LGEB	: Local Government Engineering Bureau
LGED	: Local Government Engineering Department
MP	: Member of Parliament

MLGRDC	: Ministry of Local Government, Rural Development and Cooperatives
NB	: Nota Bene
NILG	: National Institute of Local Government
PC	: Pair Comparison
PERT	: Programme Evaluation and Review Technique
PLA	: Participatory Learning and Action
PRA	: Participatory Rural Appraisal
RD	: Rural Development
RDA	: Rural Development Academy
RDP	: Rural Development Planning
REB	: Rural Electrification Board
RMP	: Rural Maintenance Programme
RRA	: Rapid Rural Appraisal
RWP	: Rural Works Programme
SPSS	: Statistical Package for Social Science
SSI	: Semi Structured Interview
TCCA	: Thana/Upazila Central Co-operative Association
TDC	: Thana Development Committee
TK	: Taka (Currency of Bangladesh)
TPB	: Thana (presently Upazila) Plan Book
TTDC	: Thana Training and Development Centre
UK	: United Kingdom
UNAPDI	: United Nations Asia and Pacific Development Institute
UNO	: Upazila Nirbahi Office
UP	: Union Parishad
UPB	: Union Plan Book
UPL	: University Press Limited
URP	: Urban and Regional/Rural Planning
USA	: United States of America
VAID	: Village Agricultural and Industrial Development

Equivalents/Conversion Scale

1 foot	= 0.305 metre		
1 sq. ft.	= 0.093 sq metres		
1 acre	= 0.40468 hectare		= 3.025 *bighas* = 100 decimals
1 *katha*	= 720 sq. ft.	= 66.91 sq. metres	
1 *bigha*	= 20 *kathas*	= 33 decimals	= 0.330578 acre = 0.13378 hectare = 20 *kathas*
1 acre	= 3.025 *bighas*	= 60 *kahtas*	
1 sq. mile	= 2.59 sq. km.		
1 hectare	= 2.4711 acre		
1 km	= 0.6214 mile		
1 lakh	= 0.1 million		
1 *maund*	= 37.324 kg	= 0.0373 Metric Ton	
US$ 1	= Taka 70 as of November 01, 2006		

Glossary of Local Terms

*Kutcha** road	: One kind of earthen/temporary road to be metalled, not a work of masonry/concrete
*Pucca** road	: Permanent road, generally of masonry or concrete
Semi-*pucca*	: Semi-permanent structure, a combination of *kutcha* and *pucca*
Katha	: A measurement of land areas in local system (1 *Katha* = 720sq.ft.)
Bigha	: A measurement of land areas in local system (1 *Bigha* = 20 *Kathas*)

* NB: LGED has used these terms in their RD related publications frequently.

CHAPTER ONE

INTRODUCTION

The Backdrop
The Problems
Thesis Sentence
Objectives
Review of Literature
Justifications
Scope and Limitations
Thesis Structure
Conclusion

Bismillahirrahmanirrahim
IN THE NAME OF ALLAH, THE MOST MERCIFUL

Chapter One: Introduction

1.1 The Backdrop

The rural area of Bangladesh comprises of about 85% of total landmass, where 76.61% people live in.[1] Agriculture is the main economic activity of rural Bangladesh, which contributes to one-third of Gross Domestic Product. About two-third of civil work force are depended on agriculture. It is estimated that around 50% of the population live below poverty line; about half of them are considered to be the hard-core poor.[2] The incidence of poverty is wide spread in the country and more so in the rural areas.[3] It is characterised by landlessness, over-crowding on agriculture, under development of rural non-farm sector, colossal unemployment, low savings and acute shortage of credit facilities. Moreover, those poor are vulnerable to natural calamities such as flood, cyclone, drought as well as loss of crop and properties. Development planners recognise that the upliftment of the rural area is a pre-condition for overall development of the country. So, rural development is the major development challenge for Bangladesh. But the country is densely populated with limited resource base. According to population census 2001, about 834 people live in per square km of Bangladesh.[4] Gradually, land-man ration is diminishing. It was estimated 0.25 acre per person in 1984-85.[5] Moreover, the issue of local government system and its institutionalisation are yet to be settled. Along with these problems,

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[1] Bangladesh Bureau of Statistics (BBS), *Population Census 2001: Preliminary Report* (Dhaka: Ministry of Planning, 2001), p. 6.

[2] Government of Bangladesh (GOB), *The Fifth Five-year Plan 1997-2002* (Dhaka: Planning Commission, 1998), p. 149.

[3] ibid.

[4] BBS, *op. cit.* p. 4.

[5] Pk. Md. Matiur Rahaman, *Poverty Issues in Rural Bangladesh* (Dhaka: UPL, 1994), p. 23.

agricultural resources of rural Bangladesh are already under severe pressure and environmental strain. Water resources management is an important aspect of rural development. In the country, net cultivable land area is 9.03 million hectares of which irrigated area is only 3.99 million hectares.[6] In spite of having 14400 km of feeder 'B' type road and 87000 km of rural roads, rural areas are still facing accessibility problems.[7] Accessibility is definitely one of the important factors for the free flow of agricultural inputs and outputs. Moreover, physical infrastructures of rural areas, like- embankment and drainage to protect from natural hazards, are inadequate.

1.2 The Problem

For socio-economic development of the country as a whole, reduction of aforesaid problems and promotion of rural development planning is a must. Towards that end, rural planning should aim at the optimum utilisation of limited resources for the maximum benefit as well as welfare. In this connection, to boost up rural development, a mechanism known as Union Plan Book (UPB) has been emerged. The present study is dealing with UPB from the viewpoint of rural development.

Rural development (RD) is one of the major development challenges of Bangladesh. For the development of rural Bangladesh different RD approaches and efforts have been emerged as well as practised. In the course of time, some of them were changed, modified and rejected. From the viewpoint of physical planning, the most recent and the pragmatic RD effort is UPB. Bangladesh Academy for Rural

[6] GOB, *op. cit.*, p. 273.
[7] ibid., p. 376.

Development (BARD) first introduced the concept of UPB in the 1960's. Local Government Engineering Department (LGED) adopted this planning process in Bangladesh. Its implementation started in 1992/93 and ended in 1996/97.

There is a few critical review on UPB. On the basis of past observation Kamal Siddiqui identified three practical problems with the Union Plan (not directly UPB): (a) highly biased in favour of physical infrastructure, (b) no trained manpower is available at union level, and (c) shortage of resources and poor implementation capacity of Union Parishad (Council). Finally, he raised a question in early 1990s- "will UPB be only a theoretical exercise?"[8]

In the meantime, UPB incorporated union land-use aspects, physical infrastructure; training programmes for Union and Upazila/Thana level manpower for capacity building and resource mobilisation. But, do the problems exist in practical application or implementation of UPB? What are the depths of those problems? What potentials exist? These have not yet been investigated in a systematic and scientific way. In spite of being a theoretical concept, UPB was practised by LGED for physical planning, in the practical context of Bangladesh. So, from the viewpoint of operational aspect– the overall planning, implementation and management of UPB can be questioned. Again, for the guidance of the future planning and development of rural Bangladesh, the evaluation of UPB has not yet been done. That is why, the present study plans to deal with the analysis of outputs, effects, and impacts of UPB as well as to determine how and why the objectives of the UPB were or were not achieved in the study area.

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[8] Kamal Siddiqui, *Local Government in Bangladesh* (Dhaka: UPL, 1994), p. 132.

So, there arise some questions like: (1) What were the past RD efforts that were practised to solve the problems of rural Bangladesh? Why and how RD efforts of Bangladesh have been changed/modified? (2) What are the needs for physical planning at local level/micro level? (3) What is UPB? Why and how was UPB emerged? What are the components of UPB? (4) What are the objectives/goals and purposes of those component plans of UPB? How much they are achievable? To what extent and nature? Why and how? And (5) What are the problems and potentials of UPB in RD?

1.3 Thesis Sentence

There exists a positive relationship between unorganised union physical planning and lack of trained manpower/expertise, local resource mobilisation and implementation capacity at union level.

UPB has provided a good mechanism for rural development, but due to its poor implementation, it can not bring significant impact; and some modifications in its planning and implementation process through total planning can expedite rural development in Bangladesh.

1.4 Objectives

(1) To review the past efforts of rural development in Bangladesh.
(2) To examine and analyse the origin, history and concept of Union Plan Book (UPB).
(3) To evaluate the performance of UPB of Dighalia Upazila under Khulna District.
(4) To identify the problems and prospects of UPB in the study area, and
(5) To suggest measures for better implementation of UPB.

1.5 Review of Literature

The rural development of Bangladesh is facing challenges due to high incidence of poverty, low resource endowment and productivity, vulnerability to natural disasters, high unemployment and underemployment, population growth and high density, diminishing land-man ratio, low level of economic growth, uneven social structure, unbalanced growth, and inappropriate development approaches etc.[9] To deal with these problems, a series of development efforts have been taken but their implementation aspects give a frustrating look,[10] whereas without rural development, overall development of the country cannot be achieved.

It is necessary to note that the present form of rural patterns did not exist in the subcontinent in pre-British era. Before British rule, the Indian villages were 'self-sufficient', 'unchanging and static socio-economic systems'. In 1830, Charles Metcalfe described " The village communities are little republics, ... Dynasty after dynasty tumbles down; revolution succeeds revolution; Hindu, Pathan, Mughal, Mahratta, Sikh, English, are masters in turn; but the village communities remain same. ..."[11] Gradually, by the impact of British rule the rural patterns were changed and turned into present form. Since then, RD efforts were practised in British India as well as all over the world.

The third decade of twentieth century was a period of distress. It was known as the great depression. For the reversal of recession, Keynes offered a theory. His

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[9] Pk. Md. Motiur Rahman, *op.cit.*, pp. 26-33.

[10] Akther Husain Chaudhury, "An Overview of Planning in Bangladesh," *The Journal of Local Government, vol.* 25, no. 1 (July-December 1996): 109.

[11] A. K. Nazmul Karim, *Changing Society in India, Pakistan and Bangladesh* (1956), rpt. (Dhaka: Nawroze Kitabistan, 1996), p. 34.

suggestions were to provide with easy credit to boost up investment, encourage consumption to expand production, to promote big programmes and vast public works for the employment. At that time British India was facing stagnation, famine, rural indebtedness. British government looked around for a remedy and imported the credit cooperative from Germany. In British India, Gandhian upliftment also added momentum in the rural development of the subcontinent.[12]

After separation in 1947, due to Gandhian tradition India paid more attention to rural problems than Pakistan.[13] On the other hand, in Pakistan- Community Development Approach, V-AID, Self-help Projects, Rural Works Programmes, Irrigation Works Programmes, Rural Constructions as well as Comilla Model were introduced and practiced.[14]

After the independence of Bangladesh, BRDB (Integrated Rural Development Programme, later, renamed as Bangladesh Rural Development Board or BRDB) was formed. BRDB did various experiments over Comilla model. Beside these, some other RD approaches were practised, viz. Rural Cooperatives, Growth Pole, Swanirvar Programme, Cluster Village, *Adarshagram*, Area Development Project (e.g. RD-1, RD-12), Growth Centre, TPB and UPB.

In this phase, some scholars focused on RD approaches, considering agrarian reform for Bangladesh. Especially Hasnat Abdul Hye pointed out that there were three types of RD approaches. These are: (1) Radical (Collectivist) approach is generally based

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[12] BARD, *The Works of Akther Hameed Khan*, 3 vols., (Comilla: BARD, 1983), pp. 1-20.

[13] ibid.

[14] Dibyendu Sen, "Rural Development Strategies an Experiences in Bangladesh: A Review," in Md. Abdul Quddus, ed., *Rural Development in Bangladesh: Strategies and Experiences* (Comilla: BARD, 1996), pp. 20-90.

upon the socialisation of all means of productions and establishment of large operational units based on collective ownership and distribution; (2) Reformist approach tries to widen the base of private ownership rights rather than socialise man-land relationship. Its main objective is to reduce inequality and prevent polarisation; and (3) Gradualist approach lies in between the above two approaches and aims at more efficient and more egalitarian access to land resources or other means of productions.[15]

The emergence and disappearance of different RD efforts imply that planning and development is a continuous process. There is no last and single magic bullet for the development as well as rural development. There is no definite end and last efforts of development. Every approach has some strengths and weaknesses. To overcome the weaknesses of RD efforts, next generation innovation takes place.

To get the better performance than the previous RD efforts, LGED has practised UPB. Actually, UPB was the concept of BARD in the early nineteen sixties. Its initial components were Rural Works Programme (RWP), and drainage and embankment. Later, irrigation was added as a vital component. At that time this UBP was more theoretical in nature.

Practically, different structural aspects of UPB, such as— road, embankment, and irrigation canal are dealt with different separate agencies/organisations, viz. Roads and Highways Department, LGED, UP, BWDB, Disaster Management Bureau and Flood Control Wing, Ministry of Local Government, Rural Development and

[15] Hasnat Abdul Hye, *Agrarian Reform for Bangladesh the Continuing Debate* (Dhaka: Bangladesh Academy Staff College, 1982), p. 3.

Cooperatives, Ministry of Environment and Forestry, Ministry of Social Welfare. In spite of being a theoretical concept, UPB was practised in the practical representative environment of rural Bangladesh. So it is necessary to know, what are the results/lessons of UPB's operation? Why? How? And what is the future of UPB?

The term UPB has been used in some documents of BARD and LGED. Those documents have only described the purposes, objectives, and components of UPB. These aspects of UPB are discussed in the chapter three of this thesis.

LGED has published a UPB manual for union level planning with detail instructions. Some RD scholars have used the term UPB and its feature for descriptive purpose. But they did not provide with any critical view on UPB except Kamal Siddiqui. This literature has already been reviewed in the section 1.2 of this chapter. Of course, he raised some valid questions. Do those problems (identified by Siddiqui) exist in practical environment regarding UPB? To what extent those problems are existing? Those aspects have not yet been investigated in a systematic and scientific way. So, the evaluation or review of UPB was not done. But these aspects can provide a wide horizon of new knowledge for the future planning and development of rural Bangladesh.

1.6 Justifications

For the development of rural Bangladesh, the study can be useful to the policy makers, planners, and to the users also. It provides new horizon of multi-dimensional and multi-disciplinary aspects of UPB which is leading towards a total and

comprehensive development plan for rural areas of Bangladesh. The study helps to provide with better understanding about UPB and new orientation of RD efforts.

In fact, there are very limited writings on UPB, its importance, problems and prospects. Actually, there remains knowledge gap in the field of UPB relating to rural development. So, academicians and professionals working in the field of RD are interested in the results of this study. Different institutions such as Local Government Engineering Department (LGED), Bangladesh Academy for Rural Development (BARD), Rural Development Academy (RDA), National Institute of Local Government (NILG), Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP), and Urban and Rural/Regional Planning (URP) discipline/departments of Khulna University (KU), Bangladesh University of Engineering and Technology (BUET) and Jahangirnagar University (JU) as well as other relevant agencies may be benefited from the out come of this study. It may be helpful to the policy and decision-makers at local, regional and national levels. New ideas grown out of this research are directly helping the formulation of new RD efforts or any kind of interventions related to rural planning and development. Here lies the significance and justification of under taking this research work.

1.7 Scope and Limitations

UPBs were prepared for all unions of Bangladesh. Here, only two unions viz. Dighalia and Senhati of Dighalia Upazila have been selected for this study. So, it is basically a micro/local level study. To visualise RD from the viewpoint of UPB, the following aspects are covered: union road networks, drainage and embankment system, irrigation system and rural land-use planning as well as their related aspects.

The evaluation process of UPB has included different indicators/variables relating to the outputs, effects and impacts of the UPB. Problems related to planning and their implementation are focused and searched for their probable solution. This study deals only with the physical planning and relevant aspects, and not with other RD issues.

The study is limited within the framework of finding the problems and prospects of UPB as well as its evaluation and operational aspects. Considering limited time and budget, it is conducted in two selected unions only. So, it may not represent the overall picture of Bangladesh as a whole (regarding UPB). For analysis, both spatial and non-spatial data are required. Establishing a link between them is often difficult whereas access to information is problematic especially, when those are related to land aspects. However, efforts were given to overcome the shortcomings.

1.8 Thesis Structure

This thesis consists of five chapters. Chapter one introduces the problem along with the backdrop and literature review. The second chapter deals with the study area, conceptual framework, and all the tools, and methods/techniques used in the study. Review of past rural development efforts and major issues related to UPB are highlighted in chapter three. All available information related to assess the role of UBP are stated in chapter four. Chapter five discusses the existing problems, their remedies and future challenges, and finally summery findings and conclusions are presented in chapter six.

1.9 Conclusion

Rural Development (RD) is one of the major development challenges for Bangladesh. The upliftment of the rural area is a necessary for the overall development of Bangladesh, where it comprises of about 85% of the total landmass with 76.61% of total population. To deal with rural problems, a series of RD efforts have been undertaken as well as practised and in the course of time, some of the efforts have changed, modified, and rejected. To address the overall rural development from physical and infrastructural perspective, the most recent RD effort is Union Plan Book (UPB). UPB is a mechanism for rural development, and it contains guidelines relating to physical infrastructure, such as— road, drainage and embankment, irrigation, and land-use. It gives detail instructions about how the plan book and the maps of various components are to be drawn up, along with rolling plan. To make critical evaluation of the performance of UPB and to guide the future planning and development of rural Bangladesh, no study has yet been undertaken in this field. So, the present study has dealt with UPB from the viewpoint of rural development and for reducing knowledge gap in this field. In the next chapter of this thesis, discusses the methodology, study area and conceptual framework.

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CHAPTER TWO

METHODOLOGY, STUDY AREA AND CONCEPTUAL FRAMEWORK

Introduction
Type of Research
Selection of the Study Area
Location of the Study Area
Brief about the Dighalia Upazila
Brief about the Study Area
Important Regional Aspects
Required Data and Sources
Research Methods
Coordination Schema
Some Tools/Techniques and Explanations
Data Analysis, Interpretation and Presentation
Conceptual Framework
Conclusion

Chapter Two: Methodology, Study Area and Conceptual Framework

2.1 Introduction

There may be several alternatives to conduct any study or research. From possible alternatives, the researcher needs to select the best one considering time, fund, space, available facilities, feasibility, the research problem and its objectives, etc. Considering all these aspects, the study is conducted mainly on the basis of a field survey, but it also used different PRA tools along with documentary analysis.

2.2 Type of Research

This research can be seen as an exploratory as well as evaluation type. The methods and tools used in this study are discussed in the sections 2.9, 2.11 and 2.12 of this chapter.

2.3 Selection of the Study Area

For the present research two Unions viz. Dighalia and Senhati of Dighalia Upazila in Khulna district are selected as study area because it represents most of the other Upazilas of Bangladesh. On the other hand, the main cause of selection is that it provides with an easy access to UPB and relevant documents. Moreover, other reasons are: (1) The study area represents the common characteristics of rural Bangladesh; (2) The most of the stages of UPB were practised in the area; (3) Rapport building was done earlier with field personnel and concerned agencies for collecting information; (4) Different documents of UPB were collected from the UP and LGED office at the early stage of this research; and (5) The area is only 30 km away from Khulna University campus, which is the work place of the researcher.

2.4 Location of the Study Area

Dighalia Upazila, with an area of 81.56 sq. km., is located in the northern part of Khulna District. The Upazila headquarter is at a distance of 23 km. from the District headquarter. It lies between 23^0-0' and 22^0-50' north latitude, and 89^0-30' and 89^0-35' east longitude.[16] It is bounded by Jessore and Narail District to the north, Terokhada Upazila of Khulna to the east, Rupsha Upazila of Khulna to the south, and Phultala Upazila and Daulatpur area of Khulna City to the west. Main rivers are Bhairab, Chitra and Nabaganga. Location of the study area is shown in the map 2.1 in the next page (14).

2.5 Brief about the Dighalia Upazila (Thana)

Dighalia Thana was established on the 3rd July, 1986 and declared as Upazila on the 12th January, 1987. It consists of four Unions, viz. Dighalia, Senhati, Barakpur, and Gazirhat. There are 28 mouzas and 41 villages in the Upazila. Its population is 143598, of whom male 53% and female 47%; Muslim 75.30%, Hindu 23.92%, Christian 0.68%, and others 0.10%.[17] Number of total household is 29386, and average literacy rate is 39.8%; male 47.1%, and female 30.5%.[18] Main crops are rice, sesame, mustard, brinjal, betel leaf, fruits and vegetables. Main exports are betel leaf, banana, papaya and brinjal. There are two small size jute mills and about 50 cottage industries, such as bamboo work, goldsmith, iron, pottery, wooden, and sewing. The number of *Hats* (weekly markets) and *bazaars* (daily markets) are 14.[19]

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[16] Amin Engineering Consultants, *Master Plan: Dighalia Thana Shahar(sic.), Khulna District*, (Dhaka: LGED, 1993), p. 2.

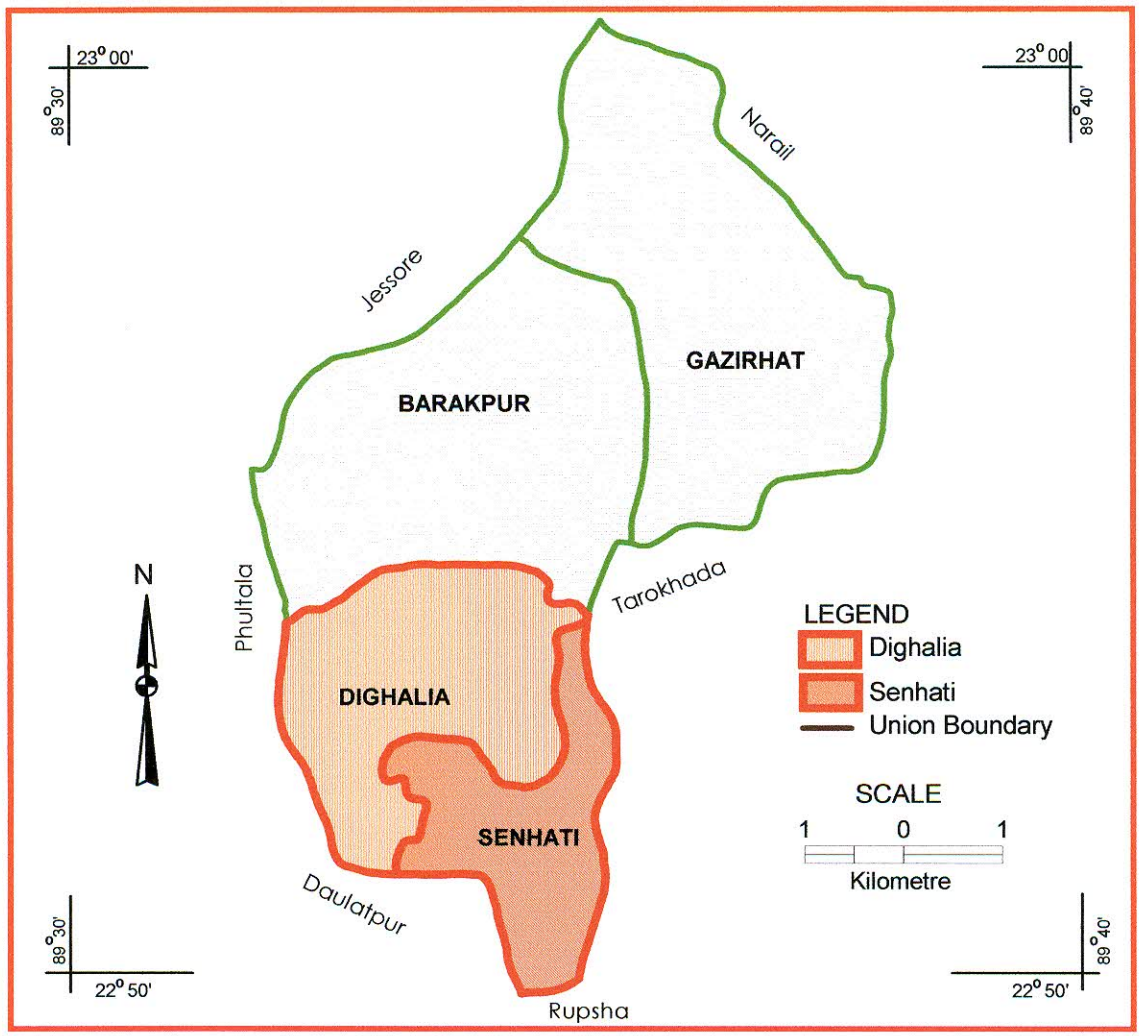
[17] Md. Mamun Reza, "Dighalia Upazila," in: Sirajul Islam, ed. *Banglapaedia National Encyclopaedia of Bangladesh.* Vol. 3. (Dhaka: Asiatic Society of Bangladesh, 2003), p. 355.

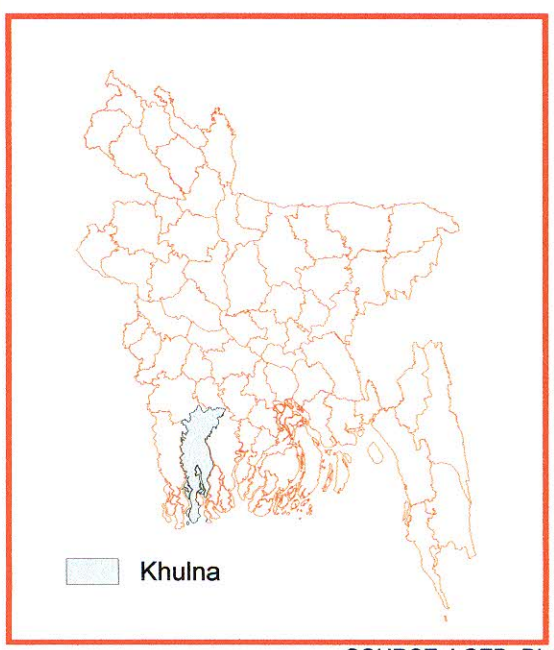
[18] ibid.

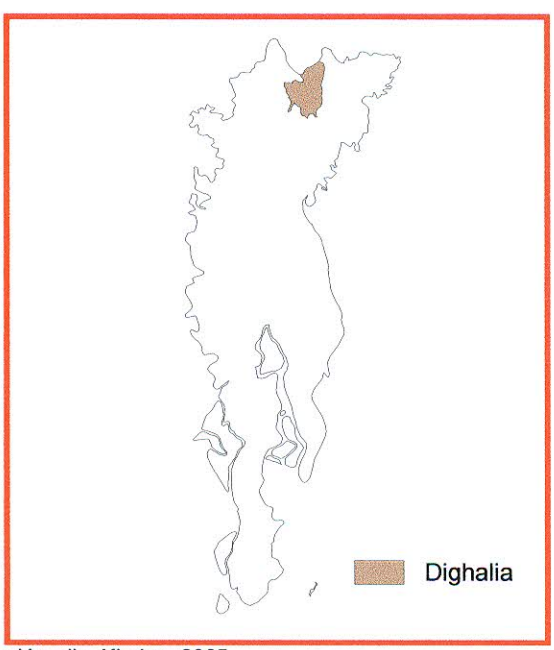
[19] ibid., p.356.

Map 2.1: Location of the Study Area

Union : Dighalia and Senhati







SOURCE: LGED, Dighalia Upazila, Khulna, 2005

2.6 Brief about the Study Area

Some information about the study area are given in the Table 2.1.

Table 2.1: Comparative Picture of the Study Area with the whole Upazila considering different Aspects

Description		Whole Upazila	The Study Area			
			Dighalia Union	Senhati Union	Total (sum of two Unions i.e. study area)	Percentage (%)
Area (sq. km.)		81.56	15.52	10.68	26.2	32.12%
Area (acre)		20155	3834	2639	6473	32.12%
Population	In 1991	135169	26913	44539	71452	52.861%
	In 2001	143598	28567	47303	75870	52.835%
Number of Household	In 1991	26094	5100	9250	14350	54.99%
	In 2001	29346	5712	10360	16072	54.77%
Length of Road in 2005 (km.)		84	22	20.50	42.50	50.60%
Population density in 2001		1760.64	1840.66	4429.12	2895.80	--
Literacy rate in 1991		39.8%	41.9%	47.3%	--	--

Source: Upazila Statistics Office, Dighalia, Khulna 2005.

The study area covers about 55% of household, 53% of population, and about one third area of the Upazila. Moreover, from the viewpoint of structural and physical development, it has about 51% road of the Upazila. It has also embankment, different water structures, various institutional buildings and other structures. So, it can be argued that the study area is representative and it satisfies the research need considering the coverage of structural and physical aspects of the components of UPB.

2.7 Important Regional Aspects

Though Khulna region is famous for shrimp cultivation, the study area is not within the shrimp zone of Khulna (Please see Appendix XIV: Location of Dighalia and regional resource map of Khulna). Khulna has been representing an image of industrial city since 1960s. Industry sector of Khulna region is comprised of more than 800 mills and factories.[20] The study area is located beside the industrial belt. So, it may have any impact on the study area, its people and their livelihood. Moreover, the study area is a fringe area that is changing from rural to urban characteristics.

2.8 Required Data/Indicators and Sources

For this study both primary and secondary data were collected and used.

Table 2.2: Objective-wise Required Data and Sources

Objectives	Required Data on	Data Sources and Methods
(1) To review the past RD efforts (2) To examine and analyse the origin, history and concept of UPB.	Review of past RD efforts, Concept and origin of UPB, Goal, objectives, purpose, and operation of UPB	Mainly secondary sources and applied documentary analysis method
(3) To evaluate the UPB in the study area.	Both spatial and non-spatial data regarding rural road, drainage and embankment, irrigation, and land-use and relevant aspects	Mainly primary sources and used field survey method as well as secondary sources
(4) To identify the problems and prospects of the UPB	Planning, implementation and management, institutional aspects, resources mobilisation, peoples participation and coordination	Ditto
(5) To suggest measures for better implementation of UPB.	Ditto	Ditto

[20] Aqua-Sheltech Consortium, *Structure Plan, Master Plan and Detail Area Plan, Urban Strategy* (Khulna: Khulna Development Authority, 2001), p. 33.

2.9 Research Methods

This can be seen as an exploratory, action oriented and evaluation type of research. For the present study, different research methods as well as tools/techniques are used.

Table 2.3: Research Methods

Methods/Tools	Purpose/Applications/Respondents	Remarks
Reconnaissance survey	At preliminary stage for the selection of study area and assessing access to information	
Documentary analysis/ Literature review	To identify knowledge gap, to review the concept of RD efforts and UPB, also for cross referencing	
Institution survey Land-use and Infrastructure survey (Engineering survey)	Study on different components of UPB Identification of different land-use and their changes, area measurement and calculation, measurement of roads and embankments, infrastructures and land-use aspects	Maps Plans
PRA Tools: Transact walk, Participatory mapping SSI/Questionnaire, Key informants, Open discussion, FGD	Respondents: RD experts, Trainers and trainees of UPB, Concerned personnel from LGED, BWDB, Agricultural offices, Upazila administration, other formal and informal institutions, local people, professional groups, farmers, workers, commuters. From UPs: Chairman, Members and Secretary; Ex-chairman Rural elite and leader, as well as UPB team	

(Please also see Table 2.5, at page no. 19)

2.10 Coordination Schema

The Coordination schema is presented in the next page— considering the parameters, indicators/variables and their measuring units for meeting the objectives of the study with a view to evaluate the UPB in the study area.

Table 2.4: Coordination Schema

Objective	Complex Variables or Indicators	Simple Indicators	Value/ Unit
Evaluation of UPB based on output	Rural road (condition, access, pavement)	Pucca	Km, m, Y/N, type, area, Comparison with standard (CWS), time and events, length (km), road density (km/sq km)
		Semi-pucca	
		Kutcha	
	Bridge/ culvert	Qualitative and quantitative changes	Numbers, size, time and events
	Embankment and drainage	Length, type, quality and changes	Km, m, area, time and events
	River, canal	Flow, length, area	Y/N, km, sq km or m,
	Irrigation	Coverage, performance, change	Numbers, unit ratio, CWS
	Rural Infrastructure	All rural infrastructure (listed by LGED)	Numbers, area, size, changes
	Rural land-use	Different land-use types, their nature, extent, and changes (listed by LGED)	Area coverage, acre, Percentile distribution
Evaluation of UPB based on effect	Effects of rural roads	Travel time, cost, distance	Type, frequency, minutes, currency, km Score (100% scale) on satisfaction level
	Land value	Type of land, location, price	Coverage, frequency distribution, currency,
	Change in agriculture	Crop area	Acre, land-use mapping, per capita land
		Crop intensity	Intensity, 1 crop = 100, 2 crop = 200…
	Change in employment	Job type, nature and extent of involvement	Frequency distribution, Occupation pattern
Evaluation of UPB based on impact	Land-use pattern and their changes	Different type of land-use, their nature and extent	Area coverage, percentile distribution, time and events
	Hierarchy analysis of services	Primary, secondary and tertiary	Identification(Y/N), level, services and their changes, different model/flow chat
	Input output flow	Mode of movement and route, mobility mapping	Flow chart

2.11 Some Tools/Techniques and Explanation

Under Land-use survey- first, the existing situation in 2006 was delineated by field survey with physical verification and then it was also searched plot by plot to know what was the previous use before UPB. Information was also verified with the respondents and their neighbouring plots owners/users and available official documents.

2.12 Data Analysis, Interpretation and Presentation

All collected data/information both spatial and non-spatial were organised, explained and analysed by different sophisticated planning and statistical tools/techniques such as GIS (required software ARC INFO, ARC VIEW, OVERLAY), Pair comparison, Impact flow analysis, etc.

Table 2.5: Planning Tools/Techniques for Analysis

Analytical Tools/Techniques	Description/Application
Geographic Information System (GIS)	To create and present thematic maps (previous and existing conditions of the study area) by using both spatial and non-spatial data obtained from physical survey/land-use and infrastructure survey.
Power point	To present seminar.
Others: Impact flow analysis, Pair comparison, Comparison with standards, and relevant planning tools and techniques	To analyse and interpret both spatial and non-spatial data.
Microsoft word and Excel	To present the thesis i.e. text, facts and figures etc.

2.13 Conceptual Framework

2.13.1 UPB: A Union Plan Book is a mechanism for rural development. It contains guidelines related to physical infrastructure. UPB gives detail instructions about how the plan book and the maps of various components are to be drawn up. The components are to be approved by the concerned agencies. It has provided phase by phase detail outlines for the growth and physical development of a union. Activities on all physical development aspects are required to follow the UPB's guidelines/plans. Finally, UPB is the basis for the preparation of Thana Plan Book (TPB). UPB covered five years plan period from 1992/93 to 1996/97. The major components of UPB are: (a) Road Development (roads, bridges and culverts) Plan, (b) Drainage and Embankment Plan, (c) Irrigation Plan, and (d) Land-use Development Plan.

2.13.2 Evaluation[21] **:** It can be defined as the process towards the retrospective analysis of experience of UPB to examine the achievements of pre-set objectives and to determine how and why the objectives were or were not achieved.

There are three types of evaluations. They are (a) ex-ante or pre-programme evaluation, (b) on-going or concurrent evaluation, and (c) post evaluation. This study is on post evaluation.

Evaluation can be explained/conceptualised by analysing the following aspects: (1) Examine the relevance of and need for projects, (2) Question the design and the underlying assumptions, (3) Assess induced change and progress towards the planned targets, (4) Identify unplanned changes, (5) It is an attempt to identify causal

[21]CIRDAP, *Guidelines on IRD: Plan Formulation, Implementation, Monitoring and Evaluation* (Comilla: BARD, 1983), pp. 168-169.

factors and assess their effects, and (6) To feed the findings for the use of the designers and implementing agencies for further improvements.

2.13.2.1 Outputs[22] **:** These are physical outcomes produced by the programmes of UPB e.g. kilometres of road constructed, hectares of land reclaimed irrigated etc. Outputs are also activities and services provided by.

2.13.2.2 Effects[23] **:** These are direct and immediate consequences of the programmes of UPB e.g. increased vehicle, higher crop fields etc.

2.13.2.3 Impacts[24] : These are changes in the standard of living of the target group or within the target area on account of the programmes of UPB. These take place at two levels: (a) the individuals or family levels, and (b) community level. Here in the study, from the viewpoint of UPB, community level impacts are more important rather than individuals/family interests. So, to evaluate the impacts of UPB, community level is considered.

2.13.3 Rural Development[25] : Rural development is a planned change towards the improvement of the economic and social lifestyle of the rural poor-through increased production, equitable distribution of resources, and empowerment. In general, a planned change can be of two major kinds: rural institution building and technological. Although agricultural development constitutes a major part of it, rural development is a much broader process, which aims at the development of the rural economy as a whole. The welfare economists view it as a process which

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[22] CIRDAP, *op. cit.*, p.170.
[23] ibid.
[24] ibid.
[25] Sirajul Islam, ed., *Banglapedia: National Encyclopedia of Bangladesh*, vol. 8, (Dhaka: Asiatic Society of Bangladesh, 2003), p. 489.

encompasses the entire gamut of technical, economic, political and social changes related to private and public efforts geared towards increasing the well being of rural citizens.

According to World Bank, Rural Development, in general, is a strategy designed to improve economic and social life of a specific group of people— the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural area. The group includes small scale farmers, tenants and the landless. United Nations defines it, thus: RD is the outcome of a series of quantitative and qualitative changes occurring among a given rural population and whose converging effects indicate in time, a rise in the standard of living and favourable changes in the way of life of the people concerned. Bangladesh Government's definition of RD is: Government intervention— direct or indirect to the rural economy, which is meant for the betterment of standard of living of the poor.[26] So, considering these definitions and concepts, it can be said that to remove rural backwardness, to alleviate poverty and to improve the standard of living for the area and people concerned— sustainable, comprehensive and total positive interventions are called RD. Rural planning also addresses rural infrastructure development to enhance the rural economy and to integrate rural socio-cultural upliftment into the mainstream national and local development.

2.13.4 Concept of Planning: Planning can be seen as a manifestation of the ever-growing tendency consciously to organise human activities. It is the process, in which there is a continuous search for efficiency in its broadest sense. Alongside

[26] Abdul Baqee, *Rural Settlement: Characteristics, Development and Planning Issues*, 2nd ed. (Dhaka: Presidency Press, 1998), pp. 390-391.

economic planning, there is tendency to extend planning to geographical areas. Thus town and country/rural planning are integrated into national economic planning.[27] Moreover, planning is traditionally defined as a method of rational decision making that counter poses means and ends in an attempt to assess how these can best be brought together at least costs and with maximum effectiveness.

2.13.5 Physical Planning: Planning is a method of decision making that proposes or identifies goals or ends, determines the means or programmes which achieve or are thought to achieve these ends, and do so by the application of analytical techniques to discover the fit between ends and means, and the consequences of implementing alternative ends and means. This method is applied to determine public investment and other policies regarding future growth and change by the concerned authority.[28] From the viewpoint of planning practitioners, the traditional land-use approach is often called 'Physical Planning'.

2.13.6 Union: It is the lowest administrative unit in the rural areas where villages are grouped into it.

2.13.7 Village and Mouza: A Village is the smallest territorial administrative and social unit standing in contrast with a *mahalla* or ward of a town. A mouza contains the whole land for tax, while a village denotes settlements sites and human settlements of mouza, i.e. the smallest revenue unit.

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[27] David L. Sills, ed., *International Encyclopedia of the Social Sciences*, vol. 12 (Washington: The Macmillan Company and The Free Press, 1968), p. 103.

[28] ibid., p. 129.

2.13.8 Urban fringe:[29] Geographers brought the concept of 'urban fringe' into the field of urban research during the twentieth century. It can be described as 'geographical no man's land in the sense that it is neither rural nor urban, again, it embraces the both, but, it is more aligned to the urban influence. All fringe areas offer excellent opportunities for planned development, due to their low density and comparatively virgin condition than that of pure urban area. That is why planned development efforts in Bangladesh were and are targeted to the fringe areas.

2.13.9 Concept of Rolling Plan[30]: Under the rolling plan concept, a five-year plan is formulated as before. But is revised every year in the light of the performance of the various sectors of the economy and availability of resources. That is, there is an annual operational plan for each year with a fresh five year perspective. Thus, there is a five-year plan in continuous existence, being reviewed and extended year by year. In essence, the system provides a continuum of realistic annual plans each rolling on to the other with a changing five-year perspective which would be readjusted in accordance with changing economic conditions for the targeted overall development.

2.13.10 Upazila: It is an administrative unit above Union and below District, synonymous with Thana (not police station).

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[29] Akther Husain Chaudhury, "The Concept, Delineation and Planning Implications of Urban Fringe," *Plan Plus*, vol. 1. no. 2. (September, 2004), pp. 111-119.

[30] Kewal Krishan Dewett and Adarsh Chand, *Modern Economic Theory*, (1946) Rpt. (New Delhi: Shyam Lal Charitable Trust, 1997), p. 688.

2.14 Conclusion

This research can be seen as an exploratory as well as evaluation type. Dighalia and Senhati Unions of Dighalia Upazila in Khulna District are purposively selected as the study area is representative; it satisfies the research needs and provides easy access to information. Considering fund, location, available facilities, the research problem and its objectives— different methods and tools are used here. These are Documentary Analysis, Land-use and Infrastructure Survey, Institutions Survey, different tools of Participatory Rural Appraisal (PRA), and mapping with Geographic Information System (GIS). Moreover, in this chapter, it presents objectivewise indicators, data sources; coordination schema, methodological explanations; brief about the study area; and finally conceptual framework. In the next chapter, through documentary analysis, it discusses the review on different rural development efforts.

CHAPTER THREE

PAST RURAL DEVELOPMENT EFFORTS AND UNION PLAN BOOK

Introduction
Past Rural Development Efforts
Ancient Period
Medieval Period
British Period
Pakistan Period
Bangladesh Period
Emphasis on Physical and Infrastructural Development
Need for Rural Infrastructure and Local Level Planning
Origin and Brief about UPB
Objectives of UPB's Component Plans
Conclusion

Chapter Three
Past Rural Development Efforts and Union Plan Book

3.1 Introduction

In the course of time, some development problems have arisen and thus, new innovative ideas, thoughts have also emerged to solve those problems. Here, it can be questioned that when did RDP start? What were its objectives? Why there are different changes in RD efforts? And what is the history of UPB and its relevance to RD? This chapter covers historical background of different RD efforts chronologically, and describes the system of field operations of UPB.

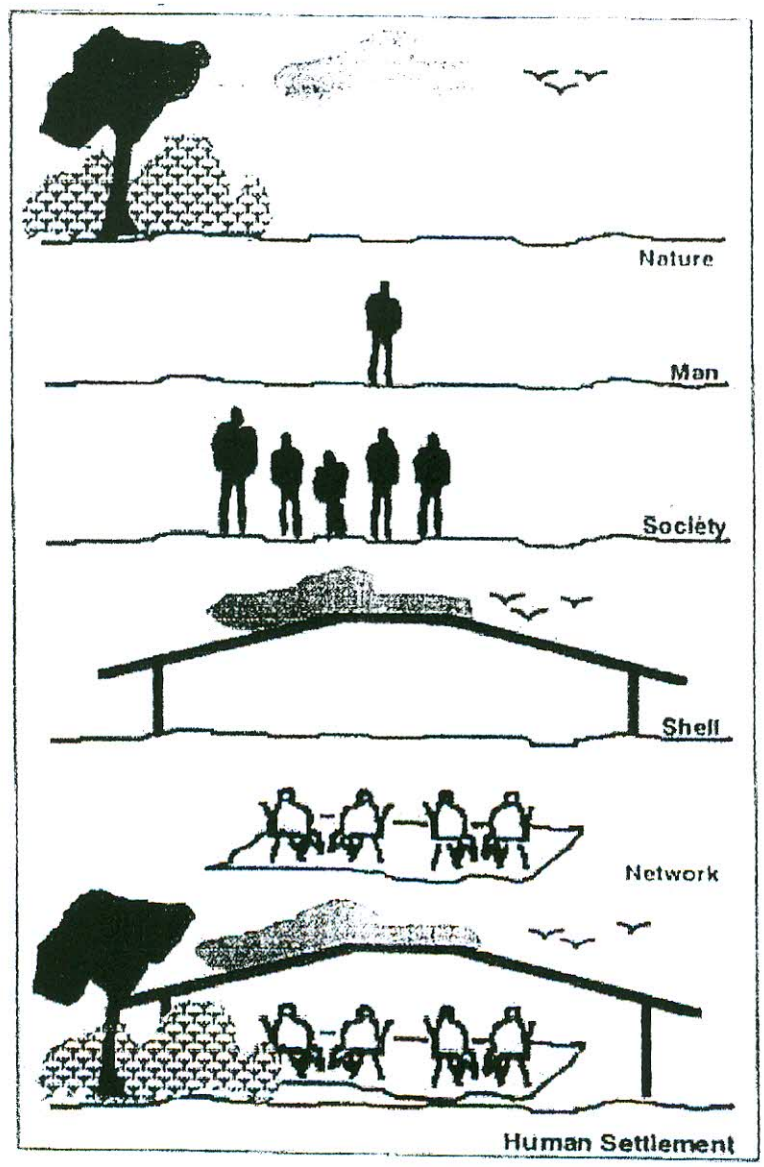
3.2 Past Rural Development Efforts

3.2.1 Ancient Period

The environment and surface of the earth are not unique and homogenous; that is why, the survival patterns of human being differ from time to time and place to place. So, people have to adapt to nature. The first initiative of adaptation was making one's own shelter along with fulfillment of basic needs. This adaptation process is always ongoing. This driven force has led human being for planning and development from time immemorial.[31] According to Doxiadis, the two basic factors of the emergence of human settlements are container and content (Fig. 3.1). The figure presents the emergence of human settlements and interrelationships among space, nature and society. A chronological change of the development path of rural settlements in early ancient period is presented in the Table 3.1 and Figure 3.1. .

[31] Abdul Baqee, *op. cit.*, p. 3.

Fig. 3.1: Factors of Container and Content



Source: Abdul Baqee, *Rural Settlement: Characteristics, Development and Planning Issues*, 2nd ed. (Dhaka: Presidency Press, 1998), pp. 4-7.

Table 3.1: Evolution and Formation of Permanent Rural Settlement

Stages	Period (years ago)	Descriptions
Permanent Village	3000	Social stratification, Specific settlement for different caste/group of profession, Use of iron, Settling stage
Society and Village	5000	Social structure out side of family relation, Conflict resolution systems, Emergence of rule and governance
Family	7000	Leisure hours and emergence of artisan, Matured agricultural system, Human relations: e.g. mother-father
Agriculture and Shelter	20000	Observation of nature, Emergence of human with surplus labour, Animal husbandry
Starting Phase	50000	Migratory settlement, Small hunting group, Dog as pet animal, No rules regarding the relation between men and women

Source: F. Korovkin, *Ancient History [in Bengali]*, 3rd ed. (Moscow: Progati Prokashon, 1988), pp. 17-46. and Abdul Baqee, *Rural Settlement: Characteristics, Development and Planning Issues*, 2nd ed. (Dhaka: Presidency Press, 1998), pp. 32-41.

There are not enough records available to discuss in details the actual nature of the rural development of ancient period; but in spite of that, some relevant and important documents are reviewed and discussed here.

Korovkin in his book *Ancient History* described that in Indian sub-continent some ruins of ancient civilization of the period from 3000 BC to 2000 BC were explored. From those ruins, it can be assumed that there were physical planning and development in that period. There were some fortified cities. They were surrounded by rural setting with well-designed granary, artificial irrigation channel, and hand-based water lifting device. They produced cotton and cereals, and kept pet animals. They knew the use of iron plough and animal tillage. There were artisans' villages and trade centres. There were links with Mesopotamia. On the basis of *Pataliputra*

and adjacent townships, it can be said that the construction works were done with proper design and planning where roads were simple. There were wide roads for connecting towns, and at specific interval there were wells for drinking water.[32]

Abedin in his paper "Socio-economic Picture of Ancient Bengal" has portrayed the socio-economic picture of the ancient period. From the paper some relevant key features are given below: [33]

In ancient Bengal, both rural and urban societies were seen, but dominated by rural mass. The base of the rural civilization was the village concept with traditional agrarian system. He identified that the land use of ancient villages (settlement areas) was divided into— homestead, meadows, pasture, and place for worship/temple (*mandir*). This classification is also seen to some extent even today, especially in remote rural areas of Bangladesh. There were systems of canal for the irrigation and drain of flood water. Tanks and lakes were dug to reserve water. To protect these reservoir embankments (*bands*) were made. He termed these physical development systems as 'natural system'. Beside these, there were vast rural settlements and some urban centres also.

He pointed out regarding administrative systems of ancient rural Bengal that most of the times the ruling classes were detached from the mass people, especially those who lived in rural areas and lived on agriculture under a system of self-sufficient village concept. Moreover, bureaucratic urban and administrative system did not provide them with any opportunity to reach mass people due to their royal lavish

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[32] F. Korovkin, *Ancient History [in Bengal]*, 3rd ed. (Moscow: Progati Prokashon, 1988), pp. 111-118.

[33] M. Z. Abedin, "Prachin Banglar Samajik O Arthanaitik Chitra [Socio-economic Picture of Ancient Bengal]," *IBS Journal*, vol. 1. no. 1. (1994), pp. 81-106.

lifestyle. As a result, the rural people were as if spectators in the state functionaries except self-sufficient village systems. Lavish lifestyle of ruling classes, internal clashes, weak state functionaries, and additionally, invasion by external forces in different periods, along with other factors created obstacles to achieve the independence for a long time. As a result, in the aspects of development there were some interruption and discontinuity.

Kamal Siddiqui critically discussed local government issues with historical overview in his book *Local Government in Bangladesh.* He confirms on the basis of Rig Vedas, the oldest Hindu religious writings, that village self-government in the sub-continent is as old as the villages themselves and existed approximately from 1200B.C. He described that village government in the sub-continent assumed different forms and functions in different times and places. There were rural institutions-- *Grameen, Gramika*, or *Grampala*/headmen and Panchayets (village councils) seem to have existed since early times, even if their functions, power and their place in the system of self-government vary considerably. Villages in Bengal were not run by a single headman but were dominated by the elites such as *Mahattaras, Bhattas*, and *Kutumabas.*[34]

During Gupta rule (circa 200 to 500 B.C.), the empire was divided into units such as *Bhukti, Vishyay, Mandal, Beethi* and *Gram. Gram* was the lowest tier of their administration. The village government was an autonomous unit managed its own affairs, with the least control exercised by the central government. Village councils as regularly constituted bodies evolved during the Gupta period. They carried out the

[34] Kamal Siddiqui, *op. cit.*, pp. 24-30.

activities of village administration such as defense, maintenance of law and order, settlement of disputes, maintenance and management of communal lands, public works and utilities such as roads, irrigation channels, canals, etc. During the later periods, including strong Pala and Sena dynasties, new offices were added and boundaries of the administrative divisions were redrawn, but they did not make any significant change in the character of the rural administration.[35]

3.2.2 Medieval Period

Sena rules were replaced by Muslim rulers of Delhi. In the medieval age (from the beginning of the 13th century to middle of 18th century) also, each village had its own council or Panchayet. During the medieval period, the revenue collection became more organised than the ancient period and local administration was more geared up to that end. Thus, *Sarkar/Chakla* and *Pargana* emerged as the focal point of revenue and general administration. During Mughal period, the town gained importance in Bengal. The offices of *Kotwal* (for entire town) and *Mir Mahalla* (for each ward) were developed. According to British official records, Mughals strengthened their law and order and revenue administration but weakened the village self government system. Practically, the permanent settlement introduced by the British in 1793 must have caused a greater damage to village local self government in Bengal.[36]

Regarding RD, during this period, Muslim rulers, particularly Turkish, used to construct embankment and to dig canals and ponds along with other rural

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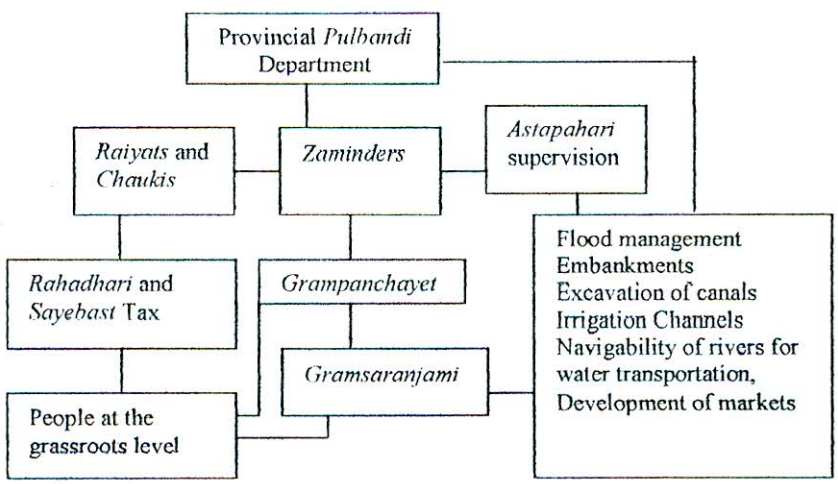
[35] Kamal Siddiqui, *op. cit.*, pp. 28-30.
[36] ibid., pp. 30-33.

infrastructures.[37] About RDP, French tourist Barrier's experience can be discussed here. He wrote "during Sayesta Khans period the Pulbandi department (responsible for flood management) had developed an excellent system of natural drainage and distribution of water to the farmers through an indigenous system of *Khals* (Canals) throughout the country." [38] & [39]

The Mughal Governors had established a department called *Pulbandi* (Fig. 2) which was responsible for flood management, irrigation and drainage works of the province.

Fig. 3.2: Pre-colonial System of Water Resources Management and Rural Development



Source: Golam Mustafa, "Institutional Development Program for Flood Disaster Management and Rural Development in Bangladesh", Unpublished MURP Thesis (Dhaka: BUET, 1993), p.11.

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[37] Ahmed Kamal, "Bangladesher Pani Baybastapanar Samajik Itihas [Social History of Water Management of Bangladesh]," *Bangladesh Unnayan Samikkha,* vol. 9. no. 1. (1992), pp. 127-142.

[38] S. I. Chowdhury, "Pak Upanibesh Amale Banya Abang Jalashech Byabastha [Flood and Irrigation System in Pre-colonial Period]," a paper submitted in the seminar on Flood in Bangladesh: Bangladeshi View, held in Engineers' Institute Auditorium, Ramna, Dhaka, January 24-27, 1990, pp. 1-10.

[39] Golam Mustafa, "Institutional Development Program for Flood Disaster Management and Rural Development in Bangladesh", Unpublished MURP Thesis, (Dhaka: BUET, 1993), p.10.

This department had introduced a comprehensive and hierarchical system of decision making, disaster management and rural development at local level. Under the provincial *Pulbandi* department, the *Zaminders* (land lords) were the main coordinators of works within the jurisdiction of their *Zamindari* (locality of lordship). They mobilised resources and took necessary actions for the smooth operation of the department. They were empowered to keep a major share of *Khazna* (Taxes) at their disposal, needed for the operation of the department. The farmers used to pay taxes and also provide voluntary labours (when required) for the *Zaminders* as well as the *Pulbandi* department. Because they received the benefits of *Pulbandi* operations. The *Zaminders* were found to execute their *Pulbandi* operations through '*Grampanchayet*' and '*Gramsaranjami*'. *Grampanchayets* were constituted by combining the elders of the villages and the *Gramsaranjami* was a team of workers (both voluntary and paid) under the leadership of the village Headman. These two grassroots level organisations were responsible for execution and maintenance of all water management works like excavation and re-excavation of canals/rivers, erection of embankment, etc. Such operations were executed by the *Gramsaranjami* under the order, guidance and supervision of the *Grampanchayet*. Some members of the *Gramsaranjami* were permanently appointed by the *Zaminders*. They were known as *Astaprahari* (eight hours duty man) and were responsible for taking care of the embankments. As soon as they found any crack in the embankments, they were required to report to the *Zaminders*. The *Zaminders* in turn ordered the *Gampanchayet* to take appropriate actions with the help of *Gramsaranjami*. Government orders also empowered the *Zaminders* to collect

'*Rahadhari*' or '*Jalpath Kar*' (River/water ways tax) from the commercial boats engaged in transport through the riverain routes. For this purpose the *Zaminders* used to keep '*Chaukis*' (permanent vigilance team) in some suitable places of the rivers. Besides *Rahadhari* another type of tax called '*Sayebast*' (business tax) was collected from the businessmen from *Hats and Bazars* (markets) and was utilised for maintaining the navigability of the rivers and development of *Hats and Bazaars* and connecting roads.[40]&[41]

During colonial British rule they stopped the operations of the *Pulbandi* department. Activities of the '*Gampanchayet*' and '*Gramsaranjami*' on different aspects of flood control, irrigation and rural development totally came to a standstill. Because there was none to keep active the irrigation channels, river routes, embankments, rural roads and reservoirs. Every thing was gone under the risk of nature. In time, the nature grasped all the achievements that the people and the government together had built. As a result floods, droughts, famine, and poverty become the facts of life during the colonial period.[42]

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[40] Ahmed Kamal, *op. cit.*, pp. 127-142.
[41] Golam Mustafa, *op. cit.*, p.11.
[42] ibid., p.12.

3.2.3 British Period

Aforesaid situations/problems and misrule by East India Company as well as the British opened a chapter of misery of rural people. After the devastating famine in 1878, a famine commission was formed. On the basis of the recommendation of the famine commission, Agriculture Department was established in Bengal in 1880 for agricultural development and famine relief. That was the history of institution building to agro-rural development in Bengal.[43] At that time, gradually different types of rural institutions were formed. Here it can be mentioned that to serve the security functions Bengal Chaukidari Act of 1870 was passed. Under this act, villages were grouped into unions to provide a system of watch for each village as well as ward. The guidance in detail for the creation of unions was laid down in article 2 and 3 of the Bengal Chaukidari Manual.[44]

During that period, Governor Generals like Lawrence and Mayo initiated and moved for the increased self-government in British India. Lord Ripon's famous resolution, the Bengal Council passed the Local Self-Government Act of 1885. It was a landmark in the history of self-government in rural Bengal. It provided a three-tier system of local government for rural areas: (i) a District Board in each district, (ii) a Local Board in a sub-division of a district, and (iii) a Union Committee for a group of villages. A brief about these institutions is discussed here:[45]

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[43] Golam Rahman, "Experiences of Regional and Local Level Planning," Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme, (Dhaka: BUET, 1998), p.7.

[44] A M M Shawkat Ali, "Local Government", in: Sirajul Islam, ed. *Banglapaedia National Encyclopaedia of Bangladesh*, Vol. 6. (Dhaka: Asiatic Society of Bangladesh, 2003), p. 288.

[45] Kamal Siddiqui, *op. cit.*, p. 35

District Board: It was thus to look after various matters of public interest and utility, such as schools, roads and communication, vaccination, hospitals, famine relief, census, holding of fairs and exhibitions, construction and maintenance of physical infrastructures, etc. The main sources of finance of a District Board were fees, fines, and grants from the government.

Local Board: A Local Board had no specific function except to receive reports from the Union Committees. The Board had no independent authority and source of income.

Union Committee: The Act of 1885 provided Union Committee to manage, on an average, an area of twelve square miles in the villages. Union Committees, consisting of not less than five or more than nine members, were to be elected from among the residents of the union. The Union Committees were responsible for the local municipal functions such as constructions of small unmetalled roads, primary education, sanitation, up keeping of ponds and tanks and registration of vital statistics. Other duties could be delegated by the supervising Local Board. The Union Committee had the power to raise fund from the villagers owing or occupying houses or properties. Here it can be mentioned that though there was the practice of appointing officials as chairmen of local bodies, these bodies could not attain a truly representative character. Rather the system gave rise to an exploiter class in the rural areas and ultimately it introduced top-down approach in local government administration.

The formation of rural institutions made changes in rural areas during British period. Before these, the characteristics of Indian villages were 'self-sufficient', 'unchanging and static socio-economic systems'. Gradually, due to the impact of British rule the rural patterns were changed and turned into present form.

3.2.4 Emergence of different Thoughts on Planning and Development

In 2nd and 3rd quarters of the twentieth century, some important thoughts and theories were developed. In this period the modern rural development planning concept emerged from the theory of Keynes during great depression of early 1930s. Moreover, the concept of economic planning, physical planning/regional development theories also emerged during this period. For Bangladesh, a continuation and formal shape of RD had been being seen from 1950s due to different experiments of Comilla Model at BARD in Comilla.

3.2.4.1 Great depression and emergence of rural development planning:

Due to colonial misrule and global economic systems, the first quarter of the twentieth century was a period of distress. The western countries particularly UK, USA and Germany came face to face with material collapse. Both industry and agriculture were disturbed. Unsold stocks were piled up and losses increased. Purchasing power declined. Millions of men became unemployed. These distresses were known as the great depression. For the reversal of recession, Keynes offered a new theory. His suggestions were to provide with easy credit to boost up investment, encourage consumption to expand production, promote big programmes for employment and vast public works. From then, rural development got momentum. In USA, famous Tennessee Valley project was started. That was the beginning of rural development planning in modern time. But at that time British India was facing stagnation, famine, and rural indebtedness. It was said, 'If the slump was bad in Europe and America, it was worse in British India'. British government looked

around for a remedy and imported the credit cooperative system from Germany. The original German model was based on thrift and punctual repayment, on accumulation and profitable investment of capital.[46] The co-operative movement in Bengal as a government sponsored programme started in 1904 with the establishment of the provincial co-operative bank and village co-operative societies.[47] Moreover, Gandhian upliftment also added momentum in the rural development of the subcontinent, particularly for India, during the ending phase of British rule and also after 1947.[48]

3.2.4.2 Emergence of physical planning: In the nineteenth and first part of the twentieth centuries in the western world there were some developments in physical planning (spatial organization and central place) theories and practices such as Von Thunen's the isolated states in 1826, that explains agro-location and its land-use patterns; concentric zones by Burgess; Homer Hoyt's sector concept; Multiple Nuclei concept by Mckenzie, Harris and Ullman; central place theory by Christaller, losch, Galpin and their follwers.[49]&[50] But those did not have any influence in planning and development of British India in colonial period when ruler class was engaged in exploitation rather than improvement.

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[46] BARD, *op. cit.*, pp. 1-20.
[47] *The Daily Ittefaq* dated 12/06/2005.
[48] Dibyendu Sen, *op. cit.*, 20-80.
[49] F. S. Chapin, *Urban Land Use Planning*, 2nd ed. (Urbana: University of Illinois Press, 1970), pp. 14-21.
[50] ESCAP, *Guidelines for Rural Centre Planning* (New York: ESCAP, 1979), pp. 52-60.

3.2.4.3 Emergence of modern economic planning concept: After Russian revolution in 1917, they began to think for planning and development. As a result, first Five Year Plan was prepared by Soviet Union in 1927. This attempt was introduced to the modern economic planning all over the world. Following this example western world began macro level planning. After Second World War a good number of under developed and developing countries adopted this planning idea for their development. In 1950, first Six Years Colombo Plan (1951-1957) was prepared for Pakistan. It was the first step towards the planning in Bangladesh i.e. former East Pakistan.[51]

3.2.4.4 Emergence of regional development theories: From 1950s to 1960s, there were some developments in regional development theory such as growth pole concept. Myrdal in 1957 and Hirschman in 1958 were the first to recognise spatial implications to bridge the gap between economic growth models and regional development. They also explained spread, backwash and trickling down effects for correction of geographical imbalances. Perroux provided with growth pole concept, a place with a basic function and a strong growth potential. Friedman explained a consistent framework of dominance between centre and periphery. He proposes that political and economic decentralisation is necessary for reversal of dominance.[52] There were some influences of these western thoughts and theories in rural development of the country in the form of regionalisation, development of growth pole, decentralisation and delegation of power. The essence of these theories is found in the development of some decentralised regional centre, such as Khulna, Sylhet and Rajshahi during Pakistan period. Moreover, LGED's rural centre planning and growth centre planning are the continuation of the aforesaid ideas.

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[51] S. J. Anwar Zahid and Md. Mizanur Rahman, *Local Level Planning and Management Manuel* (Comilla: BARD, 1994), p. 3.

[52] ESCAP, *op. cit.*, pp. 32-35.

3.2.5 Pakistan Period

In 1947 the British India was divided into two parts: Pakistan and India. Then present Bangladesh was known as East Pakistan. After the famine of 1943-44 and the World War II, it was difficult to feed the hungry people for a new country. At that time development campaign was 'grow more food' and emphasis was given to raise agricultural production.[53] To that end different RD programmes were undertaken from 1950s onward.

3.2.5.1 Village Agricultural and Industrial Development (VAID)

The first organised RD effort was the VAID programme. It was started in 1953 with massive American aid. Its main objective was to create conditions of better life in rural societies through increasing agricultural productivity. VAID tried to unite the villagers around common needs and to create self-help attitudes. But the programme could not meet its objectives and it was stopped in 1961 without any proper evaluation. No reason was shown for this ban. However, it is generally believed that the reason was more political than any better socio-economic consideration.[54]

3.2.5.2 Comilla Model (CM)

The earlier programmes were basically confined in adaptation of new agro-technologies, and thus rural development was perceived as agricultural development only through 'grow more food' policy. Under the leadership of Dr. A. H. Khan a team of social scientists presented the concept of rural development with proper explanation of socio-economic perspectives which was a turning point of RD, particularly for Bangladesh. His rural development concept is widely known as

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[53] Golam Rahman, "Efforts in the Fifties (after independence)" Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme, (Dhaka: BUET, 1998), p.1.

[54] A. M. Mozammel Hossain, *Rural Development: At the Cross Roads in Bangladesh.* (Dhaka: Prothasha Prokashon, 1993) p. 46.

Comilla Model. In the mid of 1950s two academies for village development, one at Comilla in East Pakistan and the other at Peshawar in the West Pakistan, were conceived. In the mid of 1959, Comilla Academy went into operation. Main objectives of the institution were to identify rural problems, to indicate solutions, to examine and experiment through pilot projects, to develop models for application and to develop trained human resources for effective implementation of RD projects and programmes.[55]

Main characteristics of CM were: two tiers cooperative system, increasing productivity, capital formation, loan programme, supply of agro-inputs, agricultural extension, promotion of education and training, joint plan preparation, democratic spirit, development of leadership, weekly meeting, monitoring and evaluation, and networking among different institutions.[56]

There were four programmes of the CM. They were: Two tiers cooperative system, Thana Training and Development Centre (TTDC), Rural Works Programme (RWP) and Thana Irrigation Programme (TIP).[57]

These four programmes were successfully implemented in 1960s in Comilla district covering 80% villages. Behind the success, there was proper planning. Aforesaid programmes have some physical planning components such as— rural roads, irrigation channels, drainage, flood control and embankment. To deal with these components a planning mechanism was developed, widely known as Thana (presently Upazila) Plan Book as well as Union Plan Book. Gradually the programmes of CM were expanded to Mymensingh, Rangpur and Rajshahi District. Based on the success, in 1970 government declared the Comilla Model as the

[55] Abdul Baqee, *op. cit.*, pp. 434-442.
[56] ibid.
[57] ibid.

national programme and thus Integrated Rural Development Board (IRDB) was emerged. Gradually it was extended to all the districts of Bangladesh.[58]

Under this programme farmers are organised through village based primary co-operatives for basic agricultural development and their federation at the Upazila (Thana) levels through the Thana Central Co-operative Association (TCCA) for providing with inputs and services. Then the two-tier co-operative system was being administered by IRDP which was later (in the 1980s), converted to Bangladesh Rural Development Board.[59]

3.2.5.3 Basic Democracy

In 1959 a new system of local government, termed as Basic Democracy, was introduced. The system was supposed to grow and evolve from the first step of the political and economic ladder so that it could find their roots deep among the people, starting at the village level. The institution of basic democracy was composed of four tiers. They are: Union, Thana, District, and Division. However, the rural poor were not benefited by the Basic Democracy system. It eventually was proved even worse than the previous systems. The system however, utterly failed to achieve the objectives of rural development.[60]&[61]

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[58] Abdul Baqee, *op. cit.*, pp. 434-442

[59] ibid.

[60] Golam Rahman, "Basic Democracy" Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme. (Dhaka: BUET, 1998), pp. 11-12.

[61] Momtaz Jahan, "A Review of Past Efforts of Rural Development and Role of Education in Its Promotion," *Journal Institute of Bangladesh Studies*, vol. 21. no. 1. (1998), pp. 141-155.

3.2.6 Bangladesh Period

3.2.6.1 Integrated Rural Development Programme (IRDP)

During 1969-71, the development activities were suspended due to a mass upsurge and the liberation war. After liberation, the Comilla model was replicated all over Bangladesh under the banner of IRDP by the Bangladesh Government. In 1971, IRDP was launched with a view to bring gradually all the farming population under the fold of farmers' cooperatives or *Krishak Samobay Samity* (KSS) and Thana Central Cooperative Association (TCCA).[62]&[63]

Though IRDP was a follow up model of the Comilla approach of RD, it could not achieve the same degree of success like the original Comilla model. IRDP was renamed as Bangladesh Rural Development Board (BRDB) in 1985. From cooperatives and community development programmes, the rich farmers, businessmen and contractors were more visible and made relatively greater gains.[64]

3.2.6.2 Area Development Projects

BRDB took some area based development projects under a package programme, known as Area Development Projects. The first project of this kind was the RD-1 project which was started in 1976-77 in seven (7) Thanas of Mymenshing and completed in 1982-83. Some other area development projects were: Noakhali Integrated RD project, North-West RD project, South-West RD project, Serajgong

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[62] Golam Rahman, "Integrated Rural Development Programme (IRDP)" Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme (Dhaka: BUET, 1998), p. 10.

[63] Momtaz Jahan, *op. cit.*, pp. 141-155.

[64] Rushidan Islam Rahman, *Daridrya O Unnayan* [Poverty and Development], (Dhaka: BIDS, 1997), pp. 13-28.

Integrated RD project, etc. The area development projects also have not been able to make their mark as expected.[65]

3.2.6.3 Food for Works Programme (FWP) and Food for Education Programme (FEP)

FWP programme was introduced by the Ministry of Relief and Rehabilitation in 1974 with the objective of utilizing the poor, distressed and unemployed labour force in RD works as well as providing them with temporary employment opportunities.[66] This concept was also used in early 1990s for raising rural education, especially to reduce the number of drop out students of rural poor families and it was known as FEP. Now, in this regard, direct financial incentives are given to rural poor students with especial attention to girls. These are actually relief oriented development programmes.

3.2.6.4 Swanirvar Programme and Gram Sarker

The Swanirvar (self reliance) Programme was initiated in 1974 after the disastrous flood and famine, to make the locality/district/nation self-sufficient in food production. It also aimed at the utilisation of available resources, creating village leadership, promotion of adult education and making family planning a success.

In the organizational setup each Swanirvar village had a *Gram Sabha* (village council) with a Gram Sarker (village government/administration) consisting of a number of adult members of the village. It was proposed that a village plan would be

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[65] Momtaz Jahan, *loc. cit.*, pp. 141-155.
[66] ibid.

prepared on the basis of baseline survey in consultation with the committee members and then approved by the *Gram Sabha*. At the next stage, village plans were combined into Union plans and Union plans into a district plan. The Thana plans were also to be integrated into a district plan. The concept of Village Government (Gram Sarker) was a significant step, but the energy with which it was initiated was quickly lost and the programme was finally abandoned in 1981 due to change in leadership as well as government.[67]

3.2.6.5 Upazila System[68]

In 1982 Upazila as a decentralised system of administration was introduced to the country by upgrading the Thana to Upazila with great hope and expectation of improving the socio-economic condition of the rural people. Each Upazila was administered by an Upazila Parishad, headed by an elected chairman. Each Upazila was assigned to take its all development activities. In order to enable itself to discharge these functions, enormous power was given by government to Upazila Parishad to impose levy, tax and raise funds by various means. It was also given the power to formulate development plans and execute them through its own administrative machineries.

It was then expected that the Upazila system would be able to improve the poor socio-economic conditions of the rural populace at greater pace than the former system but its achievements were not spectacular. There remains a wide gap between

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[67] Golam Rahman, "Swanirvar Programme and Gram Sarker" Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme (Dhaka: BUET, 1998), p. 12.

[68] Momtaz Jahan, *op. cit.*, pp. 141-155.

what the Upazila is assigned to perform and what actually is performed. Along with the change in government, this system was abandoned in 1991.

3.2.6.6 Grameen Bank

Noble laureate Professor Mohammad Yunus experimented and introduced micro credit to the bamboo stools workers in the village *Jobra*, beside Chittagong University in 1976 and it was the beginning of Grameen Bank Project. It was developed over next few years and, in 1983 it was transformed by government ordinance into Grameen Bank, a specialised financial institution for the rural poor. According to Prof. Yunus 'credit for self-employment is a fundamental human right'.[69]

Characteristics of GB are: provision of loan without collateral, targeting poor community especially women, democratic and participatory decision making process, door to door banking services, and remarkable loan recovery rate. GB provides with three types of programmes. They are: (a) Banking Programme: general loan, group loan, and housing loan; (b) technological programme: information technology, dairy, fisheries, deep tube-well, rural service centres etc.; and (c) especial programme: education, social, environment and health related programmes.[70]

In this type of model, the poorest among the poor are remaining out of the programme due to peer-pressure and self-selecting group dynamics. Actually GB does not sanction any loan without collateral. GB is making use of social collateral

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[69] Rahnuma Shehabuddin, *Empowering Rural Women: The Impact of Grameen Bank in Bangladesh*, (Chittagong: Packages Corporation Limited, 1992) pp. 71-72.

[70] Abdul Baqee, *op. cit.*, pp. 442-452.

where peer-group monitoring is applied to reduce lending risk.[71] Of course, it provides access to loan for poor community, but the process of breaking the circle of poverty is not sustainable enough due to low income and low productivity.[72]

3.2.6.7 NGOs' Programmes[73]

Prior to independence in 1971, only a few NGOs were operating in the then East Pakistan. Just after the cyclone of 1970, and during liberation war of 1971, a number of NGOs emerged to tackle relief and rehabilitation activities. In Bangladesh, NGOs are used to register themselves with the government under the Voluntary Social Welfare Agencies (Registration and Control) Ordinance of 1961 and Foreign Donation (Voluntary Activities) Regulation Ordinance of 1978. At the end of 1970s, they were involved with 'credit lead development' to alleviate poverty in rural areas. Gradually they built organization of rural poor through analysing social structure. During 1980s and afterwards they adopted 'credit plus development' concept covering more activities like- environment, health, sanitation, housing, population control, education and training, trading, research and publication, etc. Sometimes NGOs are working parallel with the government without having proper coordination among them. It creates duplication of activities and wastage of money. NGOs are area and group/community biased. That creates gap and overlapping in service

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[71]Susan Johnson and Ben Rogaly, *Microfinance and Poverty Reduction* (London: Oxfam Publications, 1997), p. 7.

[72] Rahnuma Shehabuddin, *loc. cit.*, p. 130.

[73] M. Nurul Haq and Shirin Hussain, "Rural Development Programmes and Role of NGOs in Bangladesh." in: Md. Abdul Quddus, ed. *Rural Development in Bangladesh: Strategies and Experiences.* Comilla: BARD, 1996) pp. 443-450.

delivery system. Moreover, NGOs are more accountable to their donors rather than government of Bangladesh.[74]

3.2.6.8 Government-NGOs Collaboration

In Bangladesh, the administrative machineries and implementation capabilities are not enough to achieve ambitious plan such as different sectoral perspective plans and Five Year Plans. Government systems are not sufficiently motivated to go to poor and disadvantages group. Moreover, most of the government institutions are located at District/Upazila level, very few at Union level. On the other hand, poor groups do not have organizational strength to get better service delivery by themselves, but these problems are eased by NGOs' involvements. Moreover, along with the rising notion of participation and transparency Government-NGOs joint efforts are also seen.[75]

3.2.6.9 Sustainable Rural Livelihoods (SRL) and Institutions Building

Donor agencies/development partners are advocating for sustainable rural livelihoods and also for institution buildings. Main objectives of the concept of SRL are: to promote sustainable livelihood and to protect and improve the management of the natural and physical environment and also to contribute to the overall poverty eradication goal. It considers different capital assets like natural, social, human, physical and financial. It works under the framework of livelihood diversification,

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[74] K. M Tipu Sultan, "Partners in Rural Development: Government-NGOs Collaboration," in: Md. Abdul Quddus, ed. *Rural Development in Bangladesh: Strategies and Experiences.* (Comilla: BARD, 1996) pp. 454-469

[75] ibid.

decentralisation and urban-rural linkages.[76] Here, it can be mentioned that United Nations organizations are suggesting on the basis of their observations that larger urban centres had no significant impact on the rural areas. Therefore, development of the lower order rural centres first and design for an organisational framework for rural centre planning are to be conceived within the existing regional administration. According to their suggestion, following actions are needed for planning and development: the creation of non-farm employment and income generating activities, and the promotion of lower order rural centres.[77] In this regard some foreign voluntary agencies have taken some projects to improve lower order rural institutions. Such as- Danish International Development Assistance (Danida) funded the democratic-watch has undertaken a two-year advocacy programme entitled '*Janaganer Darbar*' [people's reporting centre) to strengthen local government system and facilitate its effective role at Union Parishad level. The project aims at creating a platform for the common people to oversee functions of the UPs and discuss on social and development issues for ensuring peoples participation in the local level institutions. It also aims at the removal of shortcomings of developmental administrative functions of the UPs through counselling, advocacy, discussion and monitoring.[78]

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[76] Diana Carney, *Sustainable Rural Livelihoods: What contribution can we make?* (London: DFID, 1998), pp. 3-21.

[77] ESCAP, *Guidelines for Rural Centre Planning: Rural Industrialisation Organisational Framework for RCP* (New York: ESCAP, 1990), pp. 1-2.

[78] *The Daily Star* dated 24/2/2004.

3.2.6.10 Gram Sarker (GS)

Most recently, RD efforts included Gram Sarker. Gram Sarker Act 2003 was passed in the parliament on 27/02/2003 to perform planning, budget, resolve conflicts, develop socioeconomic aspects, etc. Actually, their number of assigned development tasks are sixteen, with a wide variety of development interventions.[79] In this regard about 39768 GSs were formed. Here, Gram (Village) means each Ward. These institutions were tagged under Union Parishad. From the viewpoint of scarcity of resources, UPs are not functioning properly let alone financing GSs from UPs. Presently GSs are not functioning as expected. Moreover, due to petition of Bangladesh Legal Aid Services Trust (BLAST), on the basis of Article 59 and 60 of the Constitution of Bangladesh, the high court declared that GS is illegal on August 02, 2005,[80] and the government appealed against the decision and the ultimate fate of GS is passing under the legal procedures of court.

3.2.6.11 Short Term and Small Projects

Along with the development of democratic system, different political parties are taking different RD projects to attract voters. For this purpose they take short term small projects, mainly physical in nature, so that voters can see the achievements that have been made by the political parties. For example: *Adarshagram, Guchagram, Thikana, Ashrayan* projects (all are similar in nature lunched by different political parties in power to provide housing for landless rural poor), Construction of youth centres, women centre, rehabilitation centre for aged people and also construction of

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[79] GOB, *Gram Sarker Act 2003* (Dhaka: Government of Bangladesh, 2003), pp. 2785-2794
[80] *Prothom-alo* dated 03/08/05

different rural physical infrastructure, such as roads, canals, drains, embankments etc.

3.3 Emphasis on Physical and Infrastructural Development

During the British Rule and subsequently during the Pakistan period, the process of physical development received little attention. It was only after the emergence of Bangladesh and more so during the second Five Year Plan, these physical development strategies have been perused with a view to create rural growth centres and relevant physical infrastructure. However, recognizing the importance of spatial aspects in the national economy, various national development programmes which implicitly contained some elements of local planning were undertaken in the past, most of which are still in operation in one form or another.[81] After the 1956 flood the East Pakistan (presently Bangladesh) Government conducted a broad based study on flood problem in the country with the help of United Nations sponsored mission headed by J. A. Crug. On the basis of Crug report, East Pakistan Water and Power Development Authority (EPWAPDA, presently Bangladesh Water Development Board) was created.[82] It can be mentioned that Green Revolution was first introduced at Beel Dakatia in Khulna District in early 1960s, where agricultural land was reclaimed by construction of polder, an enclosed area by embankment. There were provisions of agro-supportive services including adoption of High Yield Variety (HYV) IR-8, widely known as IRRI rice. Initially it was successful. But gradually that success story of Beel Dakatia turned into a problem area due to water

[81] Golam Rahman, "Experiences of Regional and Local Level Planning," Course No. Plan 6005: Rural Development Planning, Unpublished Class Lecture Materials of MURP Programme (Dhaka: BUET, 1998), pp.7-8.

[82] Golam Mustafa, *op. cit.*, p.12.

logging.[83] Moreover, under food for works programme, there were constructed some rural roads, canals and irrigation channels. During Bangladesh period and onwards construction of physical infrastructures are getting importance gradually. After liberation war, priority was given to the reconstruction of physical structures, then also other infrastructure gradually. Recently, along with the development of democratic sprit, ruling party/parties try to attract voters by eye-catching physical structures at local level.

3.4 Need for Rural Infrastructure and Local Level Planning

The rural areas of Bangladesh are still neglected and the economic condition has not improved much due to many difficulties. In order to develop the socio-economic condition of the villages, the development of rural infrastructure is a must. Rural infrastructure includes building activities like; construction of bridge/culverts, small scale flood control structures, construction of embankments and excavation of canals for drainage and irrigation, construction of sluice or regulator, development of hat-bazar, construction of flood or cyclone shelters, godowns (storage) and school buildings, re-excavation of derelict ponds etc. In the backdrop section of the thesis, it is said that there is shortage of adequate rural infrastructures in Bangladesh. To ensure overall development, rural infrastructure and local level planning are necessary. Moreover, recent interest in local-level planning can be traced to the following reasons:[84]

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[83] Abdul Baqee, *op. cit.*, pp. 495-499.
[84] Hasnat Abdul Hye, *Local Level Planning in Bangladesh* (Dhaka: NILG, 1982), p.6.

1. The failure of top-down planning to be realistic due to lack of adequate feedback from planning bodies at sub national level, and
2. The failure of conventional planning to ensure participation of local people in the planning and implementation processes which is largely held to be responsible for the dismal performance of the planned development efforts in particularly the rural sector.

There is an evolution in the last hundred years of planning with gradual changes in planning focus and theoretical basis. Please see Appendix I: Evolution of urban and rural planning problems, planning focus and theoretical basis during 20th century. It gradually took place from physical to wealth creation, from wealth creation to trickle down/top down; next to welfare/people centric; after that, presently, experts are talking about bottom up planning. Some bottom-up planning are seen at local level along with the guides of philosophical and political identity. At present all development plans are guided by political power and ruling parties. At the present time, the prime considerations of RDP are: democratic sprit, social mobilisation, people's participation, institution building, accountability, transparency and also eye-catching physical and infrastructural events for attracting people as well as voters.

Actually in Bangladesh, National development depends on rural development but rural areas/villages are entangled with many problems. A possible way of solving these problems is adopting democratic means by participation and cooperation from grass-root level. In this regard UPB is the last and recent mechanism for the development of rural infrastructure through a local level planning process.

3.5 Origin and Brief about UPB

To develop rural infrastructures in a planned way, there is the recent physical planning intervention known as Union Plan Book. A Union Plan Book is a mechanism for rural development. It contains guidelines related to physical infrastructure. UPB is the base for the preparation of Thana (presently known as Upazila) Plan Book. UPB covered five years plan period from 1992/93 to 1996/97. The major components of UPB are: rural roads, flood control and drainage, irrigation, and rural land-use. It has provided with and initiated a framework for physical planning at local level by the local people with local authorities.[85]

Though, it is a recent RD mechanism, it was applied in 1990s by LGED. Actually, it was the outcome of the Comilla Model of BARD in 1960s. Earlier programmes of CM were basically confined in adaptation of new agro-technologies and RD policy was to grow more food. Under the leadership of Dr. Akther Hameed Khan a team of social scientists presented the concept of rural development with proper explanation of socio-economic perspectives. His rural development concept is widely known as Comilla Model.

At that time, the main typical features of rural Bangladesh were identified, as:—

(a) population pressure and low productivity of agriculture; (b) gradual decrease in land-man ratio and possibility of landlessness; (c) food insecurity and social instability: (d) flood damages, water logging and poor system of the drains of flood water: (e) in dry season inadequate irrigation systems: (f) there were no integrated system among different development programmes (such as-

[85] LGED, *Union Parikalpana Bai* [Union Plan Book], (Dhaka: LGED, 1992), pp. 1-10.

construction of road and embankment, canal digging, etc.) and administration and local rural institutions: and (g) there was no organization for small farmers and landless poor, moreover there was no system to raise the needs of villagers.

These were the common pictures of rural Bangladesh. But Comilla was more vulnerable than other parts of Bangladesh. According to Population Census 1961 some information on Comilla are presented below.

Table 3.2: A Comparative Picture of Comilla with National Status

Descriptive Indicators	National Average	Comilla District	Comilla Sadar Thana/Upazila
Population density per sq. km. in 1961 (person)	1600	1693	2030
Average farm size in 1963 (acre)	3.7	1.8	1.7
Percentage of landless family (%)	10	18	20

Source: Abdul Baqee, *Rural Settlement: Characteristics, Development and Planning Issues*, 2nd ed. (Dhaka: Presidency Press, 1998), pp. 434-435.

Then, Comilla was well known for food insecurity. Under the aforesaid circumstances, Bangladesh Academy for Rural Development (BARD) was established in 1959. The main objectives were: to identify rural problems, to indicate solutions, to examine and experiment through pilot projects, to develop models for application and to develop trained human resources for effective implementation of rural development projects and programmes.

Characteristics of Comilla Model were:—

(a) only two tiers system, (b) joint plan preparation, (c) supply of agro-inputs, (d) weekly meeting, (e) monitoring and evaluation, (f) promotion of education and training, (g) liaison and networking among different institutions, (h) to raise

productivity, (i) development of leadership, (j) capital formulation, (k) democratic spirit, (l) loan programme, and (m) agricultural extension, etc.

There were four programmes of the CM, viz. (1) Two tiers cooperative system, (2) Thana Training and Development Centre (TTDC), (3) Rural Works Programme (RWP), and (4) Thana Irrigation Programme (TIP). These four programmes were successfully implemented in 1960s in Comilla district covering 80% villages, and for this reason per acre yield increased there. Before the application of new agro-technologies and infrastructural interventions under CM, average production performance was 15 *maund* rice per acre, whereas it became 60 *maund* after the interventions of CM.[86] Actually, behind the success, there was proper planning. Aforesaid programmes have some physical planning components such as:- rural roads, irrigation channels, drainage, flood control and embankment. To deal with these components a planning mechanism was developed, which is widely known as Thana (presently Upazila) Plan Book as well as Union Plan Book. For planning and development, Thana/Upazila Parishad and Union Parishad were the vital institutions. Gradually, the programmes of CM were expanded to Mymensingh, Rangpur and Rajshahi Districts. Based on the success, in 1970, the government declared the Comilla Model as the national programme and thus, Integrated Rural Development programme was emerged.[87] Gradually it was extended to all districts. Due to this success, UPs had been being charged with the planning function since 1960s. The planning function at the union level has been revolving around the Union Plan Book from then. Plan Books were containing the details of the year wise Plan components

[86] Abdul Baqee, *op. cit.*, p. 441.
[87] Kamal Siddiqui, *op. cit.*, pp.129-130.

which should be adjusted with Five Year Thana Plan under the framework of rolling plan. This was essentially a long term plan covering the various activities under Works Programme, followed by different experiments of Comilla Model at BARD in Comilla. It was formalised by the Planning and Evaluation Branch of the Basic Democracies and Local Government (BDLG) Department. Initially the Thana/Upazila Plan Book had two main parts. The first part was for drainage and embankment and the second part was for communications (roads, bridges, etc.). From 1967-68, Thana Irrigation Programme became an integral part of the Plan Book. In the next section, objectives of the different components plans are discussed.

3.6 Objectives of UPB's Components Plans

The objectives of UPB with its constituent components are presented in Table 3.3.

Table 3.3: Objectives of the Component Plan of UPB

Components of UPB	Objectives of the Component Plans
Union Road Development Plan	To intensify economic activities of the union. To establish links with the villages, hats and bazars, river ports etc. To ensure that the producer is able to carry on his produce to the market at a minimum cost and sell it at a fair price. To ensure that the farmers and the rural people get their necessary agricultural inputs and daily necessities, easily, at right time and at fair prices.
Union Drainage and Embankment Plan	To ensure convenient drainage. To revitalise the canals so that crops may not be damaged by flood and monsoon rains.
Union Irrigation Plan	To provide low cost irrigation facilities to every cultivable plot of land. To supply water to cultivable plots through excavation of small scale water irrigation canals with water control structures and pumps. To increase the yield of crops at a low cost with the help of irrigation.
Union Land-use Development Plan	To develop the potentials of land and water resources in order to produce more food, industrial raw materials, livestock, fisheries and forestry products and there by raise the quality of life. Land-use planning is also necessary for establishing industries, human settlements and a planned communication network for minimizing land wastage.

Source: LGED, *Union Parikalpana Bai* [Union Plan Book], (Dhaka: LGED, 1992) p. 8, 28, 42 & 59

Plan Book was prepared with the joint efforts of concerned government agencies and the representatives of people constituting the Thana development committee. Thana development committee consulted the local UPs' ward commissioners of UPs,

cooperatives, local projects committees before finalisation of the plan. The Thana level officers belonging to the Ministry of Agriculture, Ministry of LGRD and Cooperatives, Ministry of Power, Flood Control and Water resources, Bangladesh Agricultural Development Corporation took active part in assisting the elected representatives of the Thana Development Committee to draw up the plan. A model plan book was supplied for this purpose by the Ministry of LGRD and Cooperatives.[88] The model of UPB gave detail instructions as: how the Plan Book and the maps of various components had to be drawn up. The components were to be approved by the concerned agencies. The supervision and guidance from the Overseer of the Circle Officer Development were to be sought in order to draw up roads and bridges in the Union Plan. Provision was made in the plan book for conducting of local surveys by UPs with the technical assistance of the Upazila level staff (Overseer, Supervisor etc.). In the preparation of a union profile the above two components were covered. In these respects, the then Sub-Divisional level technical staffs were required to provide with training and guidance to the concerned Thana level staff.

It was also required that before drawing up the Union Plan, UP members and ward committees should be consulted. The Ministry of Local Government, Rural Development and Cooperatives (MLGRDC) issued circulars explaining the various steps to be taken by UPs for the Five Year Plan period.

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[88] Hasnat Abdul Hye, *op. cit.*, pp. 33-34.

The UPB, which was drawn up for the period from 1976/77 to 1982/83, included 9 maps for drainage, irrigation and embankment, and about the same maps for roads, bridges and culverts. The major information in these maps were: (a) present existing situation; (b) projects to be undertaken during the plan period; (c) projects approved by the then Thana Development Committee (TDC) on priority basis; and (d) projects to be completed in each financial year etc.

3.7 Conclusions

Historically, different efforts of rural development were always here in ancient and medieval Bengal. But, those were scattered efforts. Due to interruption and discontinuity in administrative system and lack of available records, very few evidences are found in rural development planning. In ancient and medieval periods, there were indigenous and natural forms of RDP under the framework of "self sufficient and static/unchanging village system". Generally, due to the impact of British rule, rural pattern and RDP system began to change. At that time RDP did not take any shape. It took formal shape after 2nd world war, in Pakistan period due to different experiments of Comilla Model. In 2nd and 3rd quarters of the twentieth century, some important RDP thoughts and theories were developed around the globe— to deal with great depression, the Keynes theory ultimately introduced modern rural development concepts to the world. Moreover, economic planning concepts of Russians; then, physical planning, and regional development concepts/theories were also emerged and gave momentum in RDP.

For Bangladesh, a continuation and formal shape of RD is seen from 1950s through different experiments of Comilla Model (CM), under the leadership of Dr. Akther Hameed Khan who lead a group of social scientists provided with the basic orientation of RD. There were four programmes of the CM, viz. (1) Two tier cooperative system, (2) Thana Training

and Development Centre, (3) Rural Works Programme, and (4) Thana Irrigation Programme. These four programmes were successfully implemented in the 1960s in Comilla district covering 80% villages. Actually, behind the success, there was proper planning. Aforesaid programmes had some physical planning components such as— rural roads, irrigation channels, drainage, flood control and embankment. To deal with these components a planning mechanism was developed in the 1960s from different experiments of BARD, widely known as Thana Plan Book as well as Union Plan Book. So, UPB was originated from BARD in the 1960s. Then, UPB had three components viz., (a) Road Development (roads, bridges and culverts) Plan, (b) Drainage and Embankment Plan, and (c) Irrigation Plan. LGED adopted the concept and worked with UPB. In the 1980s, under the decentralised administration, more attention was given to rural infrastructure and local level planning, because (a) The failure of top-down planning to be unrealistic due to lack of adequate feedback from planning bodies at sub national level, and (b) The failure of conventional planning to ensure participation of local people in the planning and implementation processes which is largely held to be responsible for the dismal performance of the planned development efforts in particularly the rural sector. Then, LGED began to think about UPB. Gradually, LGED adopts the concept and is working with UPB. Now, UPB has four components viz. (a) Road Development (roads, bridges and culverts) Plan, (b) Drainage and Embankment Plan, (c) Irrigation Plan, and (d) Land-use Development Plan. After adopting by LGED, considering Table 3.3, it can be questioned: To what extent were these objectives achieved? To what extent these are relevant in the practical context of rural Bangladesh? These should be investigated in a systematic and scientific way. Prior to these aspects, both theoretical and practical field operations of UPB are discussed in the next chapter, i.e. Evaluation of UPB.

CHAPTER FOUR

EVALUATION OF UNION PLAN BOOK AND THE ACHIEVEMENTS

Introduction
Field Operations of UPB
Training Programme on UPB
Evaluation of UPB and Important Observations
Conclusion

Chapter Four
Evaluation of Union Plan Book and the Achievements

4.1 Introduction

Prior to evaluation of UPB, it is necessary to discuss on the field operations of UPB. Then, on the basis of some selected indicators, evaluation of UPB is discussed from the view point of output, effect and impacts. This chapter also discusses the weaknesses, strengths, and future challenges of UPB.

4.2 Field Operations of UPB

For smooth field operations of UPB, different institutions are involved with different duties and responsibilities. The involved rural institutions and their main functions are presented here.

Component plan-wise Institutional Responsibilities in Operation of UPB are presented in the Table 4.1 (Component plan-wise detail field operations of UBP are described in Appendix: XVI as given by LGED in UPB).

Table 4.1: Main Functions of Involved Rural Institutions in UPB

Component Plans of UPB	Involved Rural Institutions in UPB	Main Functions
Union Road Development Plan	UPs and Advisory committee of UPB headed by UP chairman.	Planning, implementation and maintenance of rural roads; and coordination at Union level
	LGED	Technical assistance, coordination at Upazila level
	Upazila Administration, Agricultural Departments, BWDB, neighbouring Union Parishads.	To provide assistance as per requirement; such as providing information, logistics, resource mobilisation, coordination.
Union Drainage and Embankment Plan	UPs and Advisory committee of UPB	Planning, coordination at Union level
	BWDB	Technical assistance
	Upazila Administration, Agricultural Departments, LGED, neighbouring Union Parishads,	To provide assistance as per requirement
Union Irrigation Plan	UPs and Advisory committee of UPB	Planning, coordination at Union level
	LGED	Technical assistance regarding preparing Irrigation Plan
	Agriculture Extension Department	Training, logistics, departmental supports
	Thana/Upazila Irrigation Committee Irrigation Management Programme (IMP) Team, TTDC, KSS	Providing information, maintenance, training, organising farmers,
Union Land-use Development Plan	UPs and Advisory committee of UPB	Planning, coordination at Union level
	LGED	All types of technical assistance regarding preparing Land-use Plan, also providing staff for survey
	Thana/Upazila Agriculture Officer's Office	Providing staff and information

Source: LGED, *Union Parikalpana Bai* [Union Plan Book], (Dhaka: LGED, 1992), pp. 1-59.

In UPB's field operation, there are two advisory committees:- one at Upazila level (Please see the formation of the committee in Appendix IV: Advisory committee for TPB at Upazila level) and another for Union level. The structure of formation of UPB's Advisory committee for land use planning at Union level is presented in the Table 4.2.

Advisory committee may be formed comprising of the relevant officials to deal with the aspects of data collection, planning, implementation, evaluation and modification of the Union Land Use Development Plan.

Table 4.2: Advisory Expert Committee for UPB at Union level

Chairman, Union Parishad	Convenor
Members, Union Parishad	Member
Representative, Thana Engineering Office	Member
Representative, Thana Agriculture Office	Member
Representative, Thana Fishery Office	Member
Representative, Thana Livestock Office	Member
Representative, Thana Rural Development Office	Member
Representative, Forest Department (local office)	Member
Secretary, Union Parishad	Member secretary

Note: If it is necessary, the committee can include other officers/staffs of the Upazila, local elites, or enthusiastic social workers.

Here, it can be mentioned that sometimes this committee is also known as UPB team where Chairman and members of UP perform different activities of UPB by taking assistance form other members of the committee who are from different government departments.

4.3 Training Programme on UPB

Before operation of UPB, LGED supplied TPB to each Thana/Upazila for guiding the UPB (to provide technical assistance for UPB). TPB was prepared after considering national level policy and planning. TPB provides a framework for UPB. For the smooth operation of UPB, LGED's Thana level office lunched the training programmes for the involved persons i.e. Chairman, members and secretary of each UP for preparing UPB. In the study area the training was held during April 12-13, 1993 at Dighalia, where 25 persons received training. Among them four chairmen, four secretaries, 12 members and the rest five persons were Upazila level staff from Agricultural sector's offices. It was two days' training programme for the disseminating of knowledge about preparing the UPB. Among those who received training, at present only 15 persons/trainees out of 25 are available in the study area. They are:- four chairmen, one secretary and ten members and among them only four persons are still involved and connected with UP's functions. Among acting four persons, two are from Senhati Union, one from Dighalia Union and one from Gazirhat Union. All available 15 persons/trainees in the Upazila are interviewed to assess the performance the of UPB's preparation stage. After the training, UPB was prepared for Dighalia and Senhati Union on 26/04/1993.

Evaluation of UPB's Training Programme and Activities

After receiving the training on UPB, all of the available trainees (15 persons) are capable of map reading and getting general knowledge about cartography. None of them has any idea or training about preparing plan and map before the training. None

of them is from science background. All of them are from the disciplines of Arts and Humanities.

Table 4.3: Educational Qualifications of the Trainees

Sl. No	Qualification	Frequency	Percentage
1	Master degree	2	13.33
2	Bachelor degree	8	53.34
3	Higher Secondary Certificate (HSC)	3	20.00
4	Secondary School Certificate (SSC)	2	13.33
	Total	15	100%

Source: Field Survey.

The training programme can be termed as 'successful' because all available trainees have shown their ability to read maps and interpret different map's features/elements during the land-use survey of the study.

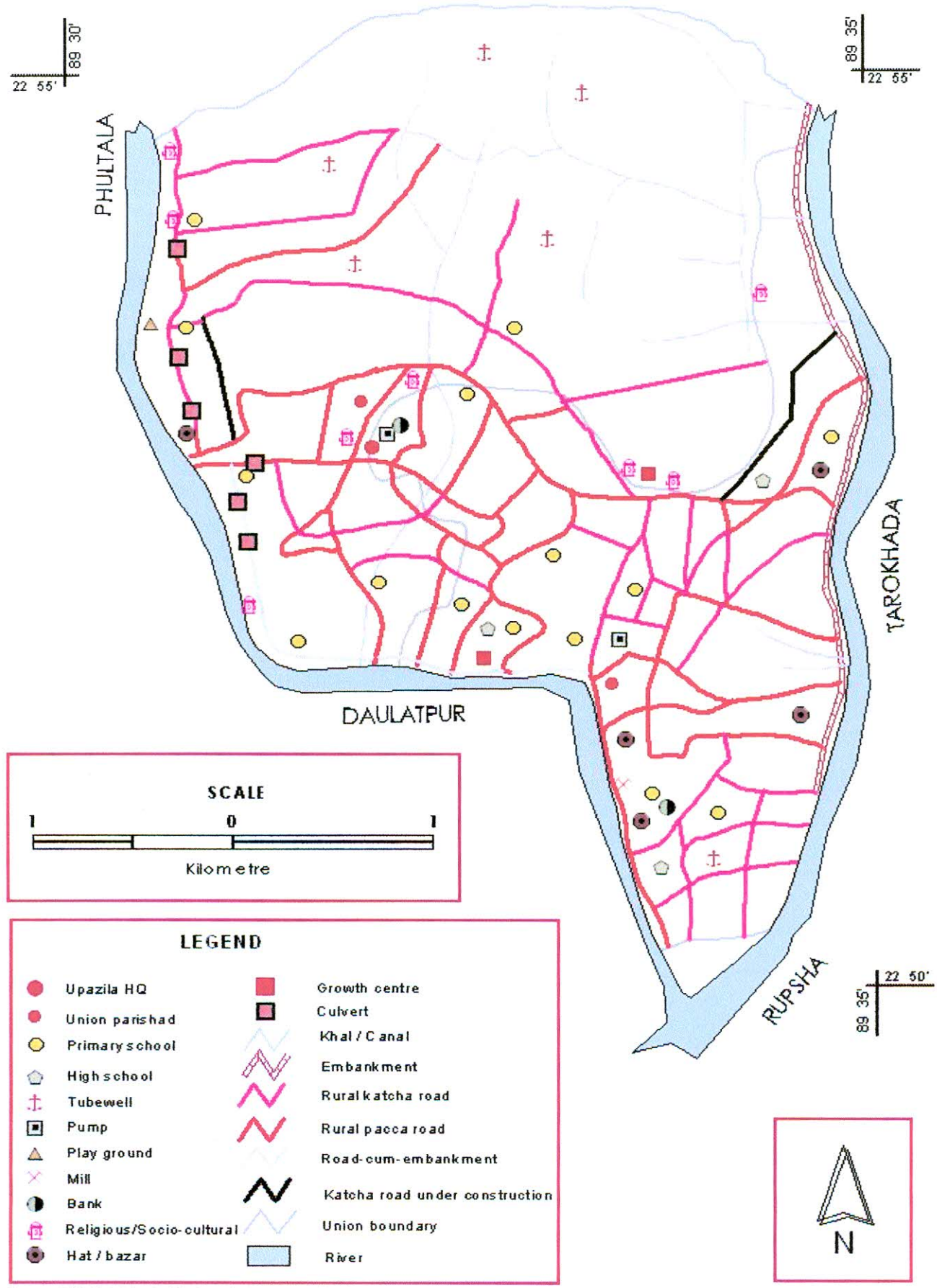
After getting the training, UBP team prepared UPB for their union. And a sample map of the UPB is shown in Appendix V: An Original Image of UPB made by UP Team at Dighalia, Khulna. On the basis of the information of UPB, UPs and LGED documents, and field survey— Maps 4.1, 4.2, 4.3, 4.4, and 4.5 are presented here to show the Conditions of the study area before preparing UPB in 1993, Conditions of the study area before preparation of UPB and proposed UPB in 1993, Existing conditions of the study area in 2006, Land-use pattern of the study area in 1993, and Land-use of the study area in 2006 respectively. These maps are representing UPB related activities. In the next section, evaluation of UPB is discussed on the basis of outputs, effects and impacts.

4.4 Evaluation of UPB

4.4.1 Changes in Length of Rural Road

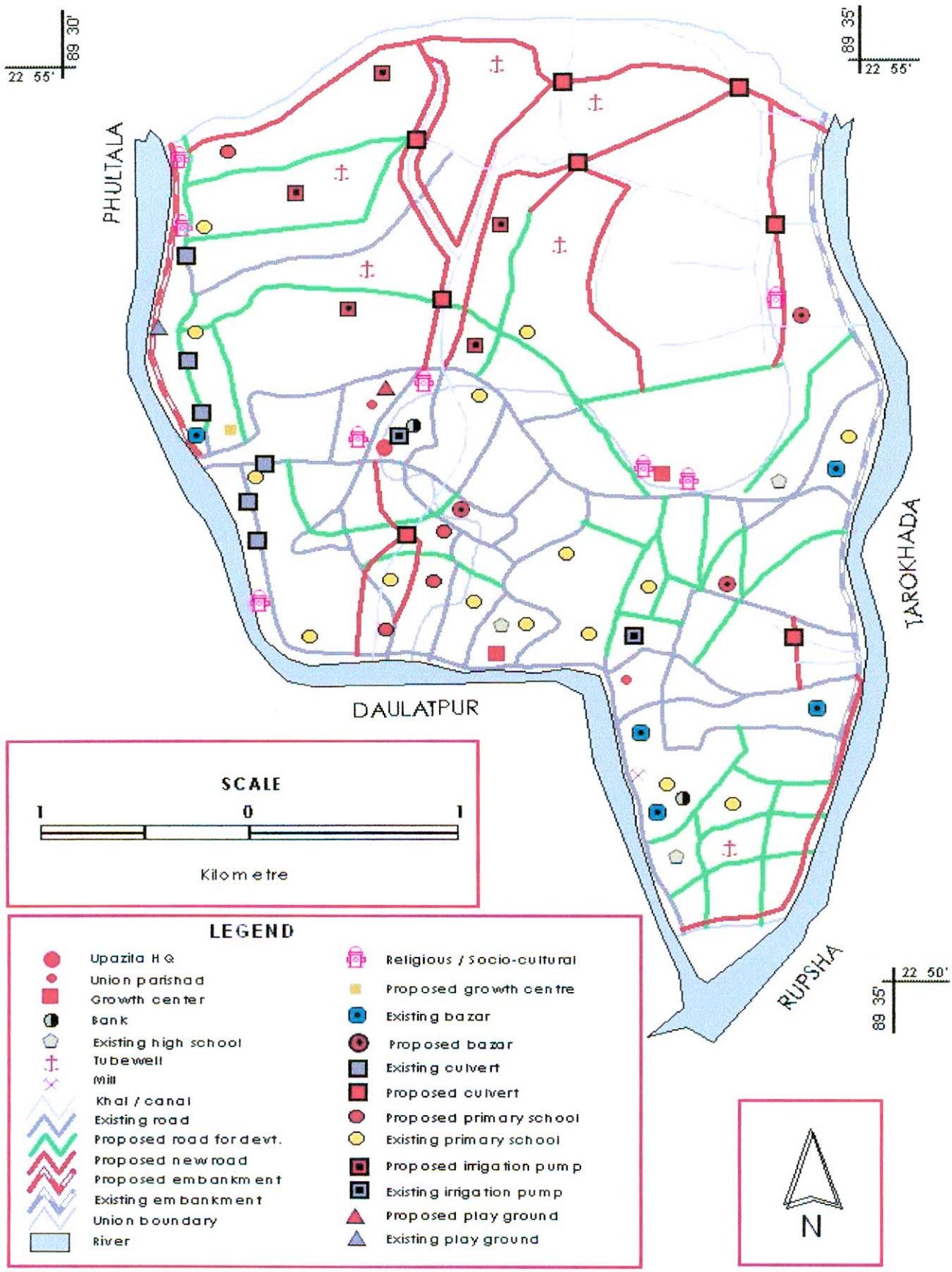
A good transporting network and the development process are inter-related and inseparable, because roads function as the arteries of a nation. Before preparing UPB, in the study area, all UPs were connected with Upazila HQ. These roads are known as union road. And Upazila HQ was also connected with district HQ and national (Dhaka-Khulna) highway by a *pucca* feeder road type A. This road is maintained by Roads and Highways Department. In the study area, except this road all rural roads of Dighalia Upazila are under the responsibility of LGED as well as UPs. In road component plan of UPB, there are some achievements in the study area.

Map 4.1: Condition of the Study Area before UPB in 1993
Union: Dighalia and Senhati



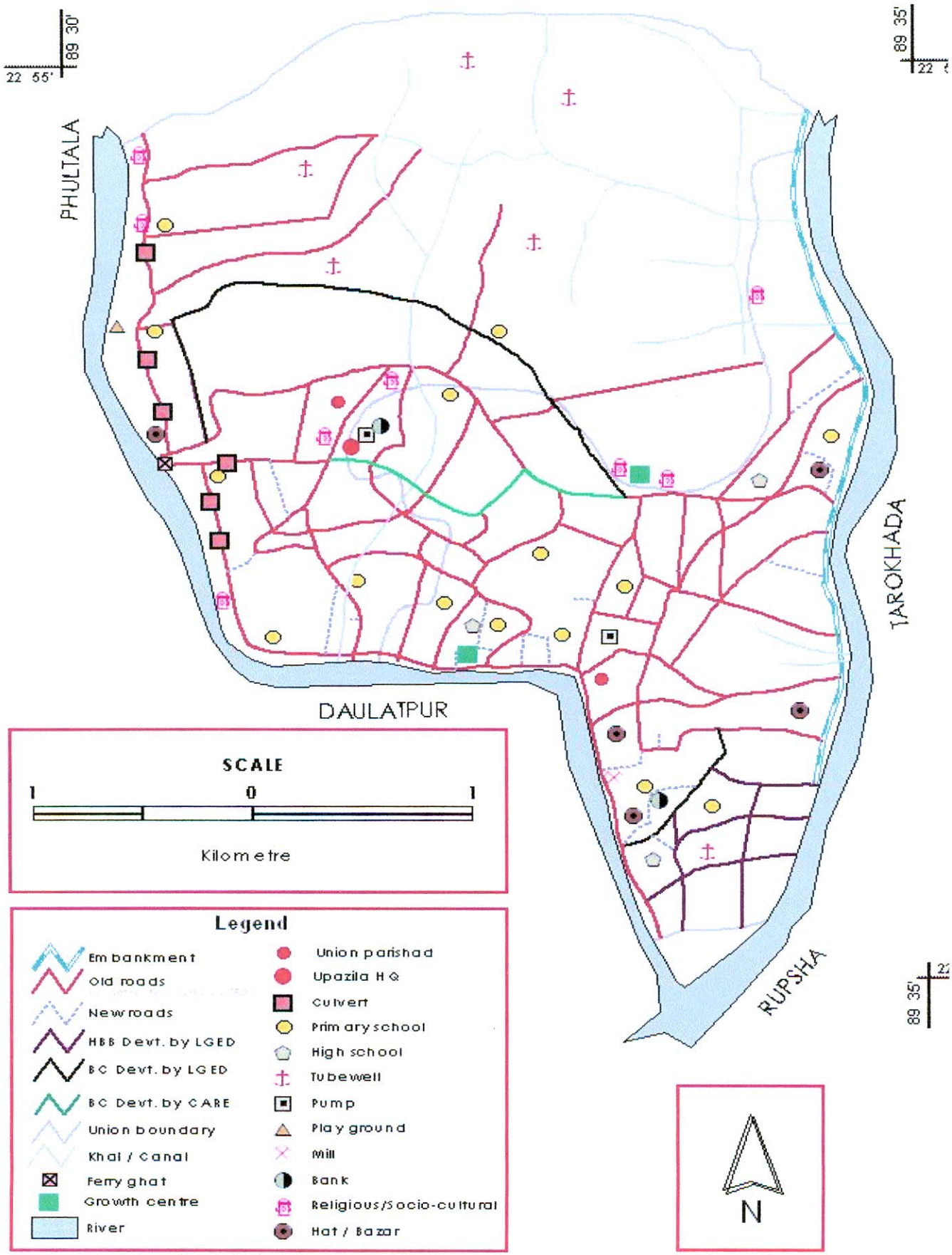
Source: Dighalia Union Parishad, Senhati Union Parishad and LGED, Dighalia Upazila, Khulna

Map 4.2: Condition of the Study Area before UPB and Proposed UPB in 1993
Union: Dighalia and Senhati



Source: Dighalia Union Parishad and Senhati Union Parishad

Map 4.3: Existing Condition of the Study Area in 2006
Union: Dighalia and Senhati



Source: LGED, Dighalia Upazila, Khulna and Field Survey, 2006

Table 4.4: Changes in Length of the Rural Roads before and after UPB in the Study Area

Type of Roads	Length in 1993 (km)	Length of Proposed Roads in UPB (km)	Length in 2006 (km)	Net Changes
Pucca road	17.00	16.00	23.85	+6.85 km
Semi *pucca* road	--	20.60	4.90	+4.90 km
Kutcha (mud) road	20.60	--	11.00	-9.60 km
Embankment-cum-road (*pucca*/pave road)	2.80	*0.50	2.80	--
Total Length	40.40	37.10	42.55	+2.15km**

Source: Field Survey.

Note *: A new *pucca* road was proposed on existing embankment

**: 2.15 km. road was new construction after preparation of UPB, but not followed in the UPB.

Classification of roads in Bangladesh is shown in the Appendix II. According to the classification of roads: national highway, regional highway, feeder road A and municipal/city corporation roads are absent in the study area. In the study area feeder road B and different types of local/rural roads exist. All these roads are well known as LGED's roads. Only these roads are considered in the study, as they are completely located within the Upazila boundary as well as study area. In 1971, there were only 5 km *pucca* and 9 km *kutcha* road in the study area. But the total length of road just before UPB was 40.4 km. in 1993 and it was 42.55 km. in 2006. Before UPB, the length of roads- *pucca, kutcha* and road-cum-embankment were 17.0, 20.6 and 2.8 km respectively.

Under UPB, they proposed to construct 16 km. new *pucca* roads with 8 bridges/culverts. They also propose that all *kutcha* roads to be made semi-*pucca*/HBB and 0.5 km. embankment to be made *pucca* road. Practically, no new

road was constructed by LGED after UPB, but the development of existing roads and their regular routine maintenance work was done. All previous *pucca* roads and feeder roads were developed under the routine maintenance programme. Among 20.6 km. *kutcha* roads, about 6.85 km. and 4.9 km were converted to *pucca* and semi-*pucca*/HBB road respectively. As a result, 9.6 km *kutcha* road was reduced. All these changes and development were done according to UPB by LGED. A development partner, CARE assisted LGED in road sector. CARE selected a *pucca* road from Upazila HQ to Pather bazaar growth centre for further development. They improved the road condition, alignment (visibility), and increased that at three feet width. CARE also followed the UPB. Both LGED and CARE tried and managed to do their construction and development work under the framework of UPB. By the by, two new roads construction schemes were prepared and submitted to Ministry of LGRD and cooperatives by UPs under the patronisation of local MP. These roads did not follow the plan of UPB. UPs sources said that, they were not implemented due to weak political network and influence at ministry level and also due to fund shortage of LGED. It is found that after the preparation of UPB, 2.15 km. *Kutcha* road was constructed by individual plot owners and private land developers without considering UPB. They said that they constructed these roads on their own lands and they were not concerned with UPB. They also said that any body or any department did not inform them of UPB. Actually in rural areas, there is no planning and development institution to guide and control the physical and structural development.

4.4.2 Changes in Road Conditions

According to LGED, there are three types of roads. These are: (a) Good: both formation and surface are good condition, only routine maintenance is needed; (b) Average: some periodical maintenance is needed, but no construction; and (c) Poor: base and sub-surface damaged, major maintenance needed in order to bring the road into maintainable. The following Table 4.5 shows the length of different type of roads and their percentages in the study area.

Table 4.5: Before and after UPB, the Road Conditions in the Study Area

Type of Road Condition	Length of different Road Condition (km)		
	In 1993	In 2006	Remarks
Good road	12.00	33.75	Remarkable achievement of UPB
Average road	8.00	5.80	
Poor road	20.40	3.00	
Total	40.40	42.55	

Source: Field Survey.

Table 4.5 displays that there was remarkable achievement in road improvement after UPB from the view point of road condition. The length of good road was only 12 km in 1993 which was increased to 33.75 km in 2006. The length of average road was 5.80 km in 2006. Length of poor road was reduced from 20.40 km to 3.00 km. There are 22 damage points under poor category, of which 9 in *pucca* road and 13 in *kutcha* road. Total length of damaged part is 800m and 2200m for *pucca* and *kutcha* roads respectively (Please see Appendix XVII: Pictorial report section, plate no. 3 and 4).

4.4.3 Changes in the Length of Accessible Road

According to LGED, there are three types of accessible roads. All exist in the study area. There are:— all-weather accessible, reliable accessible and minimum accessible roads. The Table 4.6 shows the length of different accessible road and their percentages in the study area.

Table 4.6: Before and after UPB the Length of Accessible Roads in the Study Area

Type of Accessible Road	Length of Accessible Road (km)		
	In 1993	In 2006	Remarks
All-weather access road	17.00	26.30	Good and open for transport in all seasons, also a success of UPB
Reliable access road	6.00	8.15	Moderate condition
Minimum access road	17.40	8.10	Problems in rainy season
Total	40.40	42.55	

Source: Field Survey.

Road condition improved before and after UPB from the view point of accessibility status. The length of all-weather accessible road was 17 km in 1993 which was increased to 26.30 km in 2006. The length of reliable road was 8.15 in 2006. And the length of minimum accessible road was reduced from 17.40 km to 8.10 km.

4.4.4 Other Aspects of Rural Roads

In the study area rickshaw-van is the only transport mode that is available all round the year for couple of decades in the study area's road transportation system. Rarely, automobiles are seen on especial cases in the study area. Actually, before 2002, there was no way to come in the study area by car, jeep, and microbus. Some of the NGOs, Upazila level, Company staffs as well as some rural elites have motorbikes. About 44% workers have bicycles for their own uses. In June 2006, 100 people (taking 20 from each route) who used to make trip by rickshaw-van before and after road improvement were interviewed to know the travel time, costs and satisfaction levels, comforts and conveniences.

Table 4.7: Route-wise Transport Distance, Cost, Time, and Users' Satisfaction Level

Route: from Upazila HQ to--	Distance (km)	Avg. Cost (Tk/person)		Avg. Travel Time (minute)		Avg. Level of Comfort and Convenience (Scale 100%)	
		1993	2006	1993	2006	1993	2006
Dighalia UP	0.35	0.5	1	2	2	80	85
Dighalia *Ghat*	1.25	2	4	7	6	30	85
Pather bazar	1.95	3	6	10	10	50	90
Senhati UP	3.20	5	12	19	18	55	75
Senhati *Ghat*	2.65	4	10	14	14	45	80

Source: Field Survey.

It was found that after UPB, road condition was improved; and user satisfaction level was increased by more or less 2 times. Under improvement work, there is no change in distance of different routes. Travel time has slightly reduced in some routes where road conditions were not good before UPB and improvements were done. On the other hand, along with these satisfaction and elapse of time, transport cost has increased at least 2 times.

Table 4.8: Transport Cost of Rickshaw-van Carrying Goods

Route: From Upazila HQ to--	Distance (km)	Average Transport Cost for Loaded Rickshaw-van (Take per single trip)	
		1993	2006
Dighalia UP	0.35	2-3	5-8
Dighalia *Ghat*	1.25	8-10	18-20
Pather bazar	1.95	12-15	24-26
Senhati UP	3.20	20-22	40-50
Senhati *Ghat*	2.65	14-16	30-35

Source: Field Survey.

Transport cost for goods is higher than passenger cost. Though the improvement of roads has provided with better flow of goods and services, the transport cost has increased more than 2 times here.

Other aspects:

Here, it is mentionable that, 60 female poor day labourers are engaged for road maintenance and roadside tree plantation, funded by World Food Programme and Care Bangladesh. These jobs are the out-come of the road improvement works in the study area. After road improvement, a change is seen in vehicle ownership. Vehicle ownership has increased- for bicycle from 30% to 56% and for rickshaw-van from 11% to 24%. After the improvement of roads under UPB, it has provided with easy access to Khulna city, particularly for elite groups of the Upazila as one ferry *ghat* was established at Dighalia *kheya-ghat* in 2002. Here, it can be mentioned that about 70% people of the study area depend on Senhati *kheya-ghat* due to proximity of Khulna city, particularly Daulatpur area. The common rural poor people use this risky *kheya-ghat.* Actually it and its adjacent areas need some improvements such as safe and engine ferry service for common people, structural development of *kheya-ghat,* resting place and toilets facilities, safe water distribution points besides the *ghat*, and bicycle stand for commuters and workers. From field survey at PRA session, common people, workers, students, and commuters opine that they feel the need for the aforesaid service facilities in the study area. Of course, UPB has provided some improvements for overall people, where priority was not given to common poor people of the study area. Even at PRA session, they said that they did not know about UPB and even planning and development approach. They also opine

that the development always goes to richer class and common people are neglected. Actually in planning approach of UPB, the problems of common people were not addressed properly. They would be very happy if aforesaid *kheya-ghat* development activities were taken up by UPB team with the highest priority. Actually, these people were not asked for their vital problems while preparing UPB. In the study area, UPB team members and its advisory expert committee members are urbanites; and their demand and vision represent urban biasness; as they live in urban areas, they may demand for urban setting to their adjacent areas too. Here all UPB experts and local level high officials of the Upazila live in Khulna city. In the study area except UNO, Dighalia Upazila and Office in Charge of the concerned Police Station usually stay full time in the area. But other officers and staffs of Upazila level offices regularly attend their office from Khulna. Even elected public representatives who are the team members of UPB team, keep their family members in Khulna city as well as have residences in the city area also. Naturally, their perception about development may be more urban biased rather than the perception of poor farmers, day labourers and workers who live in rural or fringe areas.

4.4.5 Status of Irrigation, Embankment and Drainage

Before preparation of UPB of the study area, there was 3.3 km. long embankment and that was constructed in 1960s. From that embankment about 2.8 km was converted to road-cum-embankment in 1970s. In UPB, construction of about 1.7 km new embankment was proposed. It was also proposed to upgrade 0.5 km. from embankment to road-cum-embankment. In the study area, there are some encroachments in the canal which is about 1.20 acre (please see Appendix XVII:

Pictorial report section, plate no 5). Before the preparation of UPB, the length of canal was 12 km but it was reduced to 11.70 km in 2006. For the purpose of irrigation setting of five pumps were proposed in UPB. But there were no achievement regarding irrigation, embankment and drainage that were proposed in UPB. Though they proposed for setting aforesaid components, there were coordination problems in preparing UPB from those concerned authorities. Actually, it is found in the field, that each institution serves for a specialised subject/sector; there are some problems of synchronising and harmonising the different practical activities under a common framework with these different institutions where they are accountable to different concerned higher authorities, not to UPs or any planning and development controlling body at local level. As each institution has its own sectoral activities and resource allocation, there is no strong institution with delegated power that can perform aforesaid functions at local level.

On the basis of past experiences, respondents opine that due to no implementation of different plans made by them for different sectors, they felt uncertainty regarding the fate of UPB's implementation. So, they just submitted these proposed component plans without taking proper care as discussed/given in UPB (Please see Appendix XVI: Detail Operational Aspects of UPB according to LGED Manual). To avoid the institutional complexity and coordination problems in their UPB's works, they propose that approval of implementation of these components should be made in such a way, that they might not require separate institutional approval from others, especially the neighbouring Union Parishads, REB, DPHE, BWDB, etc.

Here, it is also mentionable that, no step was taken in UPB for re-excavation of derelict pond or canal. However, in this concern some projects are considered with priority by the present government. This aspect was not reflected in UPB's activities/plans.

4.4.6 Changes in Rural Service Facilities and Institutions

Rural infrastructures, growth centre, rural energy and electricity supply, sanitation and safe drinking water supply, and establishment of different rural institutions are the prerequisites for rural development. In UPB, some of these aspects were considered and unfortunately some were not considered. Such as- electricity supply was not considered whereas it is one of the vital things of rural development. According to RD lessons from Japan it is known to all that after 2nd world war, they took the policy of power supply to remote rural areas, as a result cottage based rural industries as well as small townships were developed in Japan. According to REB and PDB, in the study area, about 24% households have the connection of electricity which is slightly above the national status (18-20%), but being an urban fringe area, it is lower than other fringe areas of Khulna City, e.g. in *Sachibunia* and *Kaiya* areas where 34% households have electricity connections.[89] By the by, an on going rural pipeline based water supply project is implemented by DPHE in the study area. This type of aspect or a safe drinking water option was not considered under UPB in the study area. A list of UPB's components that were proposed by the UPB team of the study area, is presented in the Table 4.9 with other relevant aspects.

[89] Sohel Sarder, "Problems and Prospects of Rural Electrification: A Case Study of Khulna Region", Unpublished BURP Thesis, (Khulna: URP Discipline, Khulna University, 2005), pp. 43-44.

Table 4.9: Implementation Status of Some Components/Features of UPB in the Study Area

Description	Condition in 1993	Proposed in UPB	Change in Status or Implementation Status
Total length of road (km)	40.40	37.10	Already discussed, in these components there were some routine maintenance work, these were not mentioned in the UPB.
Total length of embankment (km)	3.3	1.7	
No. of culvert	6	8	
Length of canal (km)	12	--	Not considered
No. of Hat/Bazar	5	3	They proposed for 3 bazars in the study area, in reality some evening markets are seen beside the *ghat*s areas, actually those are temporary and mobile in nature, targeting labourers as their customers on their way to return home.
No. of growth centre	2	1	No new growth centre, existing centres have some construction and development works that were not included in UPB.
No. of primary school	15	4	No implementation
No. of play ground	1	1	No implementation
No. of jute mill	1	--	--
No. of bank	2	--	--
No. of irrigation pump	2	5	No implementation
No. of religious and socio-cultural institutions	8	--	--
Rural energy and electrification, water supply and sanitation, drainage/ canal digging, flood control and disaster management			Not considered by UPB team in the study area when preparing UPB

Source: Field Survey.

Note: This table represents the status of different components of UPB.

Some Missing Components in UPB:

In the study area, some important aspects were missing in the UPB. These are: rural energy and electricity supply, rural sanitation and safe water supply, drainage/canal digging (especially derelict water bodies) for draining of water. Moreover, some structural improvements were seen in the buildings of educational, religious and socio-cultural institutions in the study area that were not considered in preparing UPB. Recently, it is proved that Khulna region is by and large free from flood is a wrong idea, since it was badly affected by the flood of 2000. It is due to intense precipitation together with water control structures in near-upstream, reservoirs release, river condition, natural topography, climatic factors, tidal levels, siltation of rivers, shrimp farming in polder areas, and unplanned development.[90] So, while planning for any area of Khulna region, the planners should take into account of the disaster and environmental aspects created due to the flood of 2000 in south-western region of Bangladesh.

4.4.7 Rural Land-use Planning and Realities

Land-use is an important aspect of evaluating any planning interventions. Here Map 4.4 and 4.5 are representing the land-use conditions of the study area before and after UPB. According to LGED's land-use classification, 14 types of land-use were identified. On the basis of the classification, Table 4.10 is presenting land-use conditions of the study area in 1993 and 2006 with net changes.

There is virtually no land use plan for the rural areas of the whole country, which comprises about 85% of the total land area.[91] This statement was found true in the study area. Because the given guidelines of UBP that were discussed in the Appendix: XVI, section 4 (Union Land-use Planning) of this thesis are not followed while preparing UPB of the study area.

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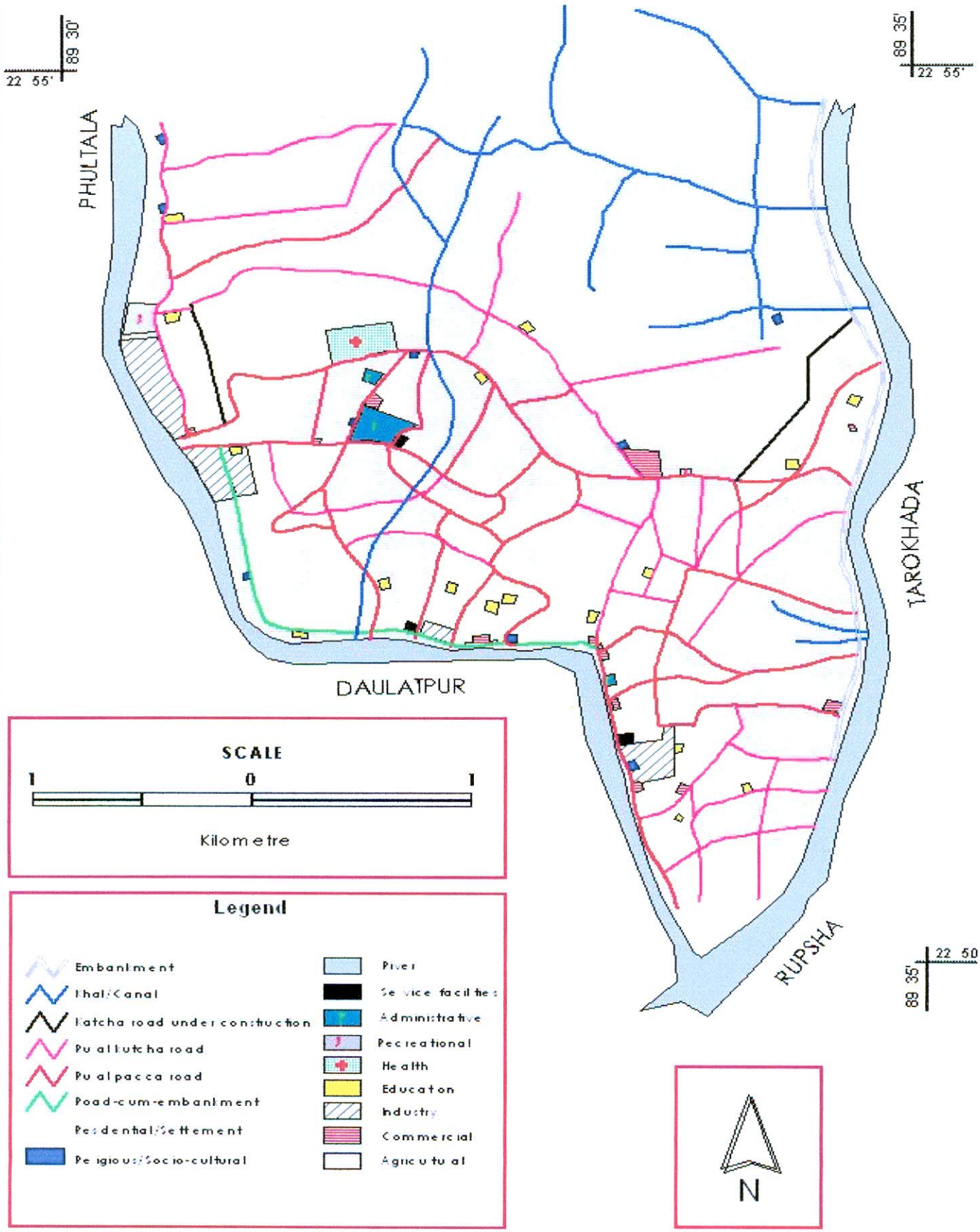
[90] Golam Rahman, "Causes and Impact of Late Monsoon flood on the Built Environment in South West Region of Bangladesh in 2000," Conference paper on 10th Bangladesh National Geographical Conference, 28-30 December, BARD, Comilla, (Comilla: Bangladesh National Geographical Association, 2002.) p. 54.

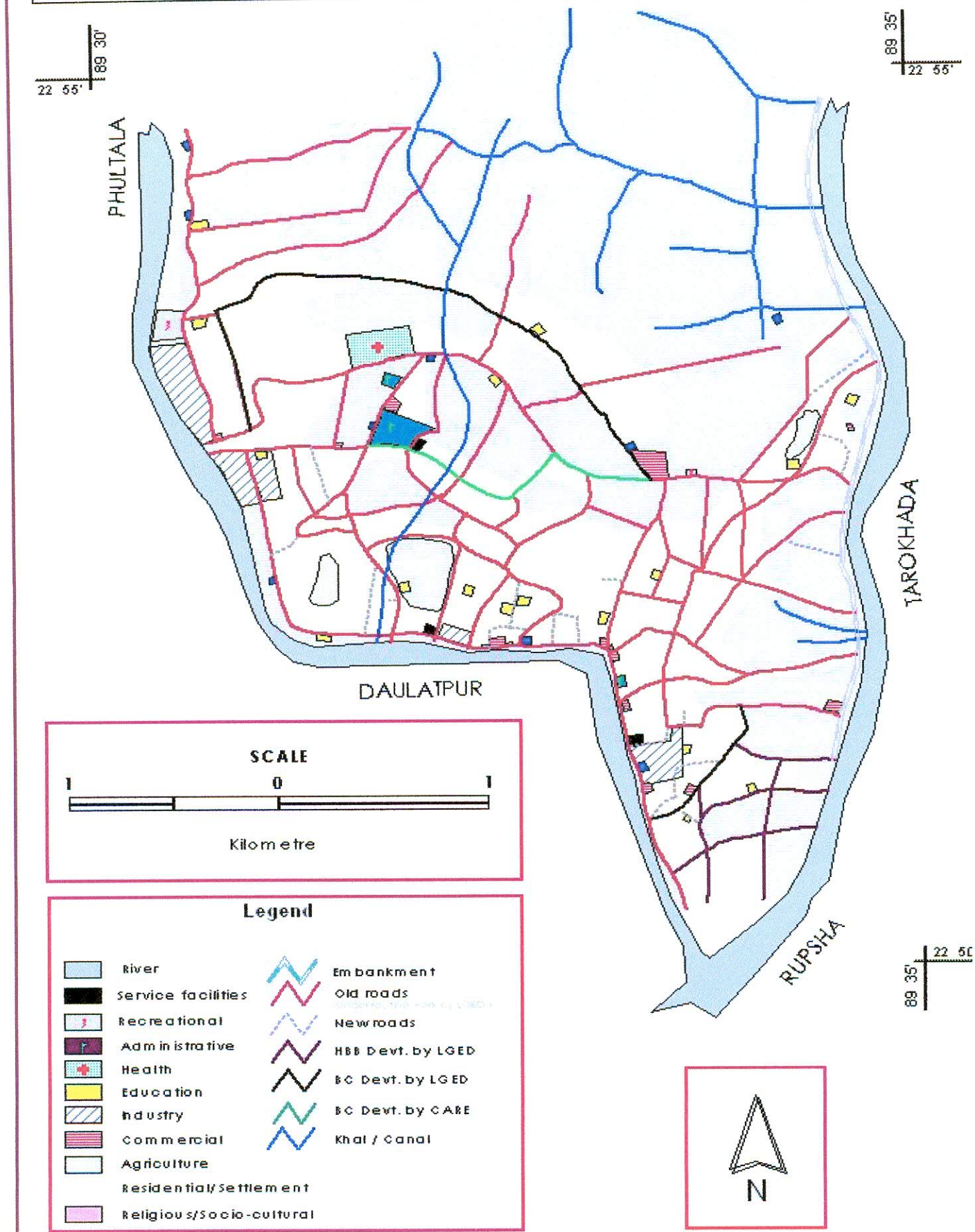
[91] GOB, *The Fifth Five-year Plan 1997-2002,* (Dhaka: Planning Commission, 1998), p. 409.

Map 4.4: Land-use of the Study Area in 1993
Union: Dighalia and Senhati



Source: LGED, Dighalia Upazila, Khulna and Field Survey, 2006

Map 4.5: Land-use of the Study Area in 2006
Union: Dighalia and Senhati



Source: LGED, Dighalia Upazila, Khulna and Field Survey, 2006

According to UPB, Thana engineers and staff from Agriculture section should be assigned for making existing land use survey. The process started with dividing each union into three wards. Land usages should be plotted on the mouza maps. But it was not practically done in the study areas. Here, UPB team was provided with the training by LGED experts, but necessary logistics and financial support were not provided with to UPs. UPB team of UP also face difficulties while preparing land-use plan by using mouza maps. Actually, UPB team did not prepare complete Land-use Plan for their concerned Union. LGED took the advantages from UPB team of each Union. Here, UPB team provided with information about the land-use for preparing Thana/Upazila Plan Book by LGED. They fed information regarding land-use about their area and LGED took this information for their departmental use. Their information could provide with some idea without details and accuracy where mouzas were not used. They opine that preparing of land-use maps is labourious and time consuming task, and also need some sort of specialisation in doing the task. Actually for this task, some knowledge about Urban and Regional/Rural Planning is required.

Table 4.10: Land-use Scenario before and after UPB

Sl. No	Land-use Type	Condition in 1993		Condition in 2006		Change (in acre)
		Area in acre	Percentage	Area in acre	Percentage	
1	Agriculture	4603.00	71.11	4200.60	64.90	- 402.40
2	Commerce	6.50	00.10	7.30	00.11	+ 0.80
3	Industry	48.55	00.75	48.55	00.75	0
4	Education	14.45	00.23	14.45	00.23	0
5	Health	8.40	00.13	8.40	00.13	0
6	Administrative	9.55	00.15	9.55	00.15	0
7	Recreational	3.00	00.04	3.00	00.04	0
8	Settlements	1395.00	21.55	1798.40	27.78	+ 403.40
9	Service facilities	3.50	00.05	3.50	00.05	0
10	Socio-cultural	9.80	00.15	10.50	00.16	+ 0.70
11	Road	41.60	00.64	45.45	00.70	+ 3.85
12	Embankment	14.00	00.22	14.00	00.22	0
13	Canal	36.00	00.56	34.80	00.54	- 1.20
14	Others and river	279.65	04.32	274.50	04.24	- 5.15
	Total	6473.00	100.00	6473.00	100.00	

Source: Amin Engineering Consultants. *Master Plan: Dighalia Thana Shahar(sic.), Khulna District*. Dhaka: LGED, 1993, pp. 9-12, and Field Survey.

From land–use Table 4.10, it can be observed that in the study area the physical infrastructures and service facilities are very inadequate. The sum of the area of roads, commercial, service facilities and institutional land are less than 2% of the total study area.

Land-use picture is showing that overall growth and development of the study area is insignificant. Earlier, it is usually argued that the study area is located in the catchment area of the industrial belt of Khulna city. The base of the economy of the study area is jute industries which are still deteriorating. Presently 70% jute mills have become sick and not functioning in Khulna.[92] Hard board mills and newsprint mills are stopped for a couple of years and the conditions of state owned eight jute mills are deteriorating day by day and the situation is getting worse than before. Recently, mills and factories of Khulna have witnessed significant reduction of activities.[93] The situation has been arisen due to power crisis, law and order situation, labour unrest and poor management, as well as poor production performance. As a result, it has affected the growth and development of Khulna region and the study area as well. Moreover, Shipping activities are largely shifted to Mongla Port. Some entrepreneurs are choosing Noapara, Jessore as better options than Khulna for their industries. A study in 2001, estimated that 20% of direct employment from the industry had been lost.[94] In the field survey, respondents opine that the situation is getting worse than it is shown in this statistics. As the study area is located beside the industrial belt, reductions of industrial activities have some affects on the people and

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[92] *The Daily Purbanchal*, dated 03/09/2006.
[93] Aqua-Sheltech Consortium, *op. cit.*, p. 33.
[94] ibid.

their livelihood in the study area. Due to economic and industrial stagnation of Khulna, a recent BTV programme termed Khulna as a 'dead city'.[95] This situation can be explained by population growth also. From Table 2.1 it is observed that the population of the study area was 71452 in 1991 and rose to 75870 in 2001. And the increase was of only 4418 persons in the study area and in the whole Upazila there was an increase of 8429 persons during the decade. The study area is relatively developed than the other parts of the Upazila. For an area beside industrial belt, the population growth rate is surprisingly less. Moreover, from field survey and focus group discussions, it was found that about 550 workers left the study area within last two years. Including their family members and persons involved in different forward and backward linked service sectors both formal and informal— about 2000 people have left the study area due to reduction of income opportunities as well as reduction of industrial activities in the study area. On the other hand, regarding in-migration only 11 families were found who came within last three years from outside of the study area to live in here. They came from different Upazilas of Khulna District and have been working in the Upazila complex and nearby industries.

4.4.8 Changes in Land-use

After the preparation of UPB, 402.4 acres of agricultural land was converted to settlements. Of which 98 acre was used for pure homesteads; and rest of the area was for orchard, wood lot, poultry farming, and kitchen gardening beside homesteads. Table 4.10 shows an increase in roads, institutional and commercial lands. Along with agricultural land, some decreases were seen in water bodies also.

[95] A BTV programme telecasted on 24/03/2005 at 05-10pm

Occupational pattern is reflecting a situation where dependence on agriculture is reducing while dependence on service sector, is increasing with no rise in industrial sector. In fact, industrial sector has become sick in the study area (please also see page no. 85-86).

From Table 4.11 the percentage distributions of employment categories in 1993 and 2006 are shown. In the study area the job share of service sector is showing a gradual rising trend while the some of agriculture and industry sectors are declining.

Table 4.11: Comparative Percentile Distribution of different Occupation before and after UPB

Occupation	1993 (Percentage)	2006 (Percentage)	Change
Farmers (crop agriculture)	26.5	19	-
Fishing	1.5	2	+
Agricultural Labourer	8.2	8	+
Workers/ Wage Labourer	36.9	35	-
Commerce/Business	9.8	12	+
Transport	0.5	2.5	+
Service	10.1	13	+
Others	6.5	8.5	+
Total	100	100	

Source: Amin Engineering Consultants. *Master Plan: Dighalia Thana Shahar(sic.), Khulna District.* (Dhaka: LGED, 1993), pp. 6-7, and Sujit Kumar Sikder, "Analysis of Rural Settlement Expansion: A Case Study of Fringe Area of Khulna", Unpublished BURP Thesis, (Khulna: URP Discipline, Khulna University, 2004), pp. 21-22, and Upazila Statistics Office, Dighalia, Khulna 2005, and Field Survey.

Dualism (service holder sentiment of industrial worker Vs farmer identity)

People who live in study area and who used to work in industrial activities directly or indirectly are suffering serious hardship due to industrial stagnation. From PRA, it is found that due to their social status and job identity, they do not want to engage in crop agriculture. The workers and new generation of farmer families do not want to

involve themselves with farming particularly, crop agriculture. In some cases, they prefer for doing other farming activities like poultry, woodlot, bamboo plantation, *gher* (fishing), while some others try for doing rural non-farm activities rather than crop agriculture.

A person feels proud to say that he is a poultry farm owner rather than direct farmer. In the study area, they were converting crop land to orchard, woodlot, bamboo plantation, poultry farm, and *gher* (fishing). From Upazila Agriculture Officials, it was found that the cropping intensity of the area increased slightly. It was 136 in early 1990s and 148 in 2005 respectively. They also opine that the people and farmers of the study area usually want to involve themselves with such activities that can provide them with ready cash and that is because of the sentiment of industrial and urban life pattern. The study area has the potentials for increasing cropping intensity like other fringe of big cities by adopting and harvesting seasonal vegetable, horticultural and other non traditional agro-products which can be produced in short time that is gestation gap is shorter. Due to proximity of Khulna city with 1.4 million people as well as consumers, a big market is there for horticultural and other non-crop agricultural items. In this regard some motivation and incentives are required. Both Government and NGOs should come forward for undertaking actions raising cropping intensity of the study area.

4.4.9 Land-use Conflict

Estimation by FAO shows that for supplying food and shelter for each individual, it requires nine *bighas* (here 3 *bighas* equivalents to 1 acre) land, whereas in

Bangladesh per capita cultivable land is only less than one *bigha* (0.25 acre).[96] In the study area per capita cultivable land is only 0.055 acre. According to planning commission, in the country 15% of the land is used for settlement purposes and gradually agricultural land is transferred to settlements.[97] This aspect is creating land-use conflict in the study area also. According to Bangladesh National Conservation Strategy (BNCS) there are six important areas of conflicting land uses in rural areas. These are: (1) crop agriculture vs. shrimp and capture fisheries, (2) forest land vs. shrimp and capture fisheries, (3) crop agriculture vs. livestock, (4) agriculture vs. settlements, (5) agriculture vs. bricks fields, and (6) agriculture vs. newly accreted char lands. Among these conflicts— the Land-use maps and Table 4.10 are reflecting that the conflict between agriculture vs. settlements is existing in the study area. There is some pressure on agricultural land for converting those to settlements. Before and after UPB, about 403 acres of land was converted to settlements from agriculture in the study area.

Earlier it is said that shrimp farming and jute industries are important features of Khulna region. Though there are some fishing ponds, shrimp farming is not being practiced in the study area. Resource map of Khulna region (Appendix XIV) shows that the study area is not within the location of shrimp zone. Moreover, the salinity level of the ground water of Dighalia is 0.7 EC ml mos/ cm which is low (please see Appendix XII). One jute mill and some jute godowns are located in the study area. As jute industries are sick in Khulna, there is less chance of conflict in these aspects. Moreover, the soil of Khulna is organic in nature, so land is not suitable for

[96] Meer Mobusher Ali, "Planning" in *Architecture and Planning*, a news letter of the school, (Dhaka: School of Planning and Architecture, BUET, 1982), page 09

[97] ibid.

traditional burn brick. That is why no brick field exists in the study area. Actually, bricks are collected from Noapara, Jessore for the construction works.

Here, it is mentionable that the land is fertile around the Khulna city. The greater district occupies 4th position in contributing gross value added to national agriculture and it has 2170 thousand acres of total cropped land occupying 6th position among former districts.[98] So, by aforesaid conflict fertile agricultural land is decreasing in the study area. On the other hand, these lands can serve as open spaces that are very essential for the urbanites of adjacent urban areas as well.

4.4.10 Changes in Land Value

The status of land value of the study area is presented in Table 4.12. There are two important areas where the land values are high i.e. the Upazila area and industrial-commercial belt along the river front. The following table illustrates the mouza-wise land values.

Table 4.12: Changes in Land Value according to different Mouzas

Name of Mouza	Land Value per Acre before and after UPB (Taka in lakh)			
	In 1993		In 2006	
	Beside road	Without road	Beside road	Without road
Senhati	12.00	9.50	38.00	27.00
Debnagar	7.20	6.00	24.00	18.00
Dighalia	7.20	6.00	32.50	25.00
Brammogati	6.00	5.00	22.00	16.00
Panigati	4.80	4.00	20.00	14.00

Source: Field Survey.

In the study area majority (about 73%) of the land is mid-high land. The land value of this type is shown in the table. From Table 4.12, it is seen that in 1993 the highest land value is seen in Senhati where industrial-commercial activities exist and the 2nd

[98] Aqua-Sheltech Consortium, *op. cit.*, p. 19.

highest land value is seen in two mouzas: Dighalia and Debnagar. But after UPB, due to development of different infrastructures, beside Upazila Head Quarter a huge increase in land value is seen in Dighalia mouza. In spite of economic stagnation in the region, the rise in land value is seen due to the road improvement under UPB.

4.4.11 Settlement Pattern

According to Baquee, usually dispersed and scattered settlements are seen in flood plains of Bangladesh.[99] But for the Khulna city as well as the study area, it is different due to the elevated naturally levee of the rivers Rupsha and Bhairab of Khulna. Moreover, the area has improved transport services along the rivers. In the study area, it was found that development was taken place firstly along the river side; then, along the sides of old roads. Settlement formation along with those linear features gave the shape of the settlements as linear and the development can be termed as ribbon type. This linear and ribbon type expansion and development has been formed naturally without any planning and control. That is why, it is causing wastages of fertile agricultural land resources of the study area. Moreover, due to linear shape, the cost of physical and infrastructural developments become more expensive than cluster settlements or settlements with densification. Now-a-days, experts are talking about more densification to reduce land pressure. A recent media interview with a private television channel, one of the experts Mr. Ghulam Musatafa (Associate Professor, URP department, Jahangirnagar University), has mentioned that our land resources are limited and we should ensure its optimum utilisation. He particularly described the case study of Dhaka. He opines that about 70%

[99] Abdul Baqee, *op. cit.*, p. 160.

densification is possible within the boundary of Dhaka City area for planning and development, without interrupting its adjacent rural as well as agricultural land-use. It is valid for Khulna region also.

4.4.12 Fringe Area: Identity Crisis

Overall study area is neither rural nor urban, again embraces the both, more aligned to the urban influence but located under rural administration. These areas can be termed as fringe area (Please see conceptual framework 2.13.8, at page no. 24). How to deal with this area is an unresolved question and UPB did not mention any thing about it. Here, unplanned and uncontrolled structural developments are seen in fringe areas due to having no planning and development agencies. Because the study area is located out side the city corporation, and there is no municipality/*paurashava* in the Upazila. But the study area having proximity of Khulna city, it has urban influence and is transforming gradually.

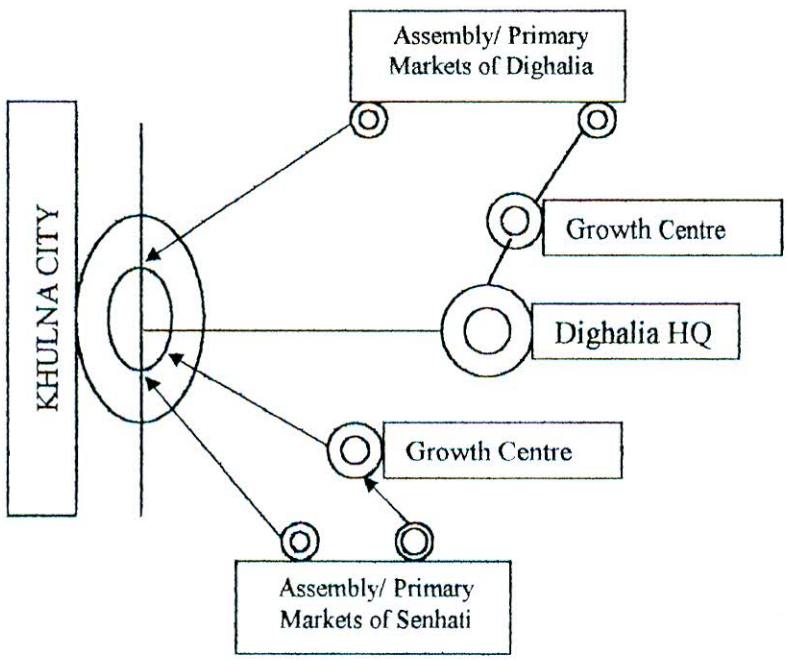
4.4.13 Input Output Flow and Hierarchy of Rural Services

LGED has borrowed the idea of Dendritic Market System for developing rural roads (please see Appendix VI). It has considered a straight linear linkage, such as- Farmers/producers- to Assembly market- to Small town- to Large town/city- to Port/capital city; and vice versa. First LGED connects Upazila headquarter to its District headquarter. Then, it connects a growth centre to its Upazila headquarter. And it also connects a UP with its Upazila headquarter similarly. These are vertical connections. But LGED did not consider interconnection horizontally among those units of rural as well as urban areas where people have demand to undertake visits.

In an open and free market system, there might be diversified interconnection in marketing and also for required services (please see Appendix VII). On the basis of field observation, out flow of agricultural products and mobility pattern of people for better service facilities are shown in the Figure 4.1.

Actually, UPB team did not study and consider the mobility pattern of common people, where 70% of the common people use Senhati *kheya-ghat* (opposite side of Daulatpur Bazar) to visit Khulna for getting better services and facilities, instead of going Upazila headquarter and growth centre located opposite side of Khulna. Moreover, Khulna city is nearby and providing with wider and better options for the people of the study area.

Figure 4.1: Flow of Agro-Outputs and People's Mobility for Better Services and Facilities



Source: Field Survey.

Figure 4.1 shows that due to close proximity of Khulna city, farmers and common people move towards Khulna for selling their products and getting better services and facilities, especially those are people from Senhati and adjacent part of Dighalia. Here, it is mentionable that people's mobility pattern of the study area was not considered by UPB team. Moreover, needs of common people were not addressed with priority regarding infrastructural development in the study area while preparing UPB.

A comparative survey was conducted to identify the number of *ghat* users per day in June 2006 in four working days at Senhati and Dighalia *kheya-ghat* points simultaneously. From the survey it was found that every day about 3900-4300 (avg. 4143) people use Senhati *kheya-ghat*, whereas at Dighalia *kheya-ghat* the number varies between 900 to 1200 (avg. 1049). On the basis of Focus Group Discussion, it is found that 70% people of the study area depend on the Senhati *kheya-ghat*. But there was no development of this *ghat* under UPB. It would be their first priority, if common people would get chances to be involved with UPB, as majority people are using this route every day.

Here, it is mentionable that in last two years, there were 9 boats capsized in the river at Senhati *kheya-ghat* point where 5 persons were dead. In those accidents, losses of goods were of Taka three lakhs. Interviewing with the *ghat* users, doctors/managers of nearby clinics and rural physicians, it is identified that about 40 to 50 people were injured during that period at that point. On the other hand, due to safe ferry service and better *ghat* facilities at Dighalia *kheya-ghat* point, only two boat capsize and no loss of life, except 4 minor accidents took place. The Senhati *kheya-ghat* is risky

where some improvements are required (please see Appendix XVII: Pictorial report section, plate no. 11 and 12). This aspect is already discussed in the section 4.4.4, subsection: Other aspects, in this chapter (please see page no. 76-77). According to field observation, some structural and development interventions are required at Senhati *kheya-ghat* point and adjacent areas.

4.5 Conclusion

Some achievements regarding UPB were found, particularly in road sector where some major improvements are seen. But the other components of UPB have not been considered properly by UPB team and so failed to bring desired changes in drainage, embankment, irrigation and rural land-use aspects. After UPB, the length of good condition road has increased to 33.75 km which was only 12 km; and poor condition road was reduced from 20.40 km to 3.00 km. All weather accessible road was 17 km in 1993 which has increased to 26.3 km; length of minimum accessible road was reduced from 17.4 km to 8.1 km. Level of user satisfaction has increased about 2 times. Vehicle ownership has increased- bicycle from 30% to 56% and rickshaw–van from 11% to 24%. After UPB, the roadside land values have increased three to four times and others have almost doubled. Vehicle ownership has increased more or less two times. There are two important areas where the land values are high i.e. the Upazila area, and industrial-commercial belt along the river front. Actually, road condition and road density are relatively better. After UPB, due to development of different infrastructures beside Upazila Head Quarter a huge increase in land value is seen in Dighalia area. In spite of economic stagnation in the region, the rise in land value is seen due to the improvement of road under UPB. Moreover, in the study

area, there is a land-use conflict between crop agriculture and settlements where the per capita cultivable land is only 0.055 acre. On the basis of land-use survey, it has been observed that physical infrastructures, services and facilities are inadequate in the study area, where the sum of the area of roads, commercial, service-facilities and institutional land are less than 2% of the study area. In the study area road density is 1.62 km/sq km which is slightly below of the national standard that is 1.74 km/sq km. It is true that along with these developments, still the study area has some infrastructural shortages.

CHAPTER FIVE

EXISTING PROBLEMS, THEIR REMEDIES AND FUTURE CHALLENGES

Planning, Implementation and Management
Organization and Institutional Aspects
Resource Mobilization and Financial Aspects
Environmental and Technical Aspects
Social Mobilization and People's Participation
Conclusion

Chapter Five
Existing Problems, Their Remedies and Future Challenges

5. Important Observations on UPB: weaknesses, strengths, and future measures

5.1 Planning, Implementation and Management

5.1.1 UPB is not holistic and comprehensive; so total planning is required

From the viewpoint of analysing objectives of all RDPs' efforts, it is observed from the last hundred years' records that the main objective of RDP is to alleviate poverty and gradually, there is an addition to raise the standard of living. These objectives are yet to be achieved. Actually, RD is determined by the changes in-- technology, capital formation, human resources, natural resources, and institutions and organisations etc. (please see Appendix X), and RD is also related with urban-rural linkages (please see Appendix IX). On the other hand, improvement of poverty status depends on different determinants and products of their mutual relationship, such as, food security, employment opportunities, real income/purchasing power, level of consumption, access to basic needs, availability of technology, capital formation, level of productivity, skilled human resources, market opportunities, social and physical infrastructure, social security, human rights, socio-economic policies, level of institutional capacity and good governance, etc. (please see Appendix XI). It is very difficult to cover all aforesaid aspects in planning through only physical infrastructural planning. In UPB some of the aforesaid aspects, were covered. So it is not a comprehensive and holistic plan. No doubt, Physical

infrastructure is a must for RD in Bangladesh, but not as panacea. From the study it is found that UPB is not entirely holistic and comprehensive. For sustainable RD holistic, comprehensive and total planning is a must. So planners should think for total planning in future.

5.1.2 Absence of Planning Norms and Standards

From the field, it is found that there is no systematic and recognised planning norm and standard for RDP in Bangladesh. There are some standards every where in all aspects. Such as, for human bodies, there are some standard of food intake. For example— what and how much a person should intake per day, there is a standard considering one's age, weight, height, sex, job nature, body fitness/disease pattern and other relevant aspects. Similarly, for urban areas, there are some planning norms and standards. For example— big cities (like- Dhaka, Delhi, Tokyo, and New York) should have 22-25% space of the city for only roads whereas Dhaka has only 8%.[100] For regional cities, like Khulna and Rajshahi, should have 18-22% areas for roads.[101] So for urban areas there are some well defined planning standards and norms. But for rural areas of Bangladesh, there is no systematic and recognised planning norm and standard. So, there is chance of unrealistic rural planning. In the field, it is found that due to lack of planning norms and standards, UPB was highly biased in favour of physical infrastructures and those were highly ambitious.

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[100] Ahsan Habib, "Transportation Problem and system deficiency of Dhaka City: An Integrated Approach for Solution", Unpublished BSc. Thesis, Civil Engineering Department (Dhaka: BUET, 2001), pp. 37-38.

[101] ibid.

5.1.3 Bias in favour of physical infrastructure

UPB is highly biased in favour of physical infrastructures. The study area had only 5 km *pucca* and 9 km *kutcha* roads in 1971. From 1971 to 1993 i.e. in 24 years, the study area has added 15 km *pucca* and 11 km *kutcha* roads. UPB team proposed to construct a total of 37.10 km (of which 16.5 km *pucca* and 20.60 km semi *pucca)* roads in the study area within five years. It was highly biased in favour of infrastructure and also highly ambitious, when it is compared with past records.

5.1.4 Planning without plans

Clearly a poor plan can be more harmful than no plan. In some cases, UPB can be termed as 'Planning without plans' due to wrong assumptions, no initiative for basic survey, no participation of common people, and absence of regional policies. Assumptions and expectations were not accurate regarding required information for planning. It is thought that local people are familiar with local setting. It is true, but for planning some vital information are the prerequisites, even for the local people who know local settings well. But practically, a set of surveys are the prerequisites for rural planning. In this regard, at least four types of surveys are necessary for any physical planning interventions viz. land-use survey, infrastructure survey, institutions survey, and socio-economic survey.[102] Here, baseline survey and village resource book can serve to some extent the similar purposes. In preparing UPB, all these surveys were not done. In preparing UPB common people were not asked, let alone, took their priorities. Local plan should consult and should follow the

[102] Golam Mustafa, Urban and Rural Planning Expert and Presently Associate Professor, URP Department, Jhahangirnagar University, Savar, Dhaka, opined when updating the syllabus of Rural Planning courses at URP Discipline in Khulna University, Khulna in 1999.

framework of regional development plans. But unfortunately, the fate of the regional development is depending on the policy makers and political leaders. For example-regarding industrialisation, Mongla port, Mongla EPZ, deep seaport at Akram point as well as overall investment of Khulna is now uncertain. Thus local level planning is difficult.

5.1.5 Poor Implementation and Concept of Rolling Plan

About the realities of UPB and poor implementation, FGDs were arranged when inferences were more or less drawn on that though UPB had some achievements in road sector but the implementation of other sectors is frustrating. So, why UPB is not performing well? And why does it have implementation problems? LGED officials and engineers blame UPB team members and say that Chairman and Members of UP do not understand the concept of rolling plan (please see conceptual framework, section 2.13.9 of the thesis, at page no. 24). Under the rolling plan concept, a five-year plan is formulated and it should be revised every year in the light of performance of the various sectors of the economy and availability of resources. It will be reviewed and extended year by year, under annual development plan. In essence, the system provides with a continuum of realistic annual plan each rolling on to the other with a changing five-year perspective which would be readjusted in accordance with changing economic conditions. On the other hand, the chairmen opine that they understand the concept, but they have to keep people/voter happy by entertaining their group and public interest, in annual revision they raise new issues every times. Those create difficulties in planning. Earlier it is said that people went

to law makers for their infrastructural requirement where two new road schemes were prepared under the patron of local MP but those were not implemented.

5.1.6 Coordination problems

In the study area, UPs and even Upazila administration failed to coordinate the planning. On the basis of FGDs with head of different rural institutions, it is found that different aspects of RD issues are dealt with different individual institutions, sometimes, single purpose or single focusing institutions are seen, that is why coordination is very difficult, where those institutions are reportable to different higher authorities. Moreover, there is no institutional coordination among planning teams. In the study area concerned institutions did not consult planning documents of each others, such as- UPB, TPB and Master plan of Khulna. Professor Akhter Husain Chaudhury, one of KDA master plan consultant from URP Discipline, Khulna University says that the terms and conditions did not mention about the coordination of UPB and Master plan, where these institutions are dealt with different ministries. But, he also observes that every planning should consult planning documents with others where the geographic region/location is same. Moreover, local level infrastructure development schemes should have linkage with regional development and macro economic plans. Regarding coordination, it is found that preparing UPB is an affair/concern with only UPs and LGED. Other relevant and involved institutions were found reluctant about UPB in the study area.

5.1.7 Some missing aspects in UPB in the study area

Along with foregone missing components, the structural features (please also see section 4.4.6 of the thesis, at page no. 81), and some social components were also ignored in the study area. Moreover, there are some social problems to be resolved, which are social in origin but required physical solutions. Many of these problems are associated with the provision of social welfare requirements such as children's playgrounds, clubs, medical services, etc. and their absence reduces the quality of life. In the study area, four new school buildings were constructed in four existing educational institutions where 35% children's playgrounds were reduced.

5.1.8 Clear instructions and guidelines in UPB

One of the important positive sides of UPB is that clear instructions and guidelines are provided within the Plan Book to avoid any conflict or confusion. From theoretical point of view, it provides with a nice mechanism of rural development. In UPB, it is expected that it should contain 36 maps for different sectors like roads, drainage and embankment, irrigation and land use covering all the schemes/projects, being implemented by Upazila Parishads, other Government agencies, Foreign aid projects, NGO's etc. for the five years' plan period. But these were not done. Actually, due to the absence of planning and development institution at this local level, and lack of expertise of relevant fields of UPB, and finally having no regular financial allocation, the major obstacles for the rigorous follow-up and updating of UPB, remain in its present condition.

5.1.9 Mixture of top-down and bottom up planning

According to Hasnat Abdul Hye, five approaches of rural development were identified.[103] Those approaches are: (a) Top-down approach, (b) Bottom-up approach, (c) Plans prepared by local bodies or groups on the basis of their felt needs, (d) Plans prepared by local bodies or groups on the basis of their felt needs and internal resources' availability, and (e) participatory approaches.

From theoretical viewpoint, UPB covers some aforesaid approaches. It is a mixture of top-down and bottom-up planning. Here the National planning agency sets the macro-targets and divides these into regional or sectoral targets. Local bodies/LGED field offices at Upazila level are then given the format to prepare the plan on the basis of their priorities. Here, Apex bodies are providing with a framework of planning which is top-down approach and grass-roots people are feeding information upward by demanding/prioritising their needs that is bottom-up approach. To ensure people's participation, it utilises UP functionaries. Plans prepared by local bodies or groups on the basis of their felt needs and internal resources' availability are submitted to higher authorities for: (i) adjustment with macro-target, and (ii) placement of funds. But practically, it is found that UPB team has prepared plan without considering availability of local resources. They identified and proposed for implementation of a huge extent of physical and structural works which were extremely capital hungry (Already cited in the section 5.1.2 and 5.1.3 of the thesis). Their demand of structural aspects are so huge that UP's own resources can not implement the proposed plans.

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[103] Hasnat Abdul Hye, *op. cit.*, pp. 6-8.

5.1.10 From top-down to Bottom-up Approach

It is one of the positive sides that UPB promoted bottom-up planning itself. During 1960s and 1970s the version of UPB was prepared through the joint efforts of concerned government agencies and the representatives of the people constituting the Thana Development Committee (TDC). TDC asked/consulted the local UPs, ward commissioners of UPs, cooperatives, local projects' committees before finalisation of the plan. Actually, then TDC was the most vital institution in preparing Plan Book and UPs feed only information to upwards. But from 1990s, UPs and their advisory committees are vital at Union level for preparation of UPB. Here local people are sending their plans, proposals, priorities and demands to up-wards. Ultimately it introduces bottom up planning concepts where UPs are assigned for coordination.

5.1.11 Other positive aspects of UPB

It has provided the idea of conservation, improvement, or redevelopment of the existing villages, the provision of facilities to meet the demand/deficiencies and to serve new development, as well. UBP has provisions to draw the attention on the opportunities available in the villages. It has promoted joint efforts among different institutions for development at local level.

5.2 Organisation and Institutional Aspects

5.2.1 Problems of UP

Earlier, it is said that the involvement of different rural institutions is necessary for different activities of UPB (please see Section 4.2 Table 4.1 of the thesis) where UP is the vital institution. But it has some problems. From observation and open discussion under PRA sessions, some problems were found regarding Union Parishad. Those really create obstacles for UPB's implementation, such as—inadequate finance, non-cooperation of different rural institutions, non-cooperation of opponent members, lack of training of UP functionaries, lack of technical staff regarding planning and development having multidisciplinary knowledge, lack of coordination, political polarisation, additional functions imposed by higher authorities and political parties, law and order situation, poor perception on development issues. Here, it is mentionable that Local government expert Prof. Salahuddin Aminuzzam of Dhaka University said "Neither the Union Parishad representative nor the common people are aware of their rights, duties and obligation."[104] From PRA sessions also, it is found that for the development, local people directly go to law makers/local MPs instead of going to development administration and relevant institutions of the study area.

[104] *The Daily Star* dated 24/2/2004.

Table 4.13: Ranking of different Problems of UP regarding Planning and Implementation

Problems of UP regarding Planning and Implementation	Score of the Problems (Avg. percentile scale)	Ranking
Inadequate finance	96%	1
Lack of technical staff regarding planning and development having multidisciplinary knowledge and lack of training of UP functionaries	91%	2
Political polarisation, and additional functions imposed by higher authorities and political parties	88%	3
Non-cooperation of opponent members	77%	4
Non-cooperation of different rural institutions, i.e. lack of coordination	75%	5
Law and order situation	71%	6
Poor perception on development issues and others	66%	7

Source: Field Survey.

5.2.2 Capacity building and human resources

Performance of any institution depends on human resources and their capabilities. Before undertaking the UPB's programme, the prior assessment of the institutional strength was required. In the study area, no assessment was done regarding the institutional strengths from the view point of planning and management capabilities, before UPB. For planning it requires specialisation in planning with multidisciplinary knowledge.

5.2.3 Development control and legal aspects

There is no systematic planning norm and standard for rural areas of Bangladesh (already cited in the section 5.1.2 of this thesis). That is why it is also difficult to control and guide the rural development in a planned way.

5.2.4 Information and local resources

In the field, there was some scarcity of the up-to-date information. Village resource book of BARD/RDA can be a good document in this regard. But it should be updated regularly. While planning, UPB team felt the shortage of information, but some-how continued and prepared their UPB. Information is the power for any meaningful planning as well as decision making system. Here all UPs should keep records regarding different components of UPB with regular updates.

5.3 Resource Mobilisation and Financial Aspects

5.3.1 Wastage of resource and shortage of resource

Two culverts/small bridges are beside one another at only 13 metres distance (please see Appendix XVII: Pictorial report section, plate no. 13, 14 and 15) and these are presenting a case study of wastage of resources in the study area. One was constructed under relief and rehabilitation work in 1993. On the other hand, the next one was constructed under the project of Care Bangladesh in 1995 and has been being used since then. Both the bridges were constructed within two years and one of them was abandoned. In this case, the wastage of resources is seen. It should be avoided. On the other hand, according to LGED engineers, due to shortage of fund

where a culvert was required to drain out water from an area of 480 acres, only a tunnel was given (please see Appendix XVII: Pictorial report section, plate no. 10).

5.3.2 Status of maintenance work of UPB

According to UPB, UPs will maintain their infrastructures after major construction by LGED. Here, it can be questioned, can UP mobilise resources for those planning and development activities. Actually, UPs are facing acute fund crisis. In the study area, the case is so severe that *Chawkiders* of UPs were not getting salaries for last four months as of July 2006. Usually they were getting salaries in arrears depending on the availability of fund that is also uncertain.

5.3.3 Problems of resources mobilisation

After the introduction of the Upazila system in 1982-83, the UP lost its importance in the formation and implementation of the Five Year plans. After abolition of the Upazila system in 1991, the UP has regained its importance because the union has been designated as the focal point of rural development. But unfortunately from the FGDs, respondents opine that along with the allegation of corruption against UPs, recently government is gradually curbing its power, rather than delegation of power and decentralisation. Now UNO and Upazila Administration are responsible for *Nilam, Ejara* of different rural resources, such as bazaar, *ghat* etc. Gradually, Government is reducing the power of imposing and collecting taxes, tolls, levy, etc by UPs. Moreover, recently government has fixed the rate of tax/toll that is previously imposed by UPs' officials. Some times UPs' tax assessor and tax collector create pressure for money where using different rates in similar condition.

Sometimes they keep their political group interest. UPs' officials opine that in previous case they could take more money as well as income for UP by imposing excess tax/toll as there was no ceiling as well as upper and lower limit of tax/toll. In collecting tax, they strongly consider group/voter sentiments.

5.4 Environmental and Technical Aspects

Recent flood of 2000 proves that Khulna region is not free from flood (already discussed in the section 4.4.6 of this thesis, under the sub-section Some missing components in UPB). It should be considered in planning. It was a missing component by UPB team when preparing UPB. Moreover, in construction of rural roads, technical aspects should be taken care of properly, such as- earth work of road. According to LGED, in the Thana Plan Book, an incomplete road is an economic burden for the people of the area. Due to repeated maintenance cost of such a road mainly for the causes of less compactness of the earth work and poor quality of the drain of water from road surface, the Upazila Parishad may face resource shortage.[105] It is good for the study area that there is no incomplete road whether *pucca* and *kutcha* that was taken for new construction. But there are some roads which need routine maintenance, some are having defective points both for *pucca* and *kutcha* roads in the study area (please see Appendix: Pictorial report section, plate no. 3 and 4).

[105] LGEB, *Thana Plan Book: 1990-91 upto 1994-95* (Dhaka: LGEB, 1990), p. 12.

5.5 Social Mobilisation and People's Participation

UPB has adopted the democratic means by participation and cooperation from grass-root level, incorporating the elected people's representatives in planning and development. In the study area, passive form of participation was seen in UPB where they feed only some information to up-ward by raising their needs or desires. But, it should be more functional, interactive and self-mobilised. (Please see type of people's participation for sustainable development, Appendix VIII). From the type of people's participation, first 4 types are passive participation and rest/last three are better form of participation from the view point of sustainability.

5.6 Conclusion

UPB is not a holistic and comprehensive approach in RD. Considering RD determinants, poverty indicators, urban-rural linkages and required areas of development interventions from field observation, it can be said that UPB is not a holistic and comprehensive approach where Total Planning is required. Due to having no planning norms and standards, UPB was found highly ambitious and biased towards physical infrastructures. UPB was prepared without basic surveys on different aspects. Moreover, some important aspects were found missing in UPB of the study area such as- rural energy and electricity supply, rural sanitation and safe water supply, drainage/canal digging (especially derelict water bodies) for drain of water, measures against flooding/water logging, and the socio-economic components were ignored. UPB team initially considered some of the aspects but finally to avoid institutional complexities, some components were discarded technically and silently

except roads. Moreover, it fails to address highly important social aspects, such as poverty and empowerment of poor rural people. Actually, partial planning can not bring the sustainable development. Moreover, there is no trained manpower specialised in planning at grassroots level where it also requires a full-fledged planning and development organisation/institution to guide and control the overall development of the area under a multidisciplinary framework. From theoretical point of view UPB has promoted bottom-up planning and also provided with a good mechanism for rural development. The UPB team, at initial stage, due to poor perception of systematic planning and implementation, had hindrances to bring significant impact on rural development through UPB in the study area. There is a direct relationship between unorganised union planning and lack of trained manpower/expertise, local resource mobilization, implementation capacity at union level.

CHAPTER SIX

SUMMARY, SUGGESTIONS AND CONCLUSIONS

Summary
Suggestions
Future Areas of Research
Conclusions

Chapter Six
Summary, Suggestions and Conclusions

6.1 Summary

In this section, the summary of the study is presented.

(1) The Preamble and Summary

Rural Development (RD) is one of the major development challenges for Bangladesh. The upliftment of the rural area is a must for the overall development of Bangladesh, where it comprises of about 85% of the total landmass with 76.61% of the total population. RD is facing challenges due to high incidence of poverty, low resource endowment and productivity, vulnerability to natural disasters, high unemployment and underemployment, high rate of population growth and high density, diminishing land-man ratio, low level of economic growth, uneven social structure, unbalanced growth, and inappropriate development approaches. Beside these socio-economic problems, there are acute deficiencies of physical infrastructures like road, embankment and drainage, irrigation channel, rural centre, and relevant services and facilities. To deal with rural problems, a series of RD efforts have been undertaken as well as practised and in the course of time, some of the efforts have changed, modified, and rejected. To address the overall rural development from physical and infrastructural perspective, the most recent RD effort is Union Plan Book (UPB). UPB is a mechanism for rural development, and it contains guidelines relating to physical infrastructure, such as— road, drainage and embankment, irrigation, and land-use. It gives detail instructions about how the plan

book and the maps of various components are to be drawn up, along with rolling plan. To make critical evaluation of the performance of UPB and to guide the future planning and development of rural Bangladesh, no study has yet been undertaken in this field. So, the present study has dealt with UPB from the viewpoint of rural development and for reducing knowledge gap in this field.

There are very limited critical reviews on UPB. The term UPB has been used in some documents of BARD, NILG and LGED; and in a few books, particularly written by Siddiqui and Hye. Those documents/books have only described the purposes, objectives and components of UPB. Siddiqui critically viewed UPB from local government perspective (not from overall planning point of view) where he raised a question in early 1990s; would UPB be only a theoretical exercise? In the meantime, LGED has incorporated different additional aspects of physical planning along with relevant development interventions. In spite of being a theoretical concept, UPB was practised by LGED for physical planning, in the practical context of Bangladesh. So, from the view point of operational aspects, the overall planning, implementation and management of UPB can be questioned. But UPB has not yet been investigated and evaluated in a systematic and scientific way. For guidance of future planning and development of rural Bangladesh, UPB should be examined and evaluated.

(2) Objectives and Methods

The study objectives are: to review the past RD efforts in Bangladesh; to examine and analyse the origin, history and concept of UPB; to evaluate the performance of

UPB of Dighalia Upazila under Khulna District; to identify the problems and prospects of UPB in the study area; and to suggest measures for better implementation of UPB.

This research can be seen as an exploratory as well as evaluation type. Dighalia and Senhati Unions of Dighalia Upazila in Khulna District are purposively selected as the study area is representative; it satisfies the research needs and provides easy access to information. Considering fund, location, available facilities, the research problem and its objectives— different methods and tools are used here. These are Documentary Analysis, Land-use and Infrastructure Survey, Institutions Survey, different tools of Participatory Rural Appraisal (PRA), and mapping with Geographic Information System (GIS).

(3) Justifications

For the development of rural Bangladesh, the study can be useful to the policy makers, planners, and to the users also. It provides new horizon of multi-dimensional and multi-disciplinary aspects of UPB which is leading toward a total and comprehensive plan for rural areas of Bangladesh. The study helps to provide with better understanding about UPB and new orientation of RD efforts. Academicians and professionals of RD are interested in the results of this study. Different institutions such as LGED, BARD, RDA, NILG, CIRDAP, and Urban and Rural/Regional Planning discipline/departments of Khulna University, BUET and Jahangirnagar University as well as other relevant agencies may be benefited from the out come of this study. It may be helpful to the policy and decision-makers at

local, regional and national levels. New ideas grown out of this research are directly helping the formulation of new RD efforts or any kind of interventions related to rural planning and development. In the following sections, objectivewise major findings are presented.

(4) Findings from Past RD Efforts

Historically, different efforts of rural development were always here in ancient and medieval Bengal. But, those were scattered efforts. Due to interruption and discontinuity in administrative system and lack of available records, very few evidences are found in rural development planning. During medieval period relatively more records are available regarding RDP, especially related with water resource management such as- Pulbandi Department. It was a comprehensive and hierarchical system of decision making, execution and maintenance of water resources management as well as rural development. It can be said that the ancient and medieval governments of Bengal were heavily dependent on village institutions, which made the structure of local government. The village society was left to itself for its own governance. In ancient and medieval periods, there were indigenous and natural forms of RDP under the framework of "self sufficient and static/unchanging village system". Generally, due to the impact of British rule, rural pattern and RDP system began to change. At that time RDP did not take any shape. It took formal shape after 2nd world war, in Pakistan period due to different experiments of Comilla Model. In 2nd and 3rd quarters of the twentieth century, some important RDP thoughts and theories were developed around the globe— to deal with great depression, the Keynes theory ultimately introduced modern rural development

concepts to the world. Moreover, economic planning concepts of Russians; then, physical planning, and regional development concepts/theories were also emerged and gave momentum in RDP. After separation in 1947, in East Pakistan (present Bangladesh)- Community Development Approach, V-AID, Self-help Projects, Rural Works Programmes, Irrigation, Rural Works Programmes, Rural Constructions as well as Comilla Model were introduced and practised. Comilla Model developed by Dr. Akther Hameed Khan was a milestone in the history of RDP. Gradually, community development approach was shifted towards the basic needs approach, and then, human centric development/target group approach was emerged. Moreover, along with previous RDP initiatives new efforts were added especially after liberation of Bangladesh, such as- Grameen Bank Model and NGOs' Model. Along with aforesaid efforts, gradually physical and infrastructural developments get more attention.

(5) History and Origin of UPB

Under the leadership of Dr. Akther Hameed Khan and after the formation of BARD, a team of social scientists presented the concept of rural development with proper explanation of socio-economic perspectives. This rural development concept is widely known as Comilla Model. There were four programmes of the CM, viz. (1) Two tier cooperative system, (2) Thana Training and Development Centre (TTDC), (3) Rural Works Programme (RWP), and (4) Thana Irrigation Programme (TIP). These four programmes were successfully implemented in the 1960s in Comilla district covering 80% villages. Actually, behind the success, there was proper

planning. Aforesaid programmes had some physical planning components such as— rural roads, irrigation channels, drainage, flood control and embankment. To deal with these components a planning mechanism was developed in the 1960s from different experiments of BARD, widely known as Thana Plan Book as well as Union Plan Book. So, UPB was originated from BARD in the 1960s. To prepare the Plan Book, both Thana Parishad and Union Parishad were the vital institutions. In the 1960s, UPB had three components viz., (a) Road Development (roads, bridges and culverts) Plan, (b) Drainage and Embankment Plan, and (c) Irrigation Plan. LGED adopted the concept and worked with UPB.

In the 1980s, under the decentralised administration, more attention was given to rural infrastructure and local level planning, because (a) The failure of top-down planning to be unrealistic due to lack of adequate feedback from planning bodies at sub national level, and (b) The failure of conventional planning to ensure participation of local people in the planning and implementation processes which is largely held to be responsible for the dismal performance of the planned development efforts in particularly the rural sector. Then, LGED began to think about UPB. Gradually, LGED had incorporated Union Land-use Plan in UPB in the 1990s. In the 1960s, Plan Book was prepared through the joint efforts of concerned government agencies and the representatives of the people constituting the Thana Development Committee (TDC). TDC consulted the local UPs, ward commissioners of UPs, cooperatives, local projects' committees before finalisation of the plan. Actually, then TDC was the most vital institution in preparing Plan Book. But from 1990s, UPs and their advisory committees had become vital at Union level to prepare

UPB. LGED and its Advisory Committee are vital institutions for preparing TPB and providing with technical support to UPs in planning and implementation of TPB and UPB. It has promoted from top-down to bottom-up planning.

(6) Some Achievements of UPB

In spite of the limitations of UPB, some achievements have been found, particularly in road sector. The achievement in terms of length of new road is not significant, but enormous changes are seen in road conditions, accessible road length and user satisfaction level. After UPB, the length of good condition road has increased to 33.75 km which was only 12 km; and poor condition road was reduced from 20.40 km to 3.00 km. All weather accessible road was 17 km in 1993 which has increased to 26.3 km; length of minimum accessible road was reduced from 17.4 km to 8.1 km. Level of user satisfaction has increased about 2 times. Vehicle ownership has increased- bicycle from 30% to 56% and rickshaw–van from 11% to 24%. After UPB, the roadside land values have increased three to four times and others have almost doubled. Vehicle ownership has increased more or less two times. There are two important areas where the land values are high i.e. the Upazila area, and industrial-commercial belt along the river front. Actually, road condition and road density are relatively better. After UPB, due to development of different infrastructures beside Upazila Head Quarter a huge increase in land value is seen in Dighalia area. In spite of economic stagnation in the region, the rise in land value is seen due to the improvement of road under UPB. Moreover, in the study area, there is a land-use conflict between crop agriculture and settlements where the per capita

cultivable land is only 0.055 acre. On the basis of land-use survey, it has been observed that physical infrastructures, services and facilities are inadequate in the study area, where the sum of the area of roads, commercial, service-facilities and institutional land are less than 2% of the study area. In the study area road density is 1.62 km/sq km which is slightly below of the national standard that is 1.74 km/sq km. It is true that along with these developments, still the study area has some infrastructural shortages.

(7) Some Observations on UPB

UPB is not a holistic and comprehensive approach in RD. Considering RD determinants, poverty indicators, urban-rural linkages and required areas of development interventions from field observation, it can be said that UPB is not a holistic and comprehensive approach where Total Planning is required. Due to having no planning norms and standards, UPB was found highly ambitious and biased towards physical infrastructures. UPB was prepared without basic surveys on different aspects. Moreover, some important aspects were found missing in UPB of the study area such as- rural energy and electricity supply, rural sanitation and safe water supply, drainage/canal digging (especially derelict water bodies) for drain of water, measures against flooding/water logging, and the socio-economic components were ignored. UPB team initially considered some of the aspects but finally to avoid institutional complexities, some components were discarded technically and silently except roads. Moreover, it fails to address highly important social aspects, such as

poverty and empowerment of poor rural people. Actually, partial planning can not bring the sustainable development.

In the study, it is found that there is a direct relationship between unorganised union planning and lack of trained manpower/expertise, local resource mobilisation and implementation capacity at union level. Ultimately, for meaning development along with infrastructures, a holistic development intervention is required under a multidisciplinary framework by a planning and development institution.

6.2 Suggestions

Suggestions are discussed considering both micro (local) and macro (regional/national) views along with short-mid and long term perspectives. Here, firstly suggestions are made for local level interventions, then macro to micro interventions and finally observation-wise some specific suggestions are given.

6.2.1 Local/field level interventions

Planners and concerned RD institutions should think for total and comprehensive planning. There is no radical and short cut route to solve the problems of RDP with a magical touch. It needs a step-by-step continuous approach to achieve effective results. At present, both short term and long term planning interventions are essential. In the short term, the first step is to analyse the 'problems tree' and careful mapping of the 'socio-economic topography' that is also known as 'existing situation analysis'. As the next step, it is necessary to find/establish a suitable form of 'community government' to tackle the specific problems and existing deficiencies. It can be done without hampering existing rural institutional set up by increasing the

coverage of coordination umbrella and ensuring good governance. On the other hand, some drastic/radical measures may take place for comprehensive and total planning, but that should be done gradually for smooth transition. Finally, in the long term, a systematic rigorous multi-level study is required for planning RD under a framework of comprehensive and total planning.

6.2.2 Macro level interventions for local level planning and development

To make a comprehensive long term total plan, firstly Strategic planning is required at regional level. Strategic planning is a policy guideline or development strategy consisting of comprehensive package of physical, economic, social and environmental aspects regarding the overall development for a longer period of time, and it may be for 20 to 30 years. By strategic plan all desired sectors should be covered for the entire region. Secondly, Structural planning is required for structural development for a concerned area. Structure planning is dealt with different structures. Its components are the major road network, railways, river services, and other transport services with the built-up areas by considering different zones of land uses, character and density. It also determines principal institutional functions. It should be concerned with the interrelationship among different structural elements and their effective functioning. Thirdly, Local area plan or the statutory plans should be adopted by the local government covering a part of concern area, such as Ward, Union. It deals with desired land development options such as upgrading, redevelopment or new development and action plans. It provides with a basis for land use regulation and development control. Finally, Micro level plans are prepared

for comprehensive treatment with intensive changes over a short period of time, ad it is also known as detail area plan.

5.2.3 Some suggestions regarding field observations

To resolve land use conflicts in the study area, especial attention should be given for sustainable agriculture development by formulation of appropriate land use/zoning policy to ensure optimum use of land. Here, the land use policy should be clear that good agricultural land is not allotted for or converted to non-agricultural uses. And for the densification of settlements different type of incentives can be provided with. Planners should do rigorous study to delineate some planning norms and standards for rural areas of Bangladesh. For immediate use, Bangladesh can adopt some planning practices like other ESCAP member countries where they delineate the standard by national average, target set by authorities or project, and standard from quantified relationships. Sometimes it is seen that the planning standards are borrowed from other countries and applied directly. But it should not be appreciated in all situations. Actually, Bangladesh should develop her own planning norms and standards, particularly for rural planning.

Contingence planning is also needed in Bangladesh perspective where frustrating implementation of UPB, biasness in favour of infrastructural development, high ambitious planning targets are seen. Moreover, being a disaster prone country, there may be any threat of disaster in the plan period. Then, implementation of whole plan may not be possible, mainly due to shortage of fund. So contingence planning should be incorporated in UPB's framework for implementation of the crucial/basic components.

UPB is not impossible and it can be implemented by using all available supports from different institutions, and resource persons. Actually, all potential aspects are available in the surrounding environments, and it is only needed to harmonise and synchronise those aspects such as- experiences of BARD/RDA, local planning experiments of other research and development institutions. In this regard continuous research and development is necessary.

5.3 Future Areas of Research

In this study some aspects are raised which are indicating some problems and need more detail investigation in future studies such as- Formulation of regional policy, Strategic and structure planning, Financial analysis and resource mobilisation at local level, Formulating planning norms and standards for rural areas of Bangladesh, Conflict in rural land-uses, Sustainable rural institution and good governance, Rural development history in ancient and medieval period, Preparing total plan for rural areas of Bangladesh.

Here, it is mentionable that selection of study area was done on the basis of the availability of UPB document and access to information. Along with the progress of this research, some sites are found/detected where some favourable factors of planning already exist, such as- location of CVDP project areas of BARD and RDA, areas having updated Village Resource Book, Danida's strengthening rural institutions projects' areas etc. Actually, people of those areas have some experiences on local level planning framework due to ongoing planning and development interventions. If this research was conducted in aforesaid areas, there

might be a chance of different result. So, this research can be conducted in those areas to get a comparative picture.

5.4 Conclusions

The study has reviewed the past rural development efforts, discussed the origin and concept on UPB, evaluated the UPB considering outputs, effects and impacts, identified some problems and offered some suggestions to overcome those. It is expected that considering the findings and suggestions, all who are concerned with UPB and think for rural people as well as rural Bangladesh should come forward for future plans and actions.

Here, it can be said that before taking this kind of programme at least one Model/Pilot Project targeting a cluster of ideal village(s) or a Union, taking from each district could be selected for the implementation of this plan. Then, it can provide with practical orientation and demonstration on UPB; and also can provide with better perception to all. It is always more easy to mobilise all resources and efforts to a particular small site rather than working with all Unions at a time. Then the possibility of success is high and ultimately, it can provide with demonstration effects to other areas of the District, by disseminating knowledge and spill over information on UPB. So for UPB, next steps should be proceeded on by taking a Pilot Project in each district where the site has good potentials of demonstration effects, and finally possibilities of getting fund and assistance from resource persons. But, it should be done under a flexible and sophisticated framework of the total planning.

Finally, policy makers should think and need to take necessary actions to setup a permanent and strong Planning and Development Institution at grassroots level for sustainable development of rural Bangladesh. To deal with rural problems, all efforts should be holistic and comprehensive under a single framework by an institution. For rural areas, Planning and Development Institution is a must for guiding overall development where a multidisciplinary team ensuring wider and active participation from common people will be assigned for planning, implementation, and management of all development activities of concern local areas. The multidisciplinary team should be comprised of planners, geographers, architects, economists, engineers, environmentalists, social scientists, lawyers, politicians, administrators, investors, and proper representation of common people/civil societies. Actually, besides professional body, the presence of a strong pressure group is desirable for good development. Moreover, for rural development, decentralisation and delegation of power are necessary. The institution should be more accountable and transparent where more interactive, functional and self-mobilised participation is required. Under the institutional framework, the various actions that should be taken in planning and implementation need to bring together in the form of a check list which can be used to ensure that each stage is tackled in the right sequence and nothing is overlooked.

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Appendix I
Evolution of Planning in Bangladesh

A gradual momentum was seen in the planning process in Bangladesh with special attention to planning focus and theoretical basis. Looking back over the last hundred years of planning and development reveals a dynamic picture, where the ideologies and norms have been found changing leading to the planning focus. Such changes are prompted by the emerging different urban and rural problems caused mainly by the unprecedented technological, political and social changes taking place not only in this country but also all around the globe. A brief about the hundred years of planning (specially physical planning), its problems, focus and theoretical basis is presented in following Table A-1

Table No. A-1: Evolution of urban and rural planning problems, planning focus and theoretical basis during 20th century

Period	Problems	Planning Focus	Theoretical Basis
1900-1920	Emergence and disorderly growth of town	City orderly	Physical
1920-1940	Deterioration central town, congestion, poor space quality	Ditto and City beautification	Physical
1940-1960	Migration, imbalance growth, stagnation, urban sprawl	Regional planning, growth pole, industrial decentralization	Wealth creation, trickle-down
1960-1980	Income distribution, poverty, unemployment, landlessness, environmental degradation	Rural development, agricultural development (Green Revolution)	Welfare: people centric approach leads towards bottom up planning
1980-present	Aforesaid problems and also Urban crime and hazards, Poor urban culture and negative attitude and psychological aspects, Unplanned urbanisation, land-use alteration, land-use conflict, unauthorized structure, lack of zoning and urban hierarchy, lack of resource mobilisation, Poor city administration /governance, etc.	Democratic sprit and social mobilisation (people's participation), organisation institution building, good governance	Philosophical Political: presently each government of Bangladesh considers their party's ideology for prioritisation in planning

Source: S. M. M. Mamun, A. H. Chaudhury, and M. J. Alam, "Institutional Improvement for Better Urban Management and Development: A Critical Review of Khulna City", *Khulna University studies*, Vol. 6 No. 1&2. (June-Decemebr, 2005). p. 60.

Appendix II
Classification of Roads by LGED

The national highways connect the capital with various administrative headquarters, big cities, sea ports and international highways.
The regional highways connect the different regions and district headquarters and the national highways.
Feeder road type-A connects the Thana HQ with the existing road network of the Roads and Highways Department.
Feeder road type-B links important hat, bazaar/growth centres with RHD road networks or with the Thana HQ and links one Thana HQ to another.
Local/rural roads link Thana HQ with Union HQ, growth centres villages, agricultural farms and bazars.
Beside these, there are some Municipal roads in urban areas

Source: LGEB, *Thana Plan Book: 1990-91 upto 1994-95,* (Dhaka: LGEB, 1990), pp. 10-11.

Appendix III
Classification of Canals by LGED

Primary Canal: A canal that has got branches and takes out water from the Upazila beyond its boundary and discharges into any river of the Upazila.
Branch Canal: A canal that falls into the primary canal and feeds it with water.
Sub-branch Canal: The canal that falls into a branch canal and feeds it with water.
Primary Independent Canal: The canal that has no branches, and carries water from the Upazila beyond its boundary or discharges into any river within the Upazila.

Source: LGEB, *Thana Plan Book: 1990-91 upto 1994-95,* (Dhaka: LGEB, 1990), p. 5.

Appendix IV

Expert Committee/Advisory Committee for TPB at Upazila Level

There is an expert committee to deal with the aspects of data collection, planning, implementation, evaluation and modification of the Upazila Land-Use/Water-Use Plan.

1. Upazila Nirbahi Officer	Convenor
2. Upazila Engineer	Member secretary
3. Upazila Agriculture Officer	Member
4. Upazila Livestock Officer	Member
5. Upazila Fishery Officer	Member
6. Upazila Rural Development Officer	Member
7. Local Engineer of BWDB	Member
8. Local Officer of Forest Department	Member

Note: If it is necessary the committee can include other officers of the Upazila, UP Chairman, local elites, or enthusiastic social workers.

Source: LGEB, *Thana Plan Book: 1990-91 upto 1994-95,* (Dhaka: LGEB, 1990), p. 116.

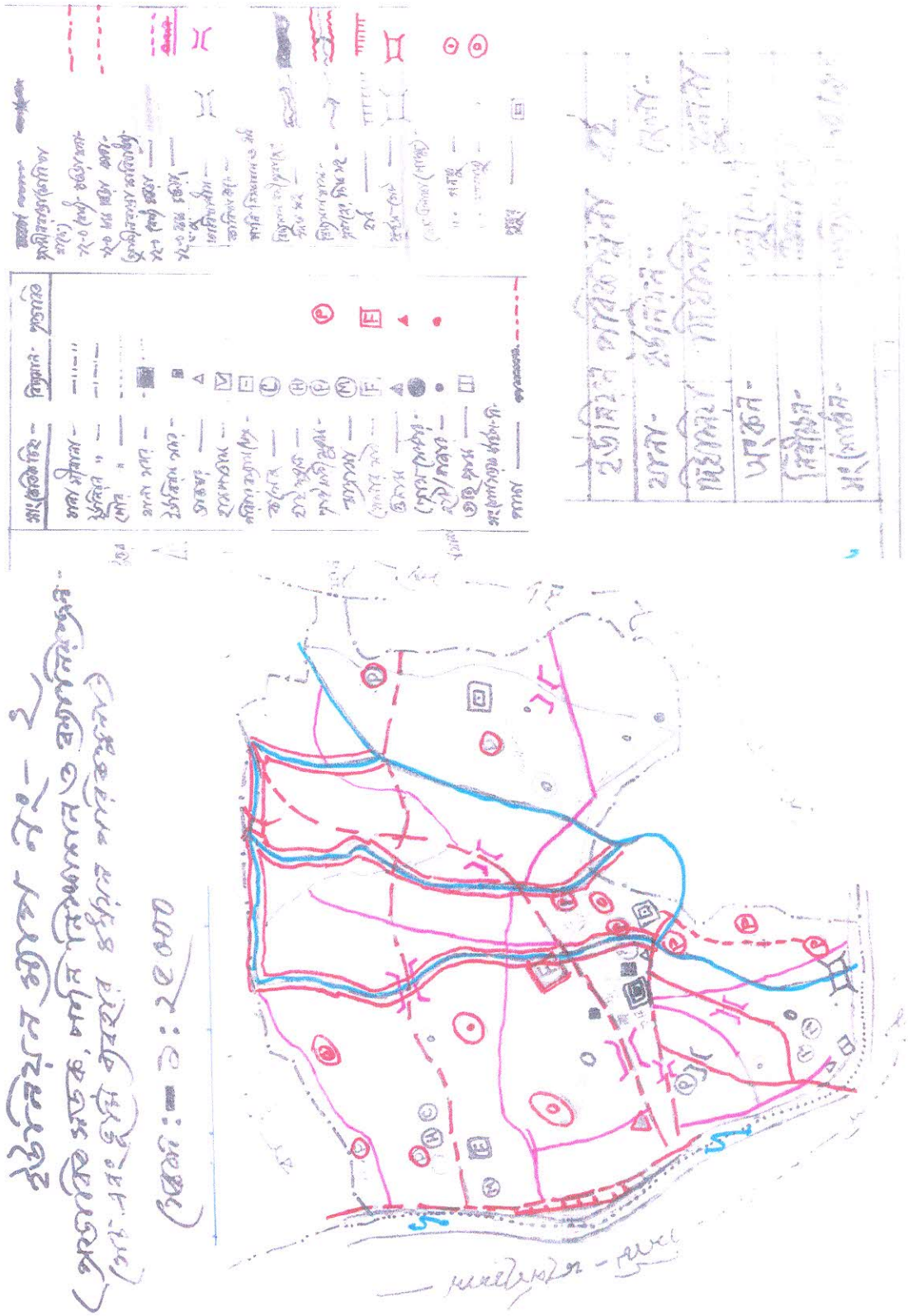
Government Directives regarding UPB

It is an admitted fact that for effectively undertaking and implementing the infrastructure development projects the Upazila Plan Book is an essential document. The book contains guidelines and instructions to enable lunching of various development projects on priority basis. For preparing Upazila Plan Book and to keep it up-to-date necessary actions need to be taken in the light of the directives issued by the planning commission (Memo No. PABI/SACHIB/88, dt. 16-06-88) and the local government division (Memo No. SHA-12/1 NI-1/85 (1200), dt. 09-09-95). It is expected, the plan book will specially help undertaking of projects and implementations of those by the Upazila parishads and the Local Government Engineering Bureau will extend necessary technical assistance to update the plan book.

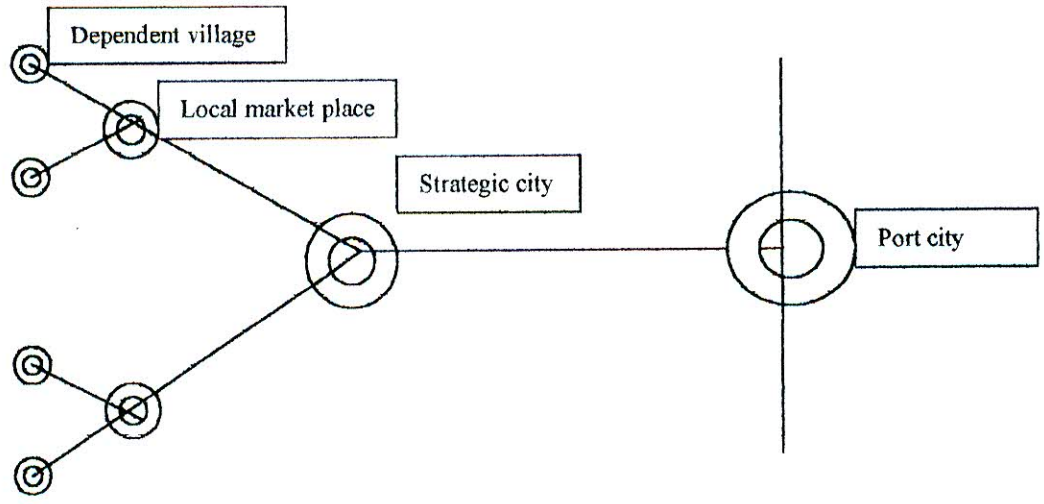
Source: LGEB, *Thana Plan Book: 1990-91 upto 1994-95,* (Dhaka: LGEB, 1990), pp ii-iii

Appendix V

An Original Image of UPB made by UP Team at Dighalia, Khulna

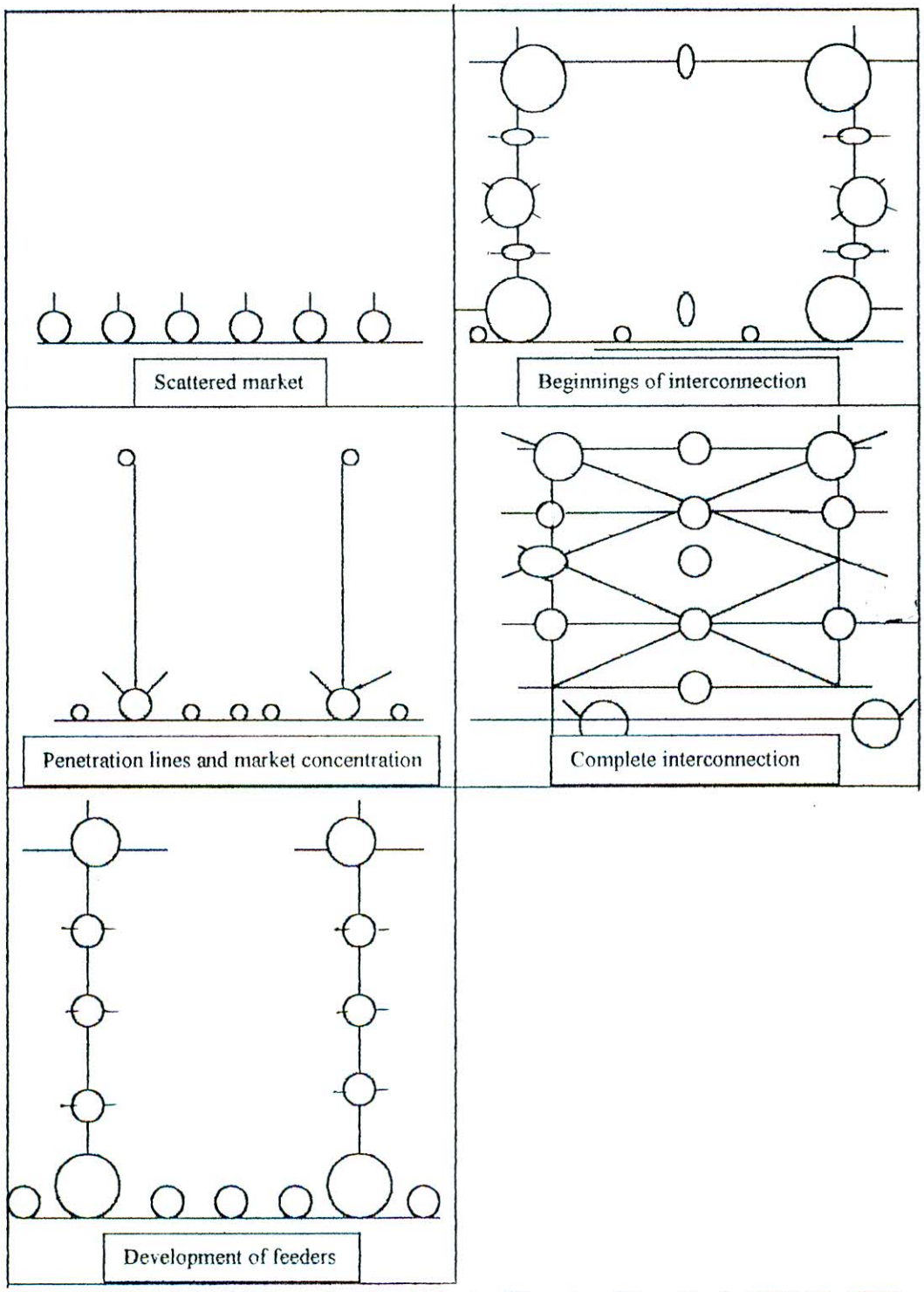


Appendix VI
Figure: Principal Elements of a Dendritic Market System



Source: ESCAP, *Guidelines for Rural Center Planning*, (New York: ESCAP, 1979) p. 58.

Appendix VII
Figure: Inter-connection Model and Transport System



Source: ESCAP, *Guidelines for Rural Center Planning*, (New York: ESCAP, 1979) p. 60.

Appendix VIII
Types of Participation

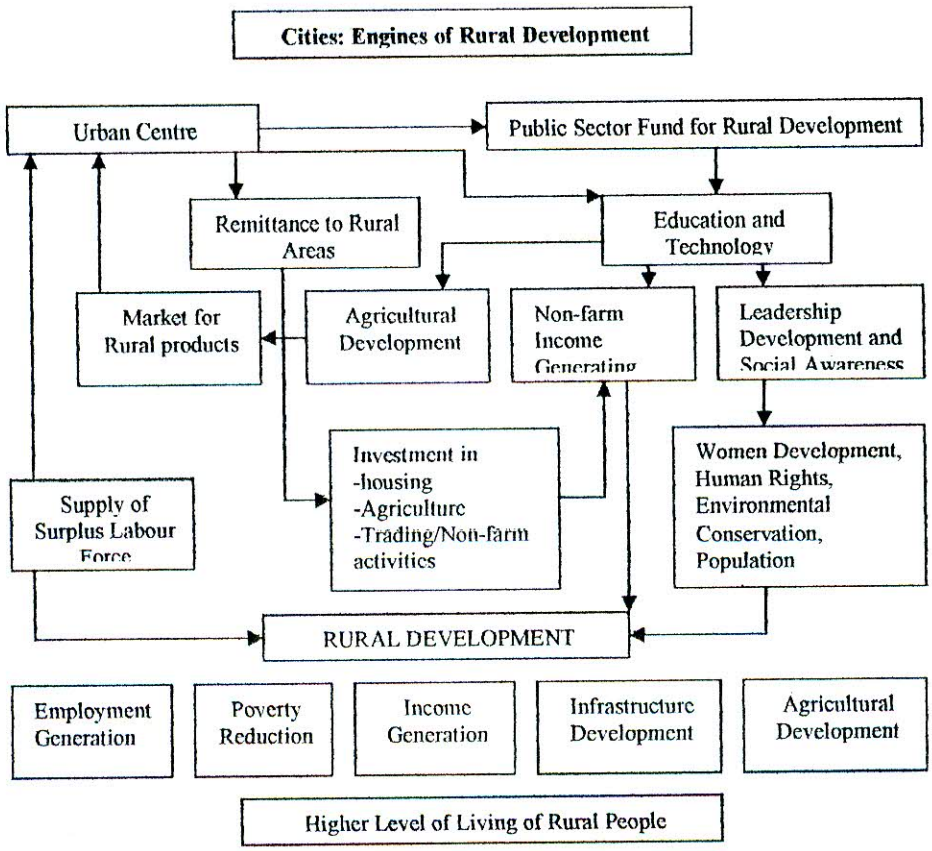
#	Type	Characteristics
1	Passive participation	People are told about past/future events One-way communication by administration/project management to people (no listening to responses) Information belongs to outsiders
2	Participation in information giving	People answer questions posed by outsiders People have no opportunity to influence proceedings Research findings are neither shared nor checked for accuracy
3	Participation by consultation	People are consulted; outsiders listen to views Outsiders define problems and solutions (and may modify these according to people's responses) People do not share in decision-making People's views are not necessarily taken on board
4	Participation for material incentives	People provided resources (e.g. labour) in return for food, cash or other material incentives People have no stake in prolonging activities when incentives end
5	Functional participation	People form groups to meet predetermined objectives related to the project, which can involve the development/promotion of externally initiated social organisation Involvement begins after early stages of project cycle/planning and after major decisions have been made Institutions tend to be dependent on external initiators/facilitators, but may become self-dependent
6	Interactive participation	People participate in joint analysis, leading to action plans and new/stronger local institutions Interdisciplinary methods seek multi perspective and use systematic, structured learning processes Groups take control over local decisions so people have an interest in maintaining structures/practices
7	Self-mobilisation	People take independent initiatives to change systems People develop contacts with external institutions for resources and technical advice, but retain control over how resources are used May or may not challenge existing unequal distribution of wealth and power

Source: Concern Bangladesh, *Disaster Preparedness Manuel*, (Dhaka: Concern Bangladesh, 1998) pp. 9-19.

Appendix IX

Urban-Rural Linkages: Cities are engines of rural development

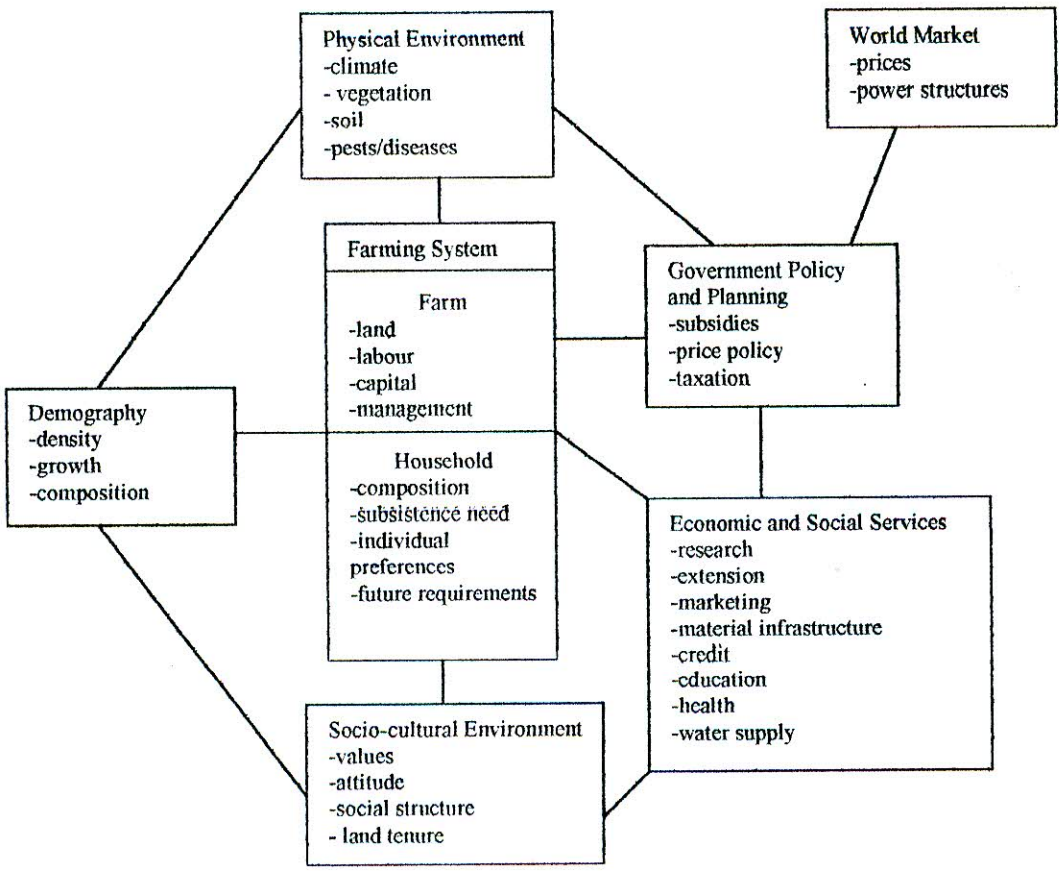
According to Akther Husain Chaudhury, the process of rural development through urban-rural linkages



Source: Akther Husain Chaudhury, 'World Habitat Day: What and Why?' news letter *Cities: Engine of Rural Development,* (Khulna University, Khulna: URP Discipline, Khulna University, 2004) p. 1.

Appendix X
Figure: Factors Influencing Rural Development

According to ESCAP, Factors influencing RD and agricultural changes

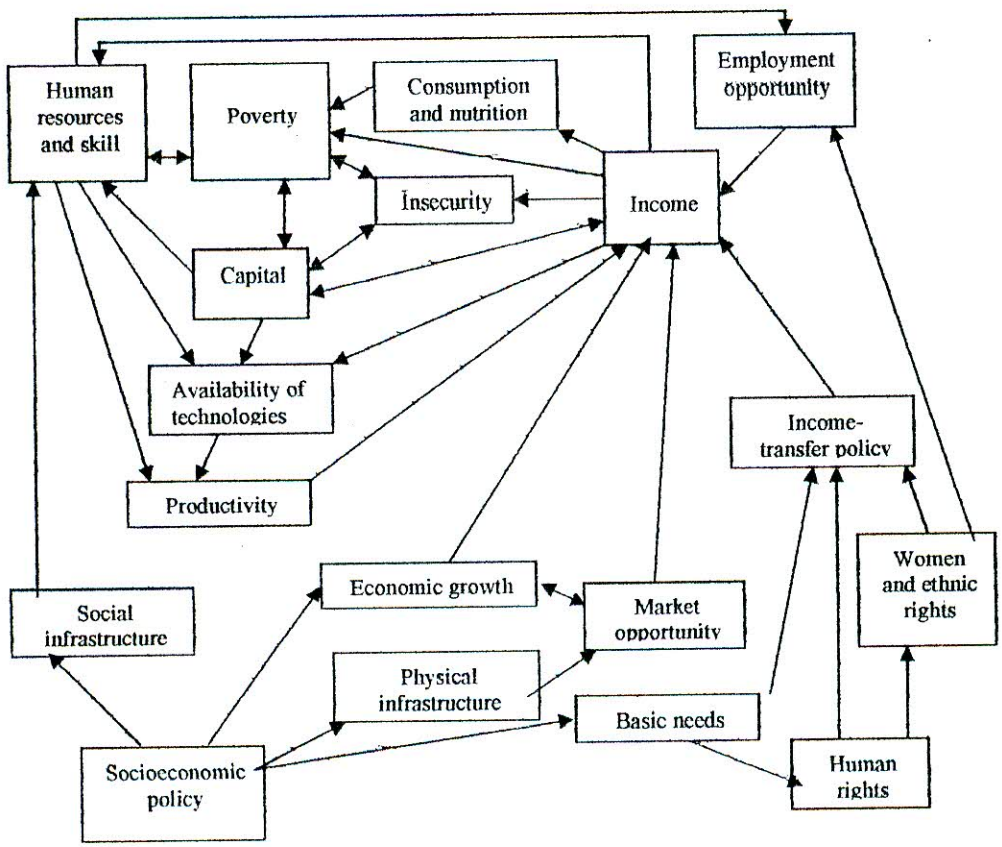


Source: ESCAP, *Guidelines for Rural Center Planning,* (New York: ESCAP, 1979) p. 47.

Appendix XI

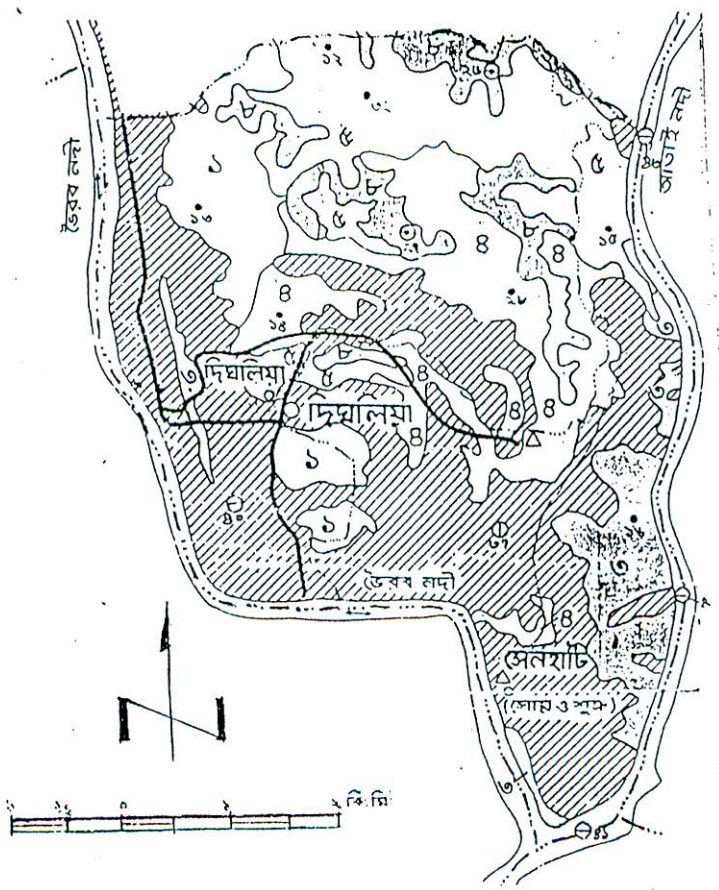
Figure: Relationship between Poverty and Its Indicators

According to Rushidan Islam Rahman, Relationship between poverty and its indicators



Source: Rusidan Islam Rahman, *Daridrya O Unnayan* [Poverty and Development], (Dhaka: BIDS, 1997), p. 198.

Appendix XII
Soil Map of the Study Area



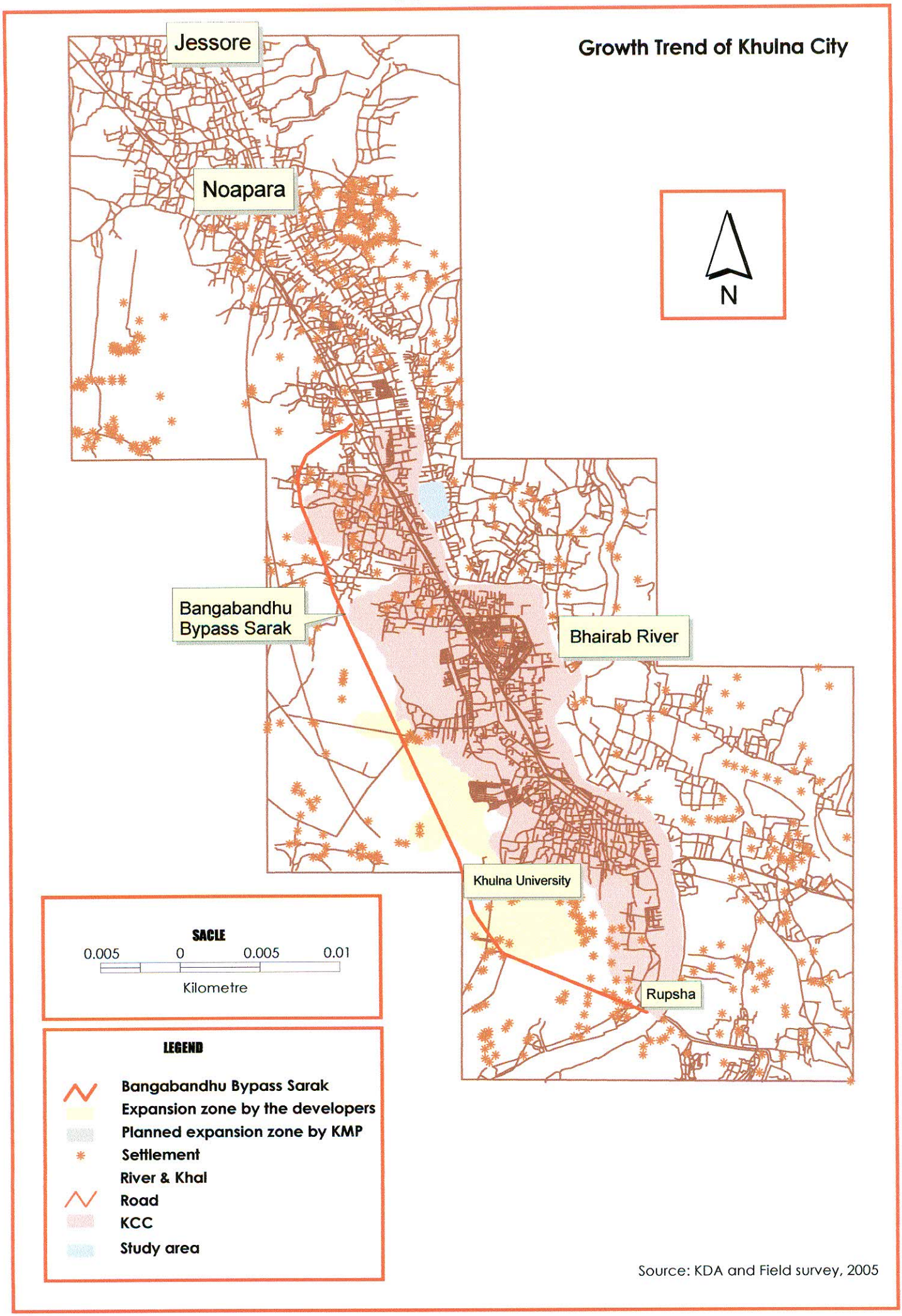
Legend

Geological Characteristics	Soil ID No.	Land Class	Moisture Content	Salinity	Soil Group	Soil Type
Ganges Flood Plain	১	High	High	Nil	*Gopalpur*	Loamy-Clayey
	২	High-Medium	High	Nil	*Sara*	Loamy
	৩	High-Medium	High	Nil	*Gopalpur*	Loamy-Clayey
	৪	Medium	Medium	Nil	*Eswardi*	Clayey-Loamy
	৫	Medium	Low	Nil	*Ghior*	Clayey
	৬	Medium	Medium	Nil	*Eswardi*	Clayey-Loamy
Mixed Ganges and Tidal Marsh	৭	Medium-Low	Low	Very Low	*Eswardi*	Clayey-Loamy
	৮	Medium-Low	Low	Very Low	*Ghior*	Clayey
Tidal Marsh	৯	Medium-Low	Low	Very Low	*Barisal*	Clayey
Organic Back Swamp	১০	Medium-Low	Very high	Very Low	*Harta Satla*	Organic Clay
Settlement Area		High	High	Not Tested	Settlement	Not Tested

Note: Very low salinity means 2-4 EC ml mos/cm and Salinity Nil means less than 2 EC ml mos/cm. Here mentionable that salinity level of the ground water of Dighalia is 0.7 EC ml mos/ cm which is safe.

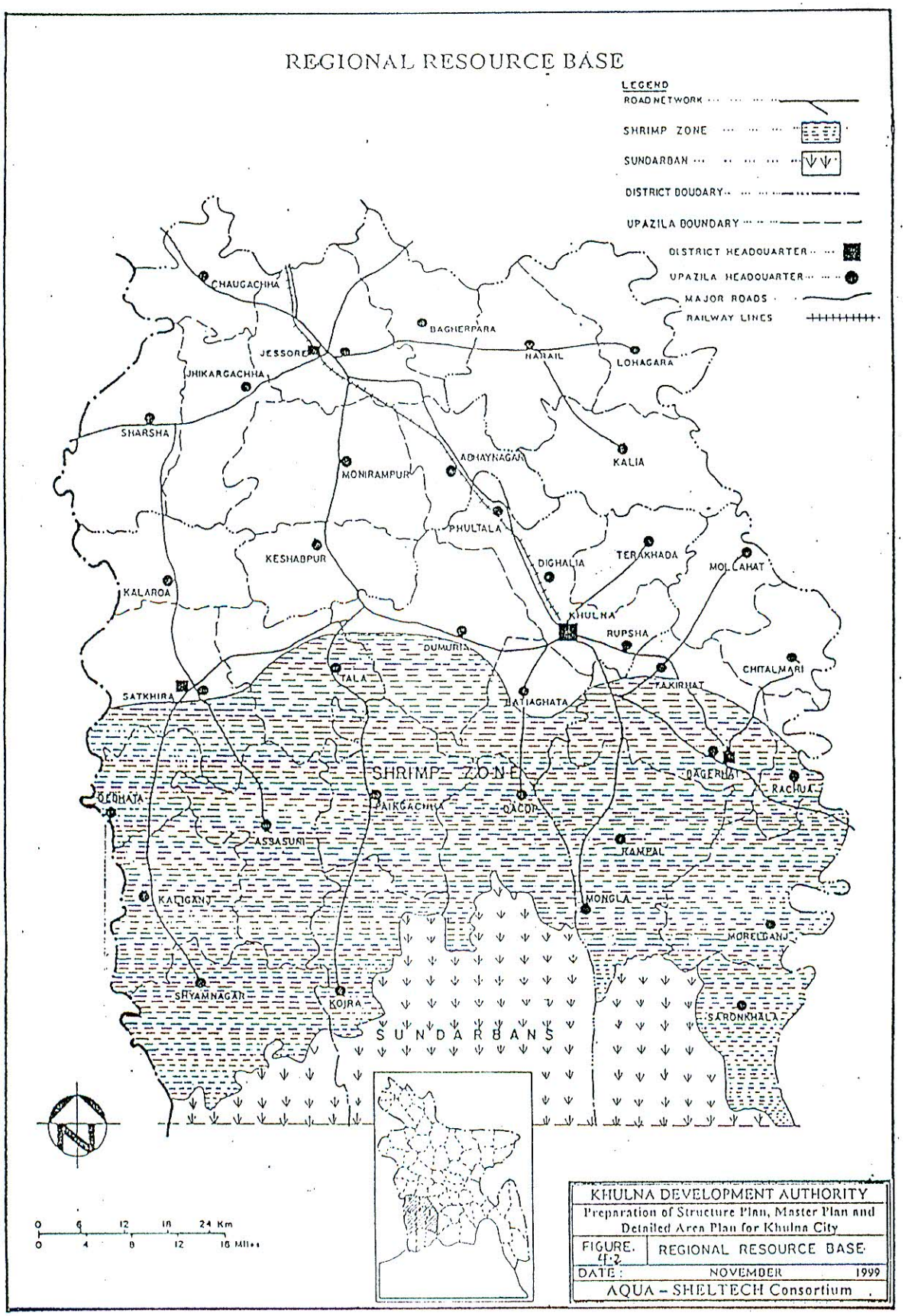
Source: SRDI, *Bhumi O Mrittika Sampad Babahar Nirdeshika*, Dighalia Upazila, Dhaka: SRDI, 1989, pp. 9-45

Appendix XIII



Source: KDA and Field survey, 2005

Appendix XIV
Location of Regional Resources in Khulna



Source: Aqua-Sheltech Consortium, *Structure Plan, Master Plan and Detail Area Plan*, vol. I. Urban Strategy (Khulna: KDA, 2001), p. 21.

Appendix XV
Semi-Structured Interview / Questionnaire / Key Informants

a) Group id : b) group Name (optional):
c) Professional ID (Occupation(s):
d) Team member (name, designation, job status/function) :
e) Function individual :
f) Function group :

Nature of involvement with UPB?
Why? How? When? Assignment: performance:

Please Point out positive and negative sides of UPB & UPs (scale 100%, with serial/ranking)

1+	2+	3+	4+	5+	6+
1-	2-	3-	4-	5-	6-

Point out infrastructural requirement and problems of your area? Suggestions to solve the problems
Personal view: from group views :

Specific feature-wise mapping and plotting: existing & proposed, showing problems & suggestions

mobility pattern of the community based on specific aspects
daily :

weekly :

monthly/seasonal :

marketing place: daily weekly: monthly:

Present & previous occupation (primary + secondary if):

Opinion on UPB: Sharing concepts of UPB?

How work? By whom? Expectations?

What can be ? why fails?

Priority your required infrastructure

1. 2. 3.

1st session:
Listing common problems of UPs regarding and discharging the function of UPB
a. b. c. . . . . .n. th

2nd session:
Score against the problems nature and strength (score on each problems, out of hundred)
a. b. c. . . . . .n. th

Vehicle ownership pattern before and after Village/*para* wise through PRA:
No. of mode type of mode use
Own rent: cost/ unit? : van? Bicycle:

Having vehicle before and after Vehicle by community

No. of Van : no. of bicycle : motorbike:

Total roads length, type and distribution:

Information on roads both before and after

ROAD TYPE	Pucca (km)	Semi-Pucca (km)	Kutcha (km)
Good road			
Average road			
Poor road			

Information on accessible road both before and after

ROAD TYPE	Pucca (km)	Semi-Pucca (km)	Kutcha (km)
All weather access			
Reliable			
Minimum			

Trip pattern for both before and after

Route From – To	Mode	Distance (km)	Cost (Tk)	Time (minutes)	Satisfaction level (100%)	Remarks Open aspects

Kheya ghat users

Trip pattern:

From point: causes of trip:

To point causes of trip:

Accident records

According to LGED 14 type of land-use category identified

Physical verification and real measurement of 14 type (land-use and engineering survey):

Mouza based survey plot to plot, and verifying past record cross checking by neighboring

1	2	3	4	5	6	7
8	9	10	11	12	13	14

Code of the land/id: Amount of land in Acre:

Access regarding UPB ? identification of land-use conflicts:

Land value also identified with mouza for the major type mid-high land through (FGD, OD)

Mouza: Land type: Road Y/N: Value: Tk ……lakh/……

Name of team / date / place

Group id and remarks (details sheet if any)

Appendix XVI
Component Plan-wise Detail Operational Aspects of UPB
(According to LGED)

Component plan-wise detail field operations of UBP are described as given by LGED in UPB.[106]

1. Union Road Development Plan

Responsibilities of UP

The responsibilities of UP are: planning, implementation and maintenance of rural infrastructures; and also ensure coordination among involved rural institutions working at unions level; to assist LGED by providing information, staff, logistics and others supports. Here, each UP has an advisory committee to assist UP's planning and development functions under the frame work of UPB.

Responsibilities of LGED

For preparation of UBP, LGED provides technical assistances to UPs.

LGED is responsible for preparing the Upazila/Thana Plan Book (TPB) for the entire Upazila by collecting and compiling all UPBs of the Thana/Upazila.

Here, LGED plays the vital role for preparing TPB at Upazila level. It is assisted by an advisory committee at Upazila level.

Other important operational aspects for road development plan

Planning: The plan should include only those roads in the road development plan which the Thana/Upazila administration will be able to materialise completely within the five years plan period. In this plan, a few roads will have to be undertaken on priority basis so that by the last year of plan period such roads could permit round the year mobility.

[106] LGED, *op. cit.*, pp. 1-59

Construction Technology: It is beneficial to construct roads having standard quality. It should be noted that the roads that are being constructed will have to be maintained by the own resources of the Thana/Upazila administration and the Union Parishad. An incomplete/defective road is an economic burden for the people of the area. Due to repeated maintenance cost of such a road, the Parishad will face resource shortage. The technique of constructing a quality and durable road is to properly compact the earth and to have good drainage facility.

Caution: While constructing roads and embankments caution should be taken so that the embankments or roads under consideration do not block drainage. The embankments which will be converted into roads by the Union Parishad, the plan for such works must be attached with the Union Drainage and Embankment or Irrigation Plan. Consent from the Thana administration and the concerned engineer of BWDB should have to be taken to the effect that the irrigation system of the area will in on way be hampered due to construction of any new embankment in the area.

2. Union Drainage and Embankment Plan

Vested Responsibilities

Large schemes relating to drainage requiring higher level technical know-how and equipments will be vested upon the Bangladesh Water Development Board (BWDB).

The Union Parishad with assistance from the Thana administration, through drainage and embankment schemes can solve problems of local level small scale drainage system.

The important aspect of the local level schemes is that for the purpose of canal re-excavation and earth work of the embankment, the schemes are prepared and implemented locally.

Those local problems and designs for the flood protection, embankment, etc., which will need additional technical assistance, will be addressed by the BWDB through the Thana administration. The BWDB will provide its technical assistance in such a manner that the solution of a problem in a particular union will not create a new and bigger problem for any adjacent Union/Upazila. In this regard the XEN, LGED, too, will extend necessary technical co-operation and co-ordinate with the BWDB.

Upazila administration and Union Parishad will provide their necessary cooperation.

The technical resources obtained through the all out cooperation of BWDB and the Upazila administration should be properly utilised.

Other important operational aspects

Planning: Regarding the union drainage and embankment construction activities, the plans will be prepared by way of making a synthesis of the knowledge of the local inhabitants and the technical knowledge of the experts of the concerned approving authority. For being successful, the plans should be of necessity and reasonable.

In regard of adopting a construction strategy and preparation of the design as a part of preparing the Union Drainage and Embankment Schemes, the relevant parts of the "Earth Work Manual" prepared by the LGED will have to be followed. Also in connection with embankment repairing and maintenance too, the relevant portions of the above manual shall have to be followed. Similarly, if any *pucca* structure is required to be built in such a scheme, then for preparing its design and for carrying out its construction works, the concerned parts of the "Design Manual" and "Road Structure Manual" prepared by the LGED shall be followed.

3. Union Irrigation Plan

Delegation of Responsibilities

Bangladesh Water Development Board

The Bangladesh Water Development Board will extend technical assistance in regard of examining Union Irrigation Plan, provide advisory services for its development and assist in the preparation of the project designs of complicated water control structures.

The Bangladesh Water Development Board will operate the large water control structures and regulators and will provide irrigation where necessary.

Local Government Engineering Department

The Local Government Engineering Department will provide all types of technical assistance in regard of preparing the Union Irrigation plan. In this regard they will prepare the design manual and the plan of construction of the irrigation canal and water control structures to be constructed at the local level and submit the same to the Union Parishad. If necessary they will assist in the preparation of project through coordinating with Bangladesh Water Development Board, Bangladesh Agricultural Development Corporation (BADC) and other agencies. Especial training programme on the design, construction and maintenance of the irrigation schemes undertaken by the Union Parishad will be arranged.

Agricultural Extension Department

The Agricultural Extension Department will provide training on irrigation and preservation of seeds and sapling at the Thana Training and Development Centre (TTDC) and at union level. The Thana Agriculture Officer and his assistants will give assistance regarding supervision

Thana/Upazila Irrigation Committee

It will ensure that the concerned authority follow the instructions circulated by the Ministry of Agriculture on ideal technical procedures towards installation of irrigation machinery in the field, for example, spacing, zoning and sitting.

It will record all the agricultural machineries in the area in a register. It will also prepare Integrated Annual Plan for the irrigation, drainage and construction works with a view to develop and expand each irrigated area under the project.

TTDC and KSS

Here TTDC and KSS can assist the planning team by providing information.

4. Union Land Use Development Plan

Introduction

Juxtaposition of population pressure and limited available land postulates an optimum utilisation of land in this country. Further land-use development programme has emerged as an important issue as the developmental activities are being carried out at union level by various agencies to make the activities more people oriented by reaching the grass root level. Therefore, land use development plan needs to be considered as an integral part of the Union Plan Book. The methodology of developing the land use development plan will be similar and it must be compatible with the Union Parishad's expertise and the support likely from Thana/Upazila administration.

Responsibilities

Here to prepare UPB, UP will take the support from LGED and Upazila Agriculture Office. The Upazila/Thana Agriculture Officials will play an important role in the land use

development programme and other concerned officials of Thana administration and Union Parishad will extend necessary assistance. The Thana Engineer and the Thana Agriculture Officer will work together in order to achieve compatible decisions while preparing the land use maps. The Executive Engineer of LGED will arrange trainings and provide technical assistance in this regard. The economic aim of the land-use plan is to develop natural resources with appropriate and modern agricultural practice, so that food for present and future, housing, clothing and economic stability can be ensured for the people of the country. This implies that additional food, cash crop, and other commodities must be produced and sold on that purchase of implements and funds for financing other important sectors are made possible.

Proper utilisation of natural resources and opportunities can bring in a great economic achievement. The followings are a few examples of how appropriate land use can bring in benefits.

I. The clayey soils of plains which are not inundated and can retain water or where irrigation can easily be proved are suitable for paddy production
II. Perishable vegetables need to be produced near markets to facilitate marketing
III. Hilly areas are suitable for fruit gardens, because there it will not have to compete with more lucrative crops and will also help prevent soil erosion.

Guidelines/Aspects of Land-use Development Plan in UPB

I. Each parcel of land must be used in such a way so that the future generation can inherit it in a developed condition for the purpose of production. This indicates that land use must ensure prevention of soil erosion and maintaining of environmental balance not only for conservation of soil fertility but also to increase soil productivity.
II. Land use must be done in such a manner that the interest of any person, group or community is not hampered

III. Irrigation, canal excavation/re-excavation, embankment and road development plan preparation and implementation need to be carried out in such a way that without negotiation and agreement the rights/interests of individuals, group and community are not interfered

IV. Minimum agricultural land is to be used for urbanisation and development of industrial areas

V. Development of a proper socio-economic infrastructure is to be ensured so that technical assistance and implements are easily available to the producer and the produces can be marketed at least cost. Union drainage, embankment, road and irrigation programmes are very important components of land use development programmes

VI. Possible measures need to be taken to alleviate the damages caused by catastrophes like- floods, droughts and cyclones to agricultural production and other economic activities

The wisdom of the local leaders/elites/veterans and farmers earned through their experiences should be utilised. Discussions/meetings can be arranged in this connection to ensure peoples participation

Selection and Training of Survey Personnel

Survey is required to determine the existing land use pattern and development of the area. The concerned staffs of Thana Engineer's Office and Thana Agricultural Officer's Office should be assigned to undertake the survey work. A union is to be divided into three areas, similar to ward divisions.

Each ward supervisor will require to working in association with the Union Parishad Members who will introduce the ward supervisor to the local people and will help to get cooperation from the villagers in survey work.

It is likely that the person engaged in survey may not have idea about his work; therefore, he should be trained. Training will be both in theory and practice.

Supply and Procurements of Necessary Materials and Instruments

Existing land use distributions are to be shown on mouza maps. Later on those facts should be transferred to the union maps. Therefore, mouza map is essential for starting any work. The mouza maps are available in the District Record Room and can be procured from there on request. Other than the mouza maps, the surveyors need to be provided with legends, questionnaire, forms, tracing papers and other logistics.

Data Collection on Existing Land Use Through Survey

Present land use distributions should have to be investigated in order to prepare an effective land use plan. Where the existing land use practice is in no way lucrative, necessary changes can be introduced with the consent of farmers in those places.

Therefore an appraisal about existing land use and collection of land use data through survey is an essential step in land-use development planning. Appropriate training and supervision are the necessary preconditions for a good survey. The survey must be conducted with necessary cautions as the decisions that will be incorporated in the plan book will be based on the survey data and as such the plan book will not prove to be worthy if the task is not performed well.

Preparation of Union Maps

After preparing the land-use mouza maps, the maps and the land-use data collected will be transferred to prepare the Union Land Use Maps. In this regard The Thana Engineer and The Agriculture Officer will provide necessary technical assistance.

Collection of Opinions and Recommendations Regarding Land Use Development

After the preparation of Union Land Use Maps, the analysis and compilation of collected data will reveal many facts regarding existing land use pattern of different areas, ponds, irrigation facilities and the opportunities and potentials therein. These facts will be discussed in the meeting of Union Parishad and suggestions and recommendations about various land use aspects forwarded in that meeting are to be listed.

Preparation and Approval of Union Land Use Development Plan

When preparation of all the ward and union plans are completed, then by compiling those villages and union plan will be prepared. In case concerted efforts of more than one village is necessary for implementing for any project and if such a project is outside the list then the Union Parishad if willing may enlist it. Therefore, the Union Plan Book is a compilation of the village schemes along with some adaptations.

The concerned approving authority will consider and approve the Union Land Use Development Plan. Regarding scheme identification and selection, the concerned approving authority will examine and select schemes from the Union Plan Book prepared and planned by the Union Parishad and will approve the same for their implementation at the union level. While preparing the land use plan the Union Parishad will take into consideration the government policies and/or circulars issued from the ministry from to time to time, the technical knowledge of the concerned approving authority and assistances obtainable, local experience of the Union Parishad, and the economic significance of the scheme.

Plan Implementation, Evaluation and Modification

Implementation of the land development schemes entails understanding and cooperation between the public authorities and the villagers. Most of the materials and supplies are controlled by the Government authorities. If the requirements to implement the plan are not

estimated earlier and the necessary services and supplies are not ensured, then the farmers and the related personnel will lose hope and spirit.

Problem may arise during implementation and as such modification of the plan/strategy may be necessary. Attention is needed in this respect too.

Therefore, planning is a continuous process. For implementation, timely steps, continuous evaluation and necessary modifications or adoption of a new plan may be essential. If the measures are not taken with caution, then the process of the programme will certainly be hindered.

Appendix XVII
Pictorial Report
(Plates 1 to 21)

Plate 1: A good and all weather accessible road developed by CARE Bangladesh

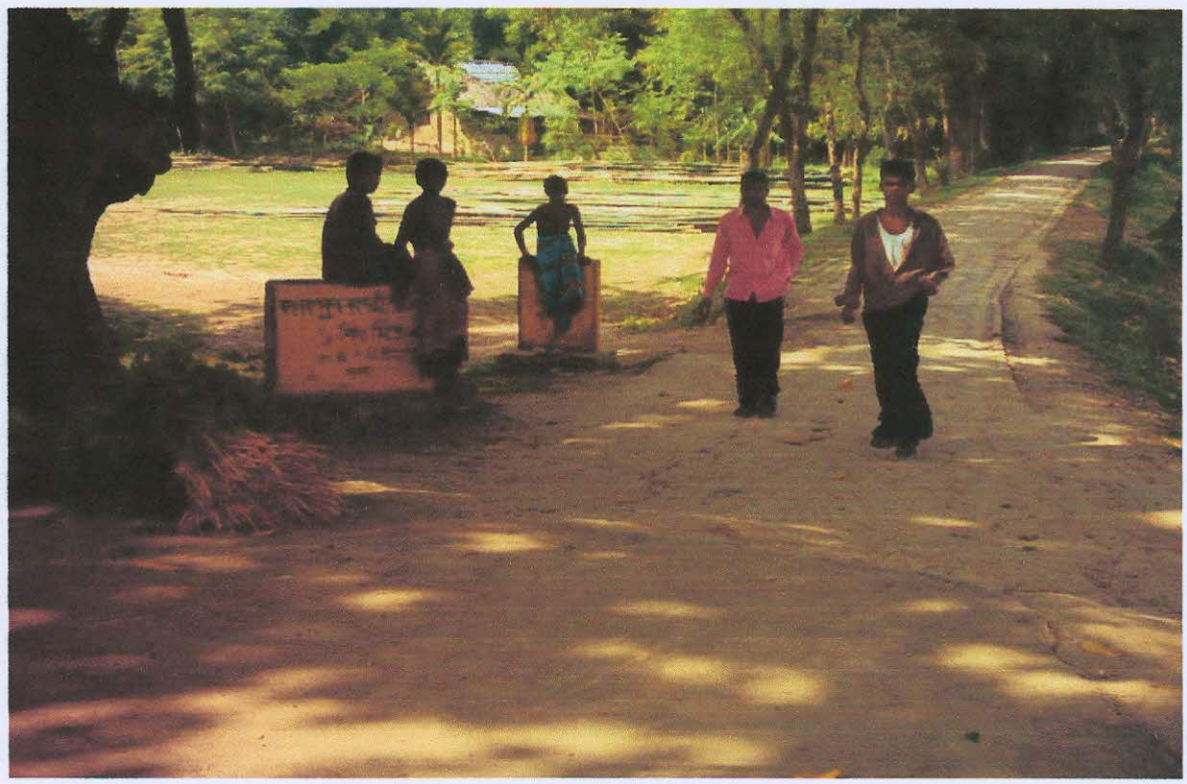


Plate 2: An avarage and reliable road developed by LGED

Plate 3: Damage point where major maintenance is required

Plate 4: Damage point by cutting embankment

Plate 5: Canal encroachment by settlement

Plate 6: Agricultural land converted to bamboo plantation

Plate 7: Agricultural land converted to dairy and poultry farm

Plate 8: Agricultural land converted to woodlot/block plantation

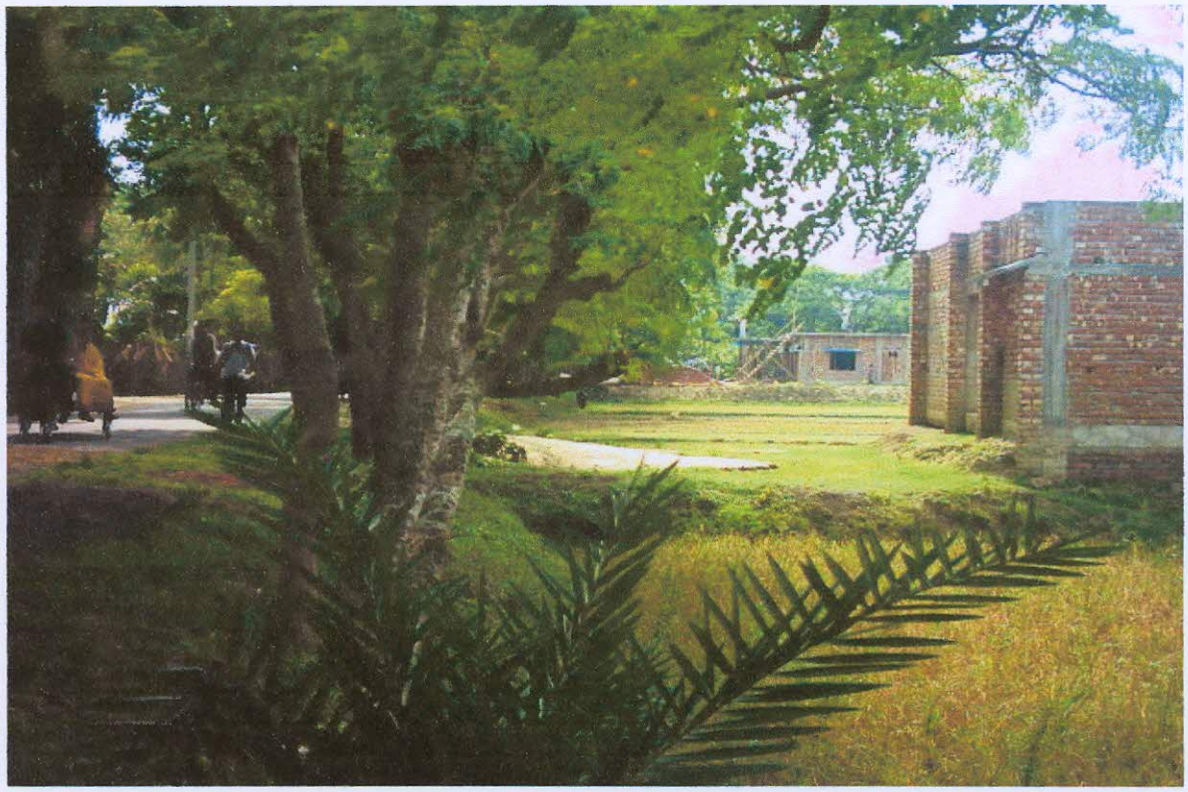


Plate 9: Land-use conflict between agricultural land and settlements, and new buildings are constructed in agricultural land. The development pattern is linear along the road and is forming ribbon type development.

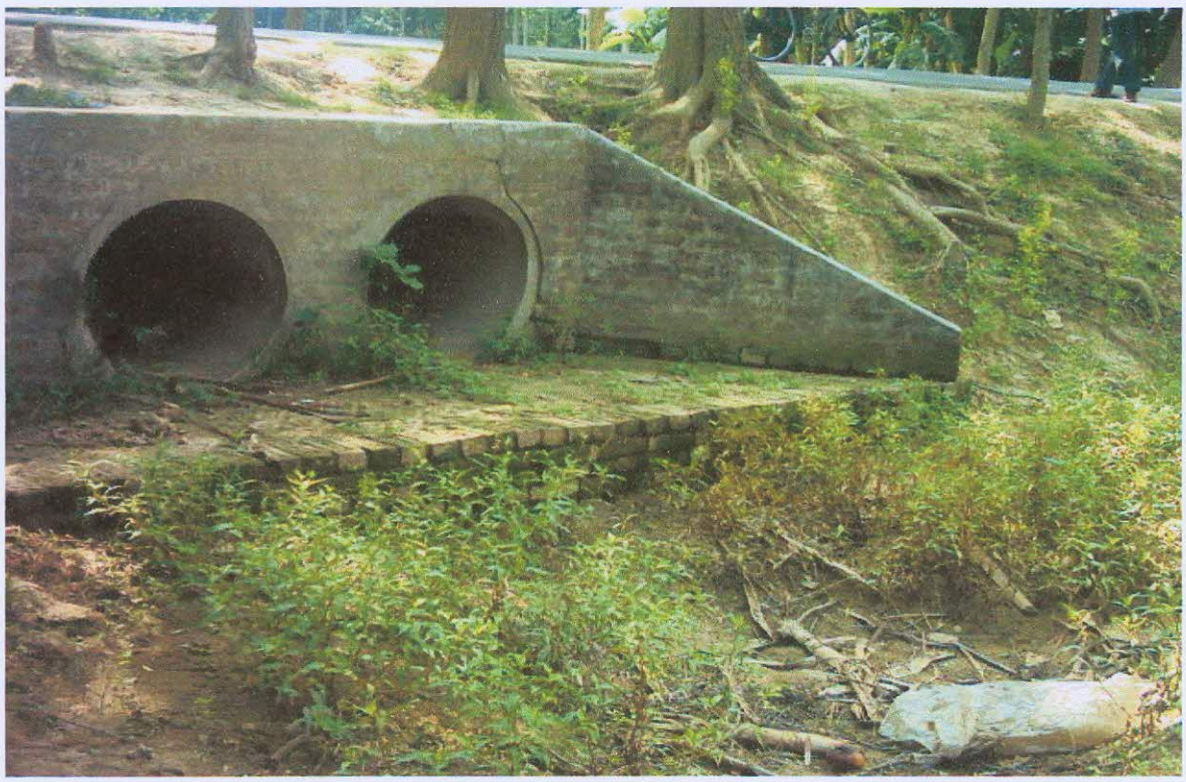


Plate 10: A tunnel for drain off water

Plate 11: Dighalia Ghat which is better and relatively safe

Plate 12: Senhati Ghat which is risky

Plate 13: Culvert constructed by the fund of Relief and rehabilitation ministry in 1993

Plate 14: Culvert constructed by LGED and CARE in 1995

Plate 15: Two culverts were constructed within two years and located at the same point; the photograph was taken from old one

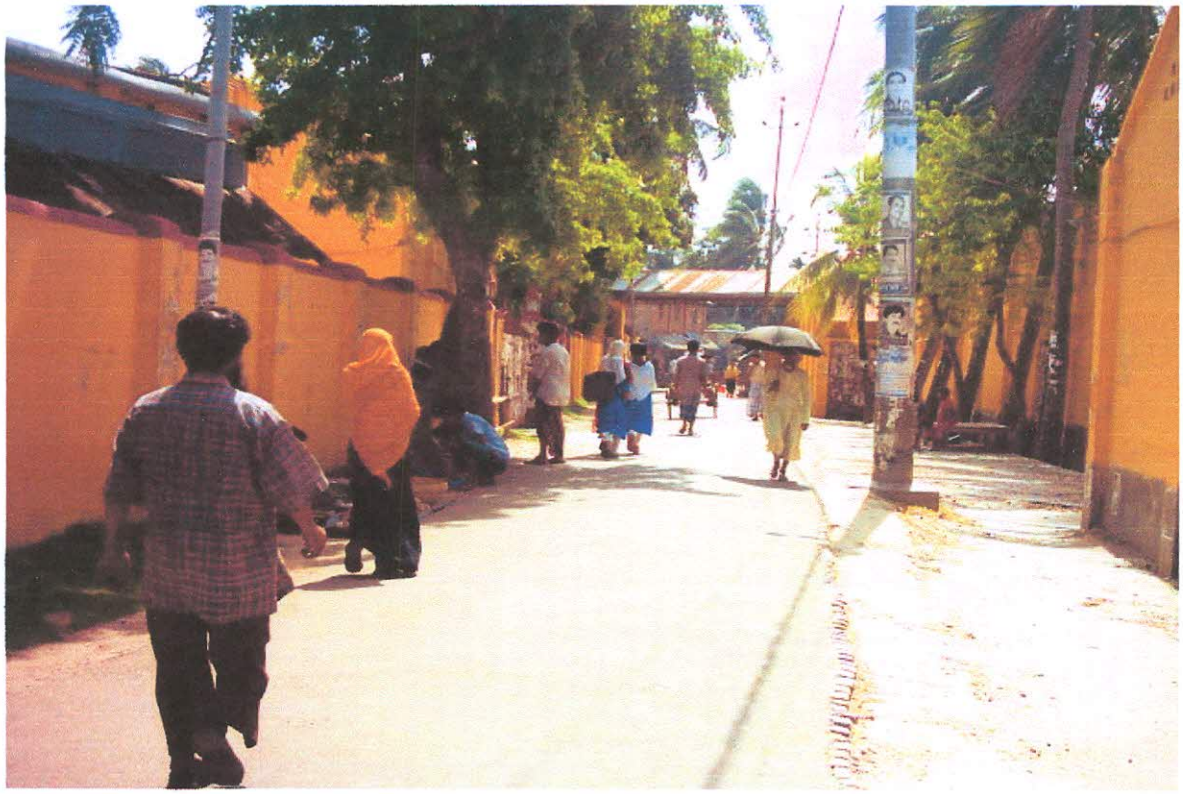


Plate 16: No industrial activities at industry premises in the study area

Plate 17: Fallow agricultural land beside settlement

Plate 18: Rickshaw-van only the mode of transport available in the study area

Plate 19: Bicycle stand used by commuters at Senhati Ghat in the study area

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Plate 20: Relatively safe kheya-ghat developed by a private industry for internal use

Plate 21: Under-pass irrigation channel that can be adopted; not cutting road and embankment