

**Local Government Engineering Department
Government of the People Republic of Bangladesh**

**Consultancy Services for Carrying Out Feasibility
Study and Review Study on Rural Growth Centre/Hat
Bazar under My Village My Town Project (MVMT)**



FINAL REPORT

FUTURE GCs, GCs UPGRADATION & FUTURE TOWNSHIP SELECTION

September 2022

PREPARED BY



DOCUMENT DETAILS

Document Title	Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)
Document Type	Final Report- Future GCs, GCs Upgradation & Future Township Selection
Project Ref. No.	2051210516
Date	10/09/2022
Author	1. EQMS Consulting Limited (Lead Firm) 2. Idyllic Design, 3. Solidaridad Network Asia
Client Name	LGED
Country	Bangladesh

DISTRIBUTION LIST

Hardcopy	Softcopy	CDs	Other form
✓	✓	×	

DOCUMENT HISTORY

Version	Date	Description	Reviewed by	Approved by
V-1	10 September 2022	Issue for Client Review	GM, IBR	MS

SIGNATURE PAGE

10 September 2022

Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

Reviewed by:

(Signature)



Name: Indu Bhushan Roy

Title: Deputy Team Leader-1 (Agricultural Marketing/ Economics Expert) &

Golam Mawla



Deputy Team Leader-2 (Rural Infrastructure Expert)

Approved by:

(Signature)



Name: Dr. Md. Mustafa Saroar

Title: Team Leader cum Regional Planner

EQMS Consulting Limited

House #53, Road #4, Block-C, Banani, Dhaka

Country: Bangladesh

info@eqms.com.bd | www.eqms.com.bd

This document has been prepared and reviewed by EQMS Consulting Limited, Idyllic Design & Solidaridad Network Asia with all responsible skill, care, and diligence within the terms of the contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This document is confidential to the client, and we accept no responsibility of whatsoever nature to third parties to whom this document, or any part thereof, is made known. Any such party relies on the document at their own risk.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	i
LIST OF TABLES.....	ii
1 INTRODUCTION.....	1-1
1.1 Background.....	1-1
1.2 Objective of the Study.....	1-2
1.2.1 General Objectives.....	1-2
1.3 Study Area under the Assignment.....	1-2
1.4 Team Composition.....	1-3
2 STUDY-01, 02, 08 & 09.....	2-1
2.1 Introduction.....	2-1
2.2 Goal and Objectives.....	2-1
2.3 Strategic Approaches to Work.....	2-1
2.4 Common Methodological Framework for Study 1, 2, 8 & 9.....	2-2
2.4.1 Literature & Policy Review.....	2-2
2.4.2 Strategic Approach to Work.....	2-3
2.4.3 Parameter Selection for GCs and HBs.....	2-3
2.4.4 Finalization of Parameters and their relative weights.....	2-4
2.4.5 Scale/Interval data normalization for preparation of performance index.....	2-5
2.4.6 Formula used for simple linear scaling normalization.....	2-6
2.4.7 Preparation of Market Performance Index n.....	2-6
2.5 Study 2: Review and Update the Current list of Growth Center and Hat-Bazar.....	2-6
2.5.1 Scope of work.....	2-6
2.6 Study 2: Selection of New HBs for Upgrading as GCs.....	2-7
2.6.1 Scope of work.....	2-7
2.6.2 Methodological Framework for HBs selection of Upgrading as GC.....	2-7
2.7 Study 8: Selection of New GCs for Upgrading/Improvement.....	2-7
2.7.1 Scope of work.....	2-7
2.7.2 Methodological Framework for GCs selection for Upgrading/ Development.....	2-7
2.8 Study 9: Selection of GCs for Future Township.....	2-8
2.8.1 Scope of work.....	2-8
2.8.2 Methodological Framework for GCs selection for Upgrading as Town.....	2-8
2.9 Summary of GCs and HBs of all Divisions.....	2-10
2.10 Summary of GCs and HBs Market Performance Ranking of all Divisions.....	2-11
2.11 Summary of GCs and HBs Market Performance Ranking of all Divisions.....	2-12

Draft Report

Project Name: Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

LIST OF TABLES

Table 1-1: Team Composition.....	1-3
Table 2-1: Parameters and their relative weights for GCs & HBs performance assessment	2-5
Table 2-14: Number of GCs and HBs amount of all Divisions.....	2-10

CHAPTER 1

Introduction

1 INTRODUCTION

1.1 Background

In 1950, 30% of the total population were living in the city which is 55% in 2020 and prediction says the rate will reach up to 66% in 2050 globally. Rapid urbanization and migrating to urban areas for better livelihood made the city challenging to ensure good services. Cities become overpopulated and overburdened to confirm quality life.

The country is celebrating the 100 years of the great Leader's Birthday and 50th anniversary of Independence. Developing the Nation, the policy was made in 1971 by the leadership of Bangobondhu Sheikh Mujibur Rahman. In our constitution, article number 16, it is clearly mentioned about *"Rural Development and Agricultural Revolution: The State shall adopt effective measures to bring about a radical transformation in the rural areas through the promotion of an agricultural revolution, the provision of rural electrification, the development of cottage and other industries, and the improvement of education, communications and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rules areas"*. The root inspiration and guidance now become the mission of changing perspectives. Now ample opportunities will be confirmed in rural development plans.

Addressing the challenges to incorporate opportunities in village, creating opportunities for the deprived, balancing economic development, doors of prospects for youth, fostering agricultural revolution, truly empowering women, gender parity and child welfare, and safeguarding the prosperities; "My Village-My Town" project is the factual countenance of intention.

The project plan reveals the beauty of rural landscape and its integrity, all the urban facilities shall be unified to spectacle rural culture and essence. Village will be a happening place and piece of land, a true reflection of "Golden Bangla". Facilities of town in village will ensure the following facilities:

- Planned houses
- Paved road
- Aesthetical Bridges/culverts
- Utility line in House
- Electricity, Water, Sanitation
- Modern school/Institutes
- Shopping Mall
- Health Centre
- HatBazar/Growth Center
- Community Space
- Refreshment amenities
- Street LED Light
- Factories
- Waste Management

According to the Premier of Bangladesh, the rural development should not be a pocket and temporary. Renovating and reforming agricultural trends, rural development shall be total comprehensive and sustainable development. Agricultural products shall be marketed with fair price and storing for identical circulation. Citizens should obtain agricultural products easily within the optimum price. Culture and heritage should be prioritized and accounted for in widening the opportunities to rural people for encouraging the SMEs and entrepreneurships. Please describe about the background of the project.

Growth centers and hat bazars constitute the economic lifeline of rural economy. Since independence the role of **the rural markets in the economic development** of Bangladesh was remarkable. These

rural markets facilitate the supply chain for the goods and services produced and consumed by the **rural population** of Bangladesh. However, to meet the emerging challenges of **economic progression to middle income country**, better food and nutrition security, rural livelihood security and livability in villages, the economic infrastructure of the rural landscape needs to be more integrated and responsive.

Proper planning and development of these rural markets is essential for vibrant rural economy, effective trade, and linkage between rural and urban areas of Bangladesh. This will not only integrate the whole country into a seamless network but will also ensure secure and prosperous **livelihood for rural producers**, especially farmers.

Under this current study, **growth center and hat-bazar throughout** the country will be prioritized for development and locations will be selected for potential township development, land-pooling study will be conducted for making land available for rural markets, development proposal for collection centers and special markets will also be prepared.

1.2 Objective of the Study

1.2.1 General Objectives

The general objectives of this feasibility/ reviewing study are following:

- a) Identify and prioritize growth centers and rural markets for development to facilitate rural economy and product value chain.
- b) Explore public private partnership potential for increasing land availability for rural markets.
- c) Develop construction and management system for collection center and special bazar to support product value chain.
- d) Identify potential urban centers for future township development.

Study-01, 02, 08 & 09: Countrywide data compilation of growth centers and rural markets, prepare a framework/methodology for prioritizing growth center for development with an objective to generate accelerated rural economic growth considering development requirement up to 2040. Selecting growth-center for capacity extension with infrastructure, water supply and waste management.

- a) Review and update the current list of growth center and hat-bazar
- b) Develop a framework for selecting new GCs
- c) Identify and prioritize GCs for investment/capacity expansion.
- d) Identify potential urban centers with reference to the growth centers for potential future growth center development.

1.3 Study Area under the Assignment

According to the theory of urban and regional planning growth centre is considered as “growth pole”. In the interest of development of rural economy, there is a need to build urban centers with more economic activities near the villages with urban facilities. The Seventh Five Year Plan calls for the development of such growth-centric urban centers. Such city centers will be set up in a number of selected growth centers to implement the “My Village-My Town” pledge. Economic Zones, Industrial Areas, Growth Centers adjacent to Economic Corridor will be given priority in this regard.

In the 1980s, 1,400 rural hats and bazaars across the country were given the status of growth centers. Later, another 700 rural hat-bazaars got status as growth centers and 2,100 growth centers were identified as growth centres across the country. Each Upazila Sadar is considered as a Growth Center and 4-8 Growth Centers are determined in each Upazila.

In addition to this there are now 15,555 hat bazaars in the country excluding 2,100 identified growth centers. Almost all the growth centers and 2,250 hat bazaars of the country have been developed. The rural hat bazaars of Bangladesh have not been developed as planned way by the government initiative.

Draft Report

Project Name: Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

These hats and bazaars have been developed at different times for social needs. Subsequently, some infrastructural development of the existing hat bazaar has been done under various projects. The amount of government land in many hatbazar is very limited. There is also less scope for expansion for development.

Goals:

1. Development of 400 urban growth centers across the country (with improved water supply, waste management, land use planning, electrification, improved communication, and education-health facilities).
2. Development of 520 modern growth centers/hat bazar across the country in a plan way.
3. Development of 500 hat bazaars from ongoing projects

1.4 Team Composition

Table 1-1: Team Composition

S/N	Name	Code	Position Assigned/Role
1	Dr. Md. Mustafa Saroar	MS	Team Leader cum Regional Planner
2	Indu Bhushan Roy	IBR	Deputy Team Leader-1 (Agricultural Marketing/ Economics Expert)
3	Md. Golam Mawla	GM	Deputy Team Leader-2 (Rural Infrastructure Expert)
4	Dr. AHM Mustain Billah	MB	Public Private Partnership Expert
5	Md. Ashrafal Alum	AA	Senior Architect
6	AFM Ferdous	AFM	Urban Planner
7	Md. Moziball Hoque	MH	Agricultural Marketing Expert
8	Md. Tanvir Hossain Chowdhury	TH	Junior Architect
9	Md. Zahidul Islam	ZI	GIS Expert
10	Farah Shamima Sultana	FSS	Junior GIS Expert
11	Md. Jubayer Ahmed	JA	AutoCAD Operator
12	Engr. Md Najmul Hossen	NH	Project Manager

CHAPTER 2

Study-01, 02, 08 & 09: Countrywide data compilation of growth centers and rural markets, prepare a framework/methodology for prioritizing growth center for development with an objective to generate accelerated rural economic growth considering development requirement up to 2040. Selecting growth-center for capacity extension with infrastructure, water supply and waste management

2 STUDY-01, 02, 08 & 09

2.1 Introduction

Since independence the 3 pillars of Rural Development have been centered on enhanced rural agricultural production, improved rural infrastructures, and rural employment generation. Growth centers and hat bazars alongside transport infrastructures constitute the economic lifeline of rural economy as the GCs and HBs influence the above three pillars of rural development. Nonetheless, attempts since 1980s to develop the Growth Centers (GCs) and Hat Bazars (HBs) were piecemeal and sporadic. Election manifesto of present government has paved the way for integrated GC/HB development in a nested hierarchy of settlements comprising of other higher order settlements such as towns, cities, and metropolises. Current government has given high priority to bring urban services to rural setting through My Village My Town (MTMV) project. MVMT embarks on rural township development through modernization of GCs and HBs to meet the emerging challenges to be middle income country by 2030.

Improved and integrated development of network of GCs & HBs requires assessment of current condition of GCs & HBs, identification of infrastructures' need for improved value chain development, engagement of private sector for expansion and prioritization of GCs & HBs for potential township development. In line with the above requirements, this Feasibility Study and Review Study (the study 1, 2, 8 & 9) on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT) has been conducted. The following couple of sections present the general goal/objectives and common methodological part of all the four studies. The specific methodological framework for each of 1, 2, 8 & 9 studies are presented in relevant sections later of this chapter/section.

2.2 Goal and Objectives

Goals

- Strengthen Rural Urban Linkage through planned development of rural markets/ value chain.
- Enhance rural economy by integrating value chain of farm and non-farm products.
- Create a network of small townships based on growth centers.

Objectives

- Identify and prioritize growth centers and rural markets for development to facilitate rural economy and product value chain.
- Explore public private partnership potential for increasing land availability for rural markets' expansion and capacity development.
- Develop construction and management system for collection center and special bazar to support product value chain.
- Identify potential urban centers for future township development.

2.3 Strategic Approaches to Work

- Locate current GCs and HB in maps.
- Review literature/previous studies, policies, plan, programs and projects concerning characteristics and role of GCs and HBs in rural development.
- Identify a non-exhaustive list of parameters of GCs and HBs from review of literature, policies, and practices.
- Selects a set of parameters.
 - ✓ for which no additional effort to data collection would be required,

- ✓ data and information are readily available and could be used with simple quantitative manipulation (e.g., replicable model) in performance analysis of current GCs and HBs,
- ✓ which would capture maximum possible variability in performance analysis of HBs and GCs.
- Finalize parameters drawing on stakeholders' perception, experience and their potential role in sustainability, economic efficiency/attractiveness, and social and spatial equity in rural Bangladesh.
- One of the important considerations of finalization of parameters is- number of parameters should be such that one or few parameters should not weight the cumulative effects of others. Therefore, maximum possible parameters most having almost similar effects are selected rather than a few.
- Development and execution of a methodological framework for
 - ✓ selection of GCs for capacity expansion.
 - ✓ selection of HBs to upgrade/to develop as GCs.
 - ✓ selection of GCs (around 400) for future township development.
- Combine efficiency, equity and locational criteria to develop priority of selection of rural markets, GCs and urban centers for potential investment.
- Categorize the existing GCs and HBs for better integration of the agricultural value chain.
- Extend the list of current growth centers based on the prioritization framework.
- Prepare maps and networks of markets and urban centers.

2.4 Common Methodological Framework for Study 1, 2, 8 & 9

2.4.1 Literature & Policy Review

In the previous literature review and Theatrical aspects of GCs and HBs sections the literature and policy review are present. The following policy documents, plans and studies have been consulted to accomplish various aspects of the study 1, 2, 8, & 9.

1. Outline Perspective Plan of Bangladesh 2010-2021: Making Vision 2021 a Reality (Perspective Plan),
2. Sustainable Development Goals: Bangladesh Progress Report 2020
3. Making Vision 2041 a Reality: Perspective Plan of Bangladesh 2021-2041,
4. National Rural Development Policy 2001,
5. National Urban Sector Policy in 2011 (Daft NUSP 2011),
6. Northern Region Rural Development and Local Governance Improvement Project (NRRDLGIP),
7. South-Western Bangladesh Rural Development Project (2010-)
8. Bangladesh Rural Infrastructure Strategy (1996),
9. National Strategy for Accelerated Poverty Reduction (Planning Commission, 2009),
10. Rural Roads Master Plan (LGED, 2005)
11. Rural Road Maintenance Policy 2012 (Daft LGED 2012)
12. LGED's Strategy, Guidelines and Environmental Code of Practices
13. Rural Road Maintenance Policy, 2011
14. 8th Five Year Plan 2020-2025
15. Bangladesh Delta Plan 2100
16. The Environmental Conservation Acts (ECA), 1995 and Amendments
17. The Environment Conservation Rules (ECR), 1997 and Amendments
18. National Fisheries Policy, 1999

Draft Report

Project Name: Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

19. Wetland Policy, 1998
20. National Water Policy (NWP), 1999
21. National Agricultural Policy, 1999
22. National Land Use Policy, 2001
23. National Water Management Plan (NWMP), 2001 (approved in 2004)
24. Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009
25. National Plan for Disaster Management (2021-2025) : Action for Disaster Risk Management Towards Resilient Nation
26. Acquisition & Requisition of Immovable Property Act, 2017
27. Policy and Strategy for Public-Private Partnership (PPP), 2010
28. PPP Law 2015
29. Procurement Guideline for PPP Projects, 2018
30. Framework for leasing of Government (Khas) agricultural land

2.4.2 Strategic Approach to Work

- Review literature/previous studies, policies, plan, programs, and projects concerning rural development and the role of GC and HBs.
- Identify a non-exhaustive list of parameters of GCs and HBs from review of literature, policy and practice.
- Selects a set of parameters.
 - ✓ for which no additional effort to collect data would be required,
 - ✓ data and information are readily available and could be used with simple quantitative manipulation (e.g., replicable model) in performance analysis of current GCs and HBs,
 - ✓ which would capture maximum possible variability in performance analysis of HBs and GCs.
 - ✓ Locate current GCs and HB in maps.
- Development and execution of a methodological framework for
 - ✓ updating of HBs & GCs
 - ✓ selection of HBs to upgrade/to develop as GCs.
 - ✓ selection of GCs for capacity expansion
 - ✓ selection of GCs (around 400) for future township development
- Combine efficiency, equity, and locational criteria to develop priority of selection of rural markets, GCs, and urban centers for potential investment.
- Extend the list of current growth centers based on the prioritization framework.
- Prepare maps and networks of markets and urban centers.

2.4.3 Parameter Selection for GCs and HBs

Selection of an appropriate range of parameters for performance analysis of GCs and HBs for ranking and prioritization aimed at intervention for development is a challenging task. While scholarly literature on industrial locations are overwhelmingly enormous, the literature on rural market development are rather limited and classic. Although the rural markets/center of exchange are as old as human civilization, yet some scholars believe that the theoretical underpinning of rural market (specially GC) development lies to growth pole theory developed in the middle of the last century and central place theory of Christaller and Losch developed in the early to middle of the last century. They have broadly identified/indicated geographical/spatial factors, economic factors, resource endowments factors,

Draft Report

Project Name: Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

transportation factors, along with threshold population as the dominant factors of growth pole and central place. Although central place and growth pole perform high order and complex functions than a rural market in many respects, they share the similar nature of characteristic/parameters.

From review of literature, policy and practices the following parameters/factors appear to have role in growth and development of rural markets.

- Terrain condition and spatial arrangement
- Transportation and communication system/infrastructure
- Hydro-meteorological factors
- Availability of buildable land (primarily government owned)
- Diversity of agricultural products and their production
- Labor supply potential, migration and wage and poverty
- Demand and supply of agricultural inputs
- Technological innovation
- Market infrastructures and services, facilities
- Market management system and governance.

As this study heavily draws on available data and information, we made an inventory of parameters closely related to above factors for which no additional efforts are required to collect data/information as already available. From our initial listing the following parameters have been emerged to use in our study.

- Types of rural market: if hat/bazar or growth center
- Age of the market based on establishment year.
- If the rural market is enlisted by government
- If the market has government approved periphery
- If the market is for all kind of product trading or special products or act as collection center only
- If the market is for retail, or wholesale or for both types of trading activities
- If the rural market operates daily, biweekly, weekly etc.
- If the rural market houses Chandina Viti (number and covered area)
- Number of shops in the markets
- Area allocated for toha bazar
- Available khas land (govt land) in the market
- Available private land in/around rural market for potential use/expansion
- Market leasing authority
- Revenue flow from the rural market
- Market activity/attractiveness
- Close proximity of important economic zone/corridor, industrial agglomeration, strategic infrastructure, and transportation hub/node/transit or network

2.4.4 Finalization of Parameters and their relative weights

Although identification of ranges of parameters is based on literature, policy and practice, however, finalization of parameters was initially intuitive, iterative and deterministic (in terms of number). The key statistical criteria of parameter finalization is the absence of significant collinearity or multi collegiality. Finally, 11 parameters appear to satisfy this (in all cases r values are less than .70 at p value $>.05$).

It means possibility of inflated role of each of the parameters in rural market development is nearly absent. So, parameter selection is statistically valid. The relative weight assigned to each parameter and their attributes was a consultative process with relevant experts and stakeholders backed by relevant literature. However, for parameters originally measured as scale/interval variables a

normalized (linear scaling) procedure is followed. To reduce the impact of extreme outliers, 0.5% extreme value treatment/truncating procedure is followed; truncating of upto 5% extreme value is observed in quantitative literature.

In the following table finally selected parameters and their relative weightages are presented.

Table 2-1: Parameters and their relative weights for GCs & HBs performance assessment

Parameter	Weight	Weight distribution		
Market Type	0.1	GC: 0.10	Hat: .05	
If the market periphery is approved	0.05	Yes: .05	No: .01	
Classification of market	0.05	GM: .05	CC: 0.03	SM: 0.01
Product trading type in market	0.05	WS: .01	RS: 0.03	BS: .05
Number of market days/week	0.05	D: .01	2-3 D: .05	W: 0.03
Number of Chandina viti in market	0.05	Linear Scaling Normalized & then multiplied by weight 0.05		
Number of shops in the market	0.05	Linear Scaling Normalized & then multiplied by weight 0.05		
Area covered by "Toha Bazar" (acre)	0.10	Linear Scaling Normalized & then multiplied by weight 0.10		
Khas land in the market (acre)	0.1	Linear Scaling Normalized & then multiplied by weight 0.10		
Private land in the market (acre)	0.05	Linear Scaling Normalized & then multiplied by weight 0.05		
Average market lease revenue (last 5 years: taka)	0.35	Linear Scaling Normalized & then multiplied by weight 0.35		

Although proximity of impotent industrial, business and transportation hub/node or network is an impotent parameter, it is not used in this indexing due to paucity of relevant information for most of the HBs/GCs. However, for spatial analysis later while selecting HBs for upgradation as GCs and selecting GCs for Development/Upgradation, and for identification of future town center these types of spatial factors are used which are elaborated in relevant sections.

2.4.5 Scale/Interval data normalization for preparation of performance index

For normalization of data following options are generally used. Among the options, we have chosen linear scaling transformation (LS) for its some advantages over others which are presented in the table blow.

Data Transformation/ Normalization	Method of Data Transformation/ Normalization	Formula of LS Transformation
<ul style="list-style-type: none"> To have uniform unit of measurement 	<ul style="list-style-type: none"> Log Transformation 	We want to avoid complexities; no Log Transformation done also for presence of extreme values

• To remove high variability	• Z-score Transformation	We want to avoid negative value; no z score normalization is done
	• Linear Scaling Transformation	We followed simple LS

2.4.6 Formula used for simple linear scaling normalization

Following formula is used for simple linear scaling normalization of parameter/variable such as revenue from market

$$z_i = (x_i - \min(x)) / (\max(x) - \min(x))$$

2.4.7 Preparation of Market Performance Index n

For each of the 11 parameters [sub] index is prepared, and they are summated up to have market performance index which range from 0 to 1.

Therefore, each enlisted market attains an index value. Average index value and standard deviation is computed. Final index values of all markets (HBs and GCs) is divided/classified in four group.

Group 1, low performing markets: 0 to index score blow (average index score – 1.5 X standard deviation)

Group 2, below average performing markets: index score between (average index score – 1.5 X standard deviation) and average index score

Group 3, above average performing markets: index score between average index score and (average index score + 1.5 X standard deviation)

Group 4, high performing markets: index score between (average index score + 1.5 X standard deviation) and 1. If final market index values are normally distributed, 65% to 95% markets would be below average to above average performer. And 2.5% to 17.5% market could be either High performer or low performer. Our analysis shows that the Shapiro-Wilk Test of Normality/Q-Q Plots for index scores of HBs and GCs are normal/near normal, i.e. significance value greater than .05/close to .05. Intuitively, we can expect, we will have approximately 10% of the market performing high.

2.5 Study 2: Review and Update the Current list of Growth Center and Hat-Bazar

2.5.1 Scope of work

Here the task is to prepare an updated list of GCs and HBs based on data provided by the client and readily available data from other sources. Primarily, data are scrutinized and location maps of all GCs and HBs are prepared using the shape files of LGED.

- Spatial data are scrutinized and location of all GCs and HBs are updated on LGED’s shape files.
- Many markets (mostly HBs) are not functional/non-existent due to river erosion, judicial dispute, or abandoned/converted to other uses. These are updated.
- In extreme cases personal communication is made with local residents to have an informed estimation of their location from Google maps and later some percent are validated though ground truthing.
- For GCs & HBs which are not in the existing shape file/GIS database of LGED, other sources are consulted to have their spatial location (X, Y coordinates).

2.6 Study 2: Selection of New HBs for Upgrading as GCs

2.6.1 Scope of work

Here the task is to prepare a priority list of HBs which could be upgraded/developed though planned investment as GCs. The list of priority HBs is obtained from the ranking of HBs prepare earlier if certain spatial criteria satisfy. The methodology is presented blow.

2.6.2 Methodological Framework for HBs selection of Upgrading as GC

We have identified from the performance index those HBs which score high (4 category) and above average (3 category) to be possible candidate for upgradation as GCs if following combination of criteria satisfy.

- It is outside of the periphery of existing town center/urban area.
- From performance index those HBs score high (4 & 3 category) are upgraded/developed as future GCs from efficiency perspective.
- If any upazila does not have sufficient HBs that score Above average & High (category 3 & 4), the category 2 (below average performing) HBs would be considered for upgrading/developing as new GCs from spatial/strategic equity ground if –
 - ✓ Its core is at least 5 to 7 away of the core of existing GCs.
 - ✓ Its thiessen polygon area is at least 35 sq km. Previously it was planned that for every 2 union there will be one GC. As Bangladesh has about 4600 Union Parishad the number of GCs should be approximately 2300. Initially in 1987, 1400 and later in 1994 additional 700 GCs were determined. The World Bank report/study in 2006, recommended not to extend the number of GCs for next 10 years (until 2016). Now it is 2022; we consider for every 1.5 Union there should be one GC. In 147000 Sq km Bangladesh, average size of one union is 37 sq km.
- The thiessen polygon of candidate HBs should have more than 25000 population which will be obtained from adding the proportionate population of UP falling within that thissen polygon.
- For equally deserving HBs to be GCs, HBs having location within 2 km of National/regional highways (RHD) a given priority
- For equally deserving HBs to be GCs, HBs having location within 1 km of LGED roads are given priority
- The high populated/settlement area will also be getting the importance for GC future development.
- The environment constraint location such haor area, protected area or other critical area will get less priority.

2.7 Study 8: Selection of New GCs for Upgrading/Improvement

2.7.1 Scope of work

Here the task is to prepare a priority list of GCs which could be upgraded/developed though planned investment. The list of priority GCs is obtained from the ranking of GCs prepared earlier if certain spatial criteria satisfy. The specific methodology is presented blow.

2.7.2 Methodological Framework for GCs selection for Upgrading/Development

We have identified from the performance index those GCs which score above average (3 category) to be possible candidate for upgradation/development though planned investment if following combination of criteria satisfy.

Overlaying with flood map show it is in flood free area/zone.

- From performance index those GCs score above average (category 3) (category 4 GCs are candidate for future township) are prioritized for capacity expansion from efficiency perspective if located 5-7+ km apart from nearest GCs.
- If any upazila does not have GCs that score above average (category 3), the category 2 (below average performing) GCs would be considered for capacity expansion from spatial equity ground.
- For 2 equally qualified GCs priority will be given for one that is
 - ✓ within 2 km of National/regional /District highways (RHD) & 1 km of LGED all weather roads.
- We avoided category 4 GCs for two reasons. First, this group is a possible candidate for future Township development. Second, category 4 GCs would be at their pick of growth Curve, therefore as GC they would have less chance to grow further even if investment is made or marginal rate of return for investment would be low as compared to one that is still growing as GC (i.e., category 3).
- For equally deserving HBs to be GCs, HBs having location within 2 km of National/regional highways (RHD) are given priority
- For equally deserving HBs to be GCs, HBs having location within 1 km of LGED roads are given priority
- The high populated/settlement area will also be getting the importance for GC future development.
- The environment constraint location such as haor area, protected area or other critical area will get less priority.
- 1 & 2 Ranked GCs will not be considered for GCs for future development.

2.8 Study 9: Selection of GCs for Future Township

2.8.1 Scope of work

Here the task is to prepare a priority list of GCs which could be upgraded to township through planned investment. The list of priority GCs is obtained from the ranking of GCs prepared earlier if certain spatial criteria satisfy. The specific methodology is presented below.

2.8.2 Methodological Framework for GCs selection for Upgrading as Town

We have identified from the performance index those GCs which score high (4 category) to be possible candidate for upgradation/development through planned investment if following combination of criteria satisfy.

Overlaying with flood map show it is in flood free area/zone.

- From performance index those GCs score high (category 4) are normally candidate for future township development.
- However, as township has high order multiple functions and roles, some other spatial & strategic parameters are considered which include:
 - Located at least 5 km buffer (away) of nearest urban area boundary
 - Located within 2 km of National/regional /District highways (RHD) & 1 km of LGED all weather roads
 - Close proximity to economic growth corridor, EPZ/SEZ, strategic infrastructure- port, mega power station, transportation hub/transit
 - Identifiable buildable land- less subject to extreme events

Draft Report

Project Name: Consultancy Services for Carrying Out Feasibility Study and Review Study on Rural Growth Centre/Hat Bazar under My Village My Town Project (MVMT)

- For equally deserving HBs to be GCs, HBs having location within 2 km of National/regional highways (RHD) a given priority
- For equally deserving HBs to be GCs, HBs having location within 1 km of LGED roads are given priority
- It is located close proximity to impotent other economic infrastructure such as port, industrial estate, growth corridor etc. etc.
- 4 ranked GCs suggested as future township, when it located 5-7 km distance from another 4 rank GCs.
- The environment constraint location such haor area, protected area or other critical area will get less priority.

2.9 Summary of GCs and HBs of all Divisions

Table 2-2: Number of GCs and HBs amount of all Divisions

Division	Total	Listed	Unlisted	GC (Listed)	GC (Unlisted)	GC (Total)	HB (Listed)	HB (Unlisted)	HB (Total)
Barishal	1721	984	737	146	30	176	838	707	1545
Chattogram	3130	1745	1385	295	78	373	1450	1307	2757
Dhaka	3390	1590	1800	295	86	381	1295	1714	3009
Khulna	2479	1459	1020	234	45	279	1225	975	2200
Mymensingh	1758	842	916	133	29	162	709	887	1596
Rajshahi	2337	1207	1130	225	60	285	982	1070	2052
Rangpur	2207	1347	860	218	37	255	1129	823	1952
Sylhet	1205	779	426	141	21	162	638	405	1043
Grand Total	18227	9953	8274	1687	386	2073	8266	7888	16154

2.10 Summary of GCs and HBs Market Performance Ranking of all Divisions

Division	Total	Listed	Unlisted	1 Rank (GC)	2 Rank (GC)	3 Rank (GC)	4 Rank (GC)	1 Rank (HB)	2 Rank (HB)	3 Rank (HB)	4 Rank (HB)
Barishal	1721	984	737		7	83	54	3	619	193	23
Chattogram	3130	1745	1385		14	182	98	31	923	450	46
Dhaka	3390	1590	1800		19	152	124	85	723	476	11
Khulna	2479	1459	1020		11	116	107	47	770	399	9
Mymensingh	1758	842	916		5	74	54	14	468	217	10
Rajshahi	2337	1207	1130		10	150	65	28	620	325	9
Rangpur	2207	1347	860	58	91	59	10	260	472	342	55
Sylhet	1205	779	426	1	8	74	58	17	386	233	2
Grand Total	18227	9953	8274	59	165	890	570	485	4981	2635	165

2.11 Summary of GCs and HBs Market Performance Ranking of all Divisions

Division	Total	Listed	Unlisted	GC Proposed for Future Township	GC Proposed for Upgradation	HB Proposed for GC	HB Proposed for GC (Spatial Equity)	HB Proposed for GC (Strategic Equity)	Proposed GC Total
Barishal	1721	984	737	24	42	38	36	6	80
Chattogram	3130	1745	1385	32	100	74	51	9	134
Dhaka	3390	1590	1800	44	62	37	18	14	69
Khulna	2479	1459	1020	45	57	33	23	11	67
Mymensingh	1758	842	916	29	33	33	19	3	55
Rajshahi	2337	1207	1130	27	71	24	26	7	57
Rangpur	2207	1347	860	5	41	84	14	4	102
Sylhet	1205	779	426	30	42	64	41	5	110
Grand Total	18227	9953	8274	236	448	387	228	59	674

Note: Potential GC Maps for all Upazila have been uploaded to the LGED website.