

Report on

Challenges in procurement of works at Haor: A case study of LGED projects under Khaliajuri Upazila, Netrokona District, Bangladesh.

By

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An internship report submitted to the BIGD in partial fulfillment of
Masters in Procurement and Supply Management

BRAC Institute of Governance and Development (BIGD)

BRAC University

Dhaka, Bangladesh

November, 2024

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Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Letter of Transmittal

Mr. Samir Biswas MCIPS
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Subject: Submission of report on “Challenges in procurement of works at Haor: A case study of LGED projects under Khaliajuri Upazila, Netrokona District, Bangladesh”

Dear Sir,

This is my pleasure to submit my practicum report titled “ Challenges in procurement of works at Haor: A case study of LGED projects under Khaliajuri Upazila, Netrokona District, Bangladesh” as a part of part of fulfillment of the requirement for the degree of Masters in Procurement and Supply Management at BRAC university. This practicum report outlines my learning from this study. I believe that this study will contribute to my academic and professional growth.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant manner as possible.

Sincerely yours,

Md. Zakiur Rahman
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Date: November, 2024

Non-Disclosure Agreement

This agreement is made and entered into by and between the Local Government Engineering Department (LGED) as the first party and the undersigned student at BRAC University as the second party.

As submission of a report on challenges in procurement of work at Haor: A case study of LGED projects under Khaliajuri Upazila Netrokona District, Bangladesh is a requirement for fulfillment for the degree of Masters in Procurement and Supply Management (MPSM), the first party has given second party permission to submit the report.

The second party will utilize all sorts of data concern this report for academic purpose and will not disclose it to any party that could be detrimental to the interest of the first party.

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Acknowledgement

At first I would like to express special gratitude to Almighty Allah for blessing me to complete this report as a part of Masters in Procurement and Supply Management from BRAC University.

I would like to express thanks and gratitude to respected academic supervisor Samir Biswas MCIPS Faculty of BRAC University & respected work in place supervisor Md Rayhan Shiddique MCIPS, PMP, Project Director of LGED for their continuous surveillance and guidance to complete this report.

I express my special thanks to My colleague Md. Rabiul Islam, Executive Engineer, LGED, Netrokona, Md. Mominul Islam, Upazila Engineer, Kalmakanda and Md. Aulad Hossain, Upazila engineer, Khaliajuri, Netrokona for conducting questionnaire survey for this report.

I am thankful to all faculties concern for this course and class representative Mohammad Al-Amin, Additional Director, BIGM, MS. Tanzina Mizan , Senior Academic Coordination Officer and all officials of BIGD of BRAC University for their continuous support for this study.

At the end I would like to express my heartiest thanks to my wife Farjana Khanam and my daughter Zuwairia Rahman for inspiring me to complete the report.

Executive Summary

Procurement is an important task for an organization. Procurement of works has different challenges. Challenge in procurement at Haor due to topography is one of them. Due to topographic features of Haor it remains watershed 6-7 months in a year. LGED conducts procurement of works in every District and Upazila of Bangladesh. In this report study is conducted to find out procurement challenges of works at Khaliajuri Upazila under Netrokona District. From this study we find the challenges of procurement of works at Haor are predominantly material transportation, official cost estimate preparation, insufficient participation of tenderer, works supervision, flash flood, quality control of works, scarcity of water during dry season, scarcity of material, scarcity of skilled labor and delay intended completion time etc. Challenges such as scarcity of water during dry season, scarcity of materials cannot be combated due to its natural uncontrollable features. In this study we find out ways to combat the challenges are use insurance coverage for all contracts, tenderer's development activities, materials test at Upazila, separate schedule of rates for Haor, skill development training for labor. Recommendations are given such as inclusion of insurance coverage at standard tender document PW2a and PW2b, increase the percentage of time extension approval authority of Procuring Entity (PE) at Haor, provide speed boat for supervision of work, preparation of work plan considering working period of Haor, deployment of more working force during working period at Haor.

Key words :Topography; Watershed; Infrastructure; Flash flood; Intended completion time;

Tenderer development activity; Deployment of working force.

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List of Acronyms

HOPE	Head of Procuring Entity
PE	Procuring Entity
TEC	Tender Evaluation Committee
LTM	Limited Tendering Method
OTM	Open Tendering Method
RFQ	Request for Quotation
STD	Standard Tender Document
ITT	Instruction to the Tenderer
GCC	General Condition of Contract
PCC	Particular Condition of Contract
e-GP	Electronic Government Procurement
BPPA	Bangladesh Public Procurement Authority
LGED	Local Government Engineering Department
CPTU	Central Procurement Technical Unit
DoFP	Delegation of Financial power
VAT	Value Added Tax
PEDP4	Forth Primary Education Development Program
NBIDGPS	Need Based Infrastructure Development of Government Primary School
NBIDNNGPS	Need Based Infrastructure Development of Newly Nationalized Government Primary School

Glossary

Haor	Haor is a natural bowl shaped landscape which remain watershed for a time in a year.
Char	Char is river island which is formed by sediment deposition.
Barind tract	Barind tract is a landscape which is situated at northwestern of Bangladesh. Soil type of this area is mostly alluvium.
Upazila	Sub-district and third tier of administrative division Bangladesh.
Auto Rikshaw	Three wheeler vehicle which is run by electricity, oil or gas.
Upazila Engineer	Government official (engineer) working for Local Government Engineering Department.
PW2a	Standard Tender Document for open tendering method issued by Bangladesh Public Procurement Authority for work up to 3 crore.
PW2b	Standard Tender Document for limited tendering method issued Bangladesh Public Procurement Authority for work up to 3 crore.

Chapter 1

Introduction

1.1 Context and background

Bangladesh consists of different topography such as Plain land, Hilly area, Char area, Coastal area, Haor area and Barind tract. These different landscapes have diverse features. Haor is a river basin below the level of flood plain and covered by water about six months of a year. There are 373 Haors located at Sunamganj, Sylet, Kishoreganj, Habiganj, Netrakona, Maulvibazar and Brahmanbaria District of Bangladesh. In Haor water logging occurs from June to December which is the main time for construction work. Due to water logging in rainy season and poor submergible road communication in dry season Haor people faces difficulties in their daily life. In dry season people carry material by auto rikshaw and during rainy season people use manual and mechanized boat to move and carry their goods from one place to another place. There is a scarcity of construction materials like brick, sand which is normally available at plain land. In Haor water logging, flash flood and scarcity of water during dry season is a problem. Due to these problems procurement of works is delayed. Ultimately it causes negative impact on economy of the country.

Some risks in procurement are common both in plain land and Haor, There are some risks that exist in Haor majorly flash flood. Most of the time flash flood occurs at Haor during pre-monsoon. Some risks include inflation, exchange rate, changes in law and regulation is common in Haor and plain land. Due to increase in inflation and exchange rate of currency price of material increases and contract execution become harder. Sometimes contract cancellation is made by contractor or procuring entity.

According to Chartered Institute of Procurement & Supply (CIPS) there are thirteen stages of procurement cycle. The stages are (a) Understand the need and develop a high level specification. In this the stage buyer can understand about the requirement. After understanding the requirement of buyer, supplier develops specifications which ensure the need of user (b) Market commodity options. From this stage buyer can take decision whether to make or buy the product on the basis of core-competence, buyer can know market competition, market price (c) develop procurement strategy /plan . Buyer take decision about local, national or global approach and buyer also takes decision about invitation to tender (ITT) or request for tender (RFQ) (d) Pre-procurement market tests and market engagement. Supplier engagement, stakeholder engagement, product life cycle, currency fluctuation, seasonal trend of product is considered (e) Development of documentation. During development of documentation specification, quantity, delivery detail, terms and conditions are determined (f) Supplier selection. In supplier selection stage short listing of supplier is done. Buyer conduct site visit or gather information such as company history, financial activity, insurance, capabilities of supplier (g) Issue Invitation to tenderer (ITT) or Request for quotation (RFQ). In this buyer issue ITT for all potential tenderer or RFQ for short listed tenderer (h) Bid /tender /quotation evaluation. Tender evaluation is

executed on the basis of specified criteria (i) Contract award and implementation. In this stage evaluated tenderer is awarded and contract agreement is signed (j) Warehouse, logistics and receipt. For supply of goods warehouse planning, transportation type and route is defined (k) Contract performance review. After signing contract agreement, supplier is reviewed periodically (l) Supplier relationship management. Supplier relationship depends on product type of supply. In case of non-critical type product arms- length relationship, for bottleneck supply partnership, for leverage type arms- length and for strategic type of supply strategic relationship is maintained (m) Asset management. This is the final stage of procurement cycle. In case of end of life of product, disposal of product is determined in this stage. Key actions for public procurement of works and goods are (a) Procurement plan preparation (b) Tender preparation (c) Tender issue, receipt and process (d) Tender examination, evaluation and approval (e) Contract management. Basically challenges are exposed during contract management stage.

Procurement is full the process of finding and agreeing to terms and acquiring required goods, services, or works from an external source often via a tendering or competitive bidding process (jean-jacques Laffont, 1993). In Bangladesh public procurement is implemented following Public Procurement Act 2006 and Public Procurement Rules 2008. Principles of public procurement rules are fair competition, transparency, accountability and efficiency. Such as all the elements are essential pillars in public procurement of Bangladesh. Public Procurement Act 2006 and Public Procurement Rules 2008 are applied in government, semi-government, autonomous organization using public fund In Bangladesh. Central Procurement Technical Unit (CPTU) established in 2002 as a unit of Implementation Monitoring and Evaluation Division (IMED) under Ministry of Planning of Bangladesh Government. Central Procurement Technical Unit (CPTU) was a central body of public procurement of Bangladesh Government. One of the components of Digitizing Implementation Monitoring and Public Procurement (DMAPP) project of CPTU is process of transforming the CPTU into an Authority. Government of Bangladesh issued gazette of Bangladesh Public Procurement Authority Act 2023. To enact Bangladesh Public Procurement Act 2023 Government established Bangladesh Public Procurement Authority (BPPA). BPPA plays vital role for formulation of (a) Policy and strategy related to public procurement (b) Preparation, approval and distribution of Standard Tender Documents (STD) (c) Providing guidelines regarding public procurement (d) Operation and management of electronic Government Procurement (e-GP) system (e) Monitoring, coordinating and supervising the compliance with public procurement law.

Local Government Engineering Department (LGED) is one of the important sector and implementing agency of Bangladesh government. LGED performs procurement at head office, Division level, Region level, District level and Upazila level. LGED is responsible for construction of rural, urban and water infrastructures. Executive Engineer at District level and Upazila Engineer at Upazila level perform procurement of works in LGED under development budget and revenue budget. Executive Engineer and Upazila Engineer plays role as procuring entity as per approval from concern projects authority. But Upazila Engineer plays role as a Project Manager. Development works of LGED is done by Contractors. Contractors are selected by tendering process. LGED performs its most of the procurement by Limited tendering method

(LTM) and Open tendering method (OTM). Cost estimate is prepared by field survey which cannot be performed for water logging. Inaccurate cost estimate very often need contract variation. This may cause complexity for contract execution and administration. LGED performs tendering process by Electronic Government Procurement (e-GP) majorly. So tenderer can participate easily in tender process. LGED follows preparation of cost estimate on the basis of its approved schedule of rates. Schedule of rates contain specification of an item with unit rate. The unit rate of estimate prepared on the basis of material cost, labor cost, contractor profit, tax, test fee. Increase in material cost often cause impact on contract management. To improve the quality of work proper supervision, monitoring and laboratory test of materials are necessary. In project management time, cost and quality are iron triangle (PMBOK 6th edition). Time control, cost control and quality control are the part of Contract management. Time, cost and quality are interrelated. Change of one dimension affects the other dimensions of the iron triangle. Balance among time, cost and quality can't be made sure but trade off occurs on the basis of nature of the project.

1.2 Statement of the problem

For development of the economy of a country's procurement process should be efficient, competitive and economic. Procurement of LGED is governed by Public Procurement Act, 2006 (PPA 2006) and Public Procurement Rules, 2008 (PPR 2008). Procurement have challenges in both sourcing and purchasing. Some challenges due to law and rules and some challenges due to context. Haor has a special topography with water logging and flash flood. In Haor there are some different difficulties in procurement compared to plain land. Challenges of procurement at Haor create severe impact on procurement of works of LGED in this context.

1.3 Significance of the proposed research

For development of a country equal development of every region is required. Haor area is covered by a significant area of Bangladesh. Development budget of Bangladesh government is implemented by various agencies. Public Procurement of works is conducted by Public Procurement Act, 2006 and Public Procurement Rules, 2008. Procuring Entity faces different challenges in Haor. Due to challenges in haor region development activities are hampered and ultimately it creates negative impact on economic condition of Bangladesh. From this research challenges in procurement of works in Haor region will be identified and recommendations will be drawn to combat the challenges.

1.4 Research question

On the basis of the objective of the study the following questions have been arisen

1. How does topography features in Haor make challenges in procurement?
2. How can the procurement challenges can be combated in Haor ?

1.5 Objective of the study

The specific objectives of the study are:

1. To find out the challenges faced by Procuring Entity at Haor area .
2. To draw recommendations to combat the challenges faced by Procuring Entity in the event of Public Procurement practice in Haor area.

1.6 Scope and limitation of the study

Development work of a country is done by public procurement. There are different types of challenges in public procurement. This study is conducted to find out the challenges for public procurement of works at Haor in Local Government Engineering Department at Khaliajuri Upazila. Due to time and budget limitations this study is conducted for public works under LGED at one Upazila. All the respondents of questionnaire survey have no same knowledge, experience in the field of procurement. This variation in knowledge and experience of respondents is a limitation of the study.

1.7 Structure of the study

This report is consists of five different chapters. The heading of the chapters are Introduction, Literature Review, Research methodology, Data analysis and Result, recommendation & conclusion and references.

Chapter-1 contains introduction of the study. The chapters are context and background, statement of the problem, significance of the proposed research, research question, objective of the study, scope and limitation of the study and structure of the study.

Chapter-2 contains literature review of the study. This chapter contain subheads are introduction to Haor in Bangladesh, problem in Haor region, a legal framework of public procurement in Bangladesh, public procurement of works at LGED, challenges of public procurement, research gap.

Chapter-3 contains methodology of the study which have subheads are method used in data collection, research area, research period, and sample size, instrument for data processing and presentation, ethical issue.

Chapter-4 contains data analysis and result discussions. The subheads are demographic analysis, statistical assessment of works procurement challenges at Haor, graphical presentation of respondents view for procurement challenges of works at Haor, statistical assessment of way to combat the challenges of works procurement at Haor, graphical presentation of respondents view to combat procurement challenges of works at Haor, data analysis of works progress for LGED projects under Khaliajuri upazila.

Chapter-5 contains conclusion & recommendations of the study.

Chapter 2

Literature Review

2.1 Introduction to Haor in Bangladesh

Bangladesh is a developing country in South Asia. It has a different topography like Plain land, Hilly land, Haor area, Char area, Coastal area and Barind tract. The term Haor came from Sanskrit word shagor which means sea. In WIKIPEDIA Haor is defined as “Haor is a wetland ecosystem in the north eastern part of Bangladesh which physically is a bowl or saucer shaped shallow depression, also known backswamp. During monsoons Haor receive surface runoff water from rivers and canals to become vast stretches of turbulent water.” Haor is a resourceful area. One is crop production and another is fisheries production. Production of Boro rice in Haor is about 20% of total rice production in Bangladesh. There are about 150 species of fish including rare and indigenous varieties available at Haor. The amount of fisheries production in Haor is about 6% of total fish yield in Bangladesh. Haor is basically very low lying river basin area below the level of flood plain (Md.Taj Uddin et al. ,2019). Haor area is located at the north-east region of Bangladesh . In Haor crop production practice, economic activities and livelihood of the Haor household are all influenced by ecological, geographical and environmental factors that are distinct from those found in other part of the country (Alom et al, 2010). Haor exists in Sunamganj, Sylhet, Habiganj, Maulvibazar, Netrokona, Kishoreganj, Brahmanbaria District out of sixty four Districts in Bangladesh. There are 373 nos. Haor in Bangladesh. Total area of seven District is 1999800 ha (19998 sq km) where Haor area is 858460 ha that is 43% of total area of the seven District accommodating about 19.37 million people. The Haor region has long been lagging behind than the mainstream national development although the economic development of Bangladesh is moving at a moderate pace. (Md. Taj Uddin et al. ,2019).

Table 1 : Haor region in Bangladesh

District	Total area in ha	Haor area in ha	No. of Haor
Sunamganj	367000	268531	95
Sylhet	349000	189909	105
Habiganj	263700	109514	14
Maulvibazar	279900	47602	3
Netrokona	274400	79345	52
Kishoreganj	273100	133943	97
Brahmanbaria	192700	29616	7
Total	1999800	858460	373

Source: Master Plan of haor Area (Volume 1) 2012

2.2 Problem in Haor region

The Haor is geographically a very low-lying river basin. The main characteristics of Haor are that they flood every year in rainy season. Nowreen et al. (2013) evaluates climate of Haor basin and found highest variability in both rainfall and temperature during the pre-monsoon season so that flash flood is occurred. Uneven rainfall in the pre-monsoon and water from upstream of the Asam and Meghalaya hill in India causes flash flood in Haor (Hossain,2013). There are some places at Haor where it is very hard to carry materials for construction during dry season due to communication problem. Construction materials are carried during monsoon period. At Haor working period for construction is 4 to 5 months in a year.

In Master Plan of Haor Area (2012) prepared by Bangladesh Haor and Wetland Development Board identified major problem by conducting public consultation meeting (PCM) and focus group discussion (FGD). The identified problems are (a) Flash flood (b) Siltation and sedimentation of major rivers (c) River bank erosion and wave action (d) Reduction of navigability (e) Lack of proper sanitation (f) Scarcity of drinking water (g) Fragile and inadequate road network (h) Degradation of ecosystem (i) Indiscriminate harvest of natural resources.

S.K. Khanna in his Highway book stated that transportation contributes to economic, industrial, social and cultural development of any country. In haor water logging causes submerged all roads and structure 6 to 7 months in a year during monsoon and pre-monsoon (BHWDB) . Any kind of road way transportation is impossible during monsoon because roads submerges 6 to 7 months with floodwater and boat is only medium of transportation at that time (Hoq et al. ,2021). Kazi Ismat Jahan Suvra in her journal “Haor Regions-Importance, Problem, Strategy and Future Development” presented that the transportation and communication system in the Haor area faces various challenges, including insufficient infrastructure, lower land elevation The underdeveloped state of communication infrastructure leads to various challenges, insufficient amount of private sector investment, and small-scale entrepreneurship (Shishir Reza, 2020). The key problems in Haor region are shortage of basic water supply networks, a scarcity of safe water and insufficient sanitation facilities (Kazi Ismat Jahan suvera, 2021). Khailajuri is the study area under this practicum report. Total area of the Upazila is 297.6 sq. km. This Upazila consist of 28 Haor and total area of the Haor area is 237.79 sq. km. (Classification of wetland of Bangladesh, 2016). Total length of road at Khailajuri Upazila is 434.12 km and length of paved road is 100.97 km (www.oldlged.gov.bd) that is 23% paved road with respect to total road length. Sanjay Sarker in article “Haor Upazila Khailajuri still awaits road connectivity “described in rainy season boats are only means of communication for the local to go one village to another village. In dry season CNG-run or battery-run auto-rickshaws can go up to the river bank. But there is no ferry service on the Dhanu river. This facilities exist only in one union but other five union has no road connection with Upazila head quarter. People bear double to triple cost for good transportation.

2.3 A legal framework of public procurement in Bangladesh

Public procurement plays a crucial role for the national economy of a country. “Procurement is a process of obtaining goods or services, works in any way including purchasing, hiring, leasing and borrowing” (Smair Biswas, 2015). Public procurement involves acquisition of goods, works and services using public fund. Bangladesh Public Procurement Authority (BPPA) under Ministry of Planning is concern regarding public procurement. According to Rule-130 of Public Procurement Rules, 2008 BPPA is responsible for (a) Advice and assist PEs (b) Prepare and distribution of standard documents (c) Submit an annual report to GOB (d) Develop a public procurement website (e) Publish bulletin on ads and procurement (e) Training and skill development activities (f) Present the complain to review panel.

Since independence of Bangladesh two forms 2908 and 2911 have been used for public procurement. From 2908 and form 2911 have been in August and November in 1929 respectively. General Financial Rules (GFR) which outlined the principles governing government contracts, remained the legal framework for public contracts and procurement of Bangladesh (Md. Rayhan Shiddique, 2015). Government of Bangladesh undertook some reform to strengthen the public procurement regime and government introduced Public Procurement Regulation in 2003. Following are the pillar of Public Procurement

- Public Procurement Act, 2006
- Public Procurement Rules, 2008
- Standard Tender/Proposal Documents
- Bangladesh e-GP Guidelines 2011

To ensure transparency and accountability in public procurement of goods, works and services, to determine the process for equal treatment and fair competition for those who participate in tender Public Procurement Act 2006 (PPA 2006) was passed by parliament on 6 July 2006 and consented by Honorable President of Bangladesh. The PPA 2006 contains 09 chapters and 73 sections. In section 3 of the law expressed that until publication of law Public Procurement Regulations 2003 will be effective. In section 70 of this law expressed that Government can make rules to implement the objective of the law.

By the power of PPA 2006 Government of Bangladesh formulated Public Procurement Rules, 2008 (PPR 2008). The PPR 2008 is applicable when Procuring entity (PE) using public fund, Procurement by any Government, Semi-Government or any Statutory body, procurement using public funds by a company registered under the companies act, procurement under a loan credit or grant agreement or under any other agreement with a development partner unless otherwise stated in contract. The PPR 2008 contains nine chapters, one hundred thirty rules and fourteen schedules.

On the basis of Rule-130 (ga) of PPR 2008 BPAA formulated standard document for procurement of goods, works and services. In schedule-1 of PPR 2008 table represents the type document to be used for different purpose according to event type, procurement nature, types and

threshold value of procurement. Tenderer use this documents by customizing as per PPA 2006, PPR 2008 and concern type of event.

According to section-65 of PPA 2006 and Rule-128 of PPR 2008 government of Bangladesh formulated Bangladesh e-GP Guidelines 2011. Electronic Government Procurement (e-GP) is online base system. In this system annual procurement plan preparation and approval, tender document preparation, notice publication, tender submission, tender opening, tender evaluation, issuance notification of award, contract management system(CMS) are done electronically.

2.4 Public procurement of works at LGED

LGED is a large implementing agency of Bangladesh Government. It implements development and maintenance rural roads, small scale water structure and provide technical support to the Local Government Institute (LGI). The rural roads are classified as Upazila road, Union road and Village type-A and Village type-B according to their starting point and ending point of a road by Ministry of Planning of Bangladesh. LGED performs its development activities by different projects. Project Directors act as project manager for their concern project. LGED implements delegated procurement of works of other Government Departments such as Department of Primary Education, Department of Agriculture Extension, Ministry of Liberation War Affairs. It conducts different event of procurement such as works, goods and services. LGED performs procurement of goods such as road roller, computer and services such as individual consultant and consultant firm.

Procurement of works at LGED is conducted at District and Upazila by Executive Engineer and Upazila Engineer. This procurement is conducted following PPA 2006 and PPR 2008 and the terms and conditions stated in tender documents. Public procurement of works are done by (a) Open Tendering Method (b) Limited Tendering Method (c) Direct Procurement Method (d) One Stage Two Envelope Method (e) Two Stage Tendering Method (f) Request for Quotation. According to Public Procurement Rules, 2008 Rule-15 and Rule-16 states process of Annual Procurement Plan preparation and approval process. Preparation of Annual Procurement Plan is mandatory for each PE. All Procuring Entities (PEs) of LGED including Executive Engineer of District and Upazila Engineer prepare Annual Procurement Plan and seek approval from Chief Engineer of LGED. Rule 16(5)(k) of PPR 2008 states three(3) members from procuring entity and others procuring entity will prepare official estimate considering transportation cost, overhead, profit, risk, geographical location, complexity, VAT and IT. For procurement of works LGED prepare its official cost estimate by Sub-assistant Engineer of Upazila Engineer office. Estimate preparation is done on the basis of schedule of rates published by LGED and approved by Ministry of Finance. Unit rate of items is different in four zones. The zones are Zone-A (Dhaka, Mymensingh), Zone-B (Chattogram, Sylet), Zone-C (Khulna, Barisal) and Zone-D (Rajshahi, Rangpur). Upazila Engineer send the official estimate to Executive Engineer at District. After Checking from Executive Engineer office official estimate is sent to LGED head office for approval. After approval from LGED head office PE invites for tender by e-GP. LGED uses Standard Tender Document for tendering. Standard Tender Document PW3 which is applicable for open tender when estimate value of work above 3 crore. PW3 have the provision

for insurance in GCC-36. All such insurance shall provide for compensation to be payable in the types and proportions required to rectify the losses and damage incurred. In PW2a and PW2b there is no option for insurance which cover works, man, material and equipment losses. For limited tendering method estimate value of works up to three crore PW2b document is used. In limited tendering method tenderer can quote price up to 5% of estimate cost (+ ve/- ve). Standard Tender Document PW2a is used for Open Tendering Method estimate value up to 3 crore. For this document tenderer can quote 10% of estimate cost (+ ve/- ve). Tender approval for contract agreement is taken from competent authority of LGED as per circular memo no-46.067.005.00.00.021.2014 (part-1) /922 date: 02/11/2015 issued by Local Government Division of (LGD) of Local Government, Rural Development and Co-operatives Ministry of Bangladesh. After getting approval procuring entity (PE) issued notification of award for signing contract. As per Rule 4(7) of PPR-2008 following are the part of contract and precedence is given below

1. Contract agreement
2. Notification of award
3. Tender and appendix to tender
4. Particular of conditions
5. General conditions of contract
6. Technical specification
7. General specification
8. Drawings
9. Bill of quantities / Priced scheduled of requirement

To control time General condition of contract (GCC) of PW3 contractors have to submit works program to project manager for approval. As stated time in particular condition of contract (PCC) contractors have to submit update work program showing the timing for work. According to PW3 document clause 83.1.e natural catastrophes such as fires, floods are considered as force majeure and clause 44.6 states that for force majeure contractor of works will be allowed to extend time without financial compensation. The contractor will be allowed to extend time twenty percent by PE and if the time is more than twenty percent of original contract time then time extension approval will be given by Head of Procuring Entity. In PW3 clause no 53.1 to control quality project manager can instruct to carry out test and retention money will be retained from each progressive payment. Fifty percent retention money will be back to the contractors after completion of the work and half after completion the works PE takes over the site and project manager issues completion certificate.

2.5 Challenges of public procurement

SM Zakaria et al. (2013) in his study “Issues and challenges in public procurement bidding: Bangladesh Experience” find the issues and challenges in public procurement in planning stage are (a) Lack of conception of government official regarding PPA/ PPR (b) Misrepresenting of need for procurement (c) Improper specification preparation (d) Improper of estimation preparation (e) Disbursement of fund is not in proper time (f) Tender notice not publish in well circulated newspaper and use of English language tender document. Issue and challenges in public procurement during advertisement to contract management are (a) Syndication among the tenderers (b) Procuring entity politicians to influence the bid (c) Unnecessary and tough conditions to tenderer to participate in tender process (d) Submission of fake documents to support their tender and TEC do not verify the submitted documents (e) Lack of skilled personnel to check the documents (f) Provision of no experience need up to 20 million taka (g) Ineffective penalty provision for liquidated damages impose to contractors (h) Conflicts of interest between Government officials and tenderers. Some recommendations came from the stakeholders are (a) Maintaining strict timeline PPR (b) Engaging local citizens as a watchdog during estimate preparation (c) Accurate estimation preparation and little room allowed to make change (d) Publication of tender notice in local newspaper and implementation of right to information act and introduction of e-GP (e) Establishing accountability and transparency in tender process by the politicians (f) Technical audit should be carried for selected project (g) Attendance of member in TEC meeting should mandatory and there should be a penalty provision if any member absent in meeting (h) Declaration of conflict of interest by TEC member and HOPE.

Jalal Uddin Ahmed, MCIPS (2015) in his study “Determinants and constraints to effective procurement management in government projects: A practitioner’s perspective” find out determinants and constraints of effective procurement due to (a) Strategic issue (b) Regulatory issue (c) HR issue (d) Organization culture (e) Organizational capacity (f) Technical issue (g) Socio-political issue (h) Ethical issue (i) Financial issue. Constrains due to socio-political and ethical issues are political pressure, corruption, coercions, collusive practice, pressure from higher authority, strike/ blockage/ delay in port. Financial issues are budgetary constraints, inappropriate estimation, high priced bid, low priced bid, tax, VAT issue and payment lead time issue. Recommendations from the study are (a) Promote appropriate culture in the organization (b) Project personnel should competent and skilled (c) Not compromise political pressure (d) Early supplier involvement can help for preparing appropriate specification and estimation (e) Make regulation to be flexible for the quality contractors (f) Ethical practice should practice in tender.

Ogunsanya et al. (2016) in his study “Challenges of construction procurement : A developing nation’s perspective “finds the challenges are (a) Improper implementation of legislative framework (b) Cessation of funding (c) Corruption (d) Hostile operation environment (e) Inadequate knowledge of practitioners of procurement method (f) Unstable economic

environment (g) Political influence (h) Project uncertainties (h) Standardization of materials (i) Inadequate knowledge of clients of procurement method.

Md. Ali Prince (2019) in his study “Implementation challenges of sustainability practice in public procurement in Bangladesh: Role of CPTU” find out criterion for sustainability practice in public procurement are (a) Environment consideration (b) Consideration of child labor issue (c) Addressing sustainable procurement in PPA 2006 and PPR 2008 (d) Tenderer attractiveness (e) CPTU role to ensure sustainable procurement (f) More awareness and best practice. Recommendations for sustainable procurement are (a) Training needed for procurement professional (b) Sustainable procurement should address in PPA 2006 and PPR 2008 (c) Gigantic role of BPPA and commitment from the policy level (d) Set criterion at evaluation for sustainable procurement (e) Ensure awareness and best practice to implement sustainable procurement.

Md. Khalilur Rahman (2020) in his study “Challenges of public Procurement in Bangladesh: A case study on Roads and Highways (RHD)” find out legislative and regulatory challenges with RHD management challenges in public procurement. Challenges related to legislative and regulatory are (a) Lack of understanding of procurement Act, Rules and STD among the stakeholders (b) Bureaucratic approach of delegation of financial power which makes the public procurement process lengthy (c) Ten percent barrier for rate quoting causes sleep out SME contractors. RHD management related challenges are (a) Lack of public procurement training (b) Record keeping system (c) Political interference in public procurement (d) Overmuch procurement activity. Recommendation from the study are (a) Conduct training program for the procurement professional (b) Tender approval layer should be reduces (c) Delegation of financial power for chief engineer and project director should be revised (d) Training for tenderer should be arranged (e) Management capacity for tender preparation should be increased in field level (f) Record keeping should maintain using technology (g) Public procurement should be accountable.

2.6 Research gap

Public procurement is an important event in every Government, Semi-government and Autonomous body organizations. Researchers conduct research for public procurement in different perspective. To implement public procurement different type of challenges are faced by procuring agencies. From the literature review we can see challenges occur due to legislative and regulatory issue, organization capacity and culture, socio-political issue, laws and order, financial and budgetary issue, skill and knowledge of procurement professional. Topography is an important issue for public procurement. There is a little number of studies in public procurement challenges in Bangladesh perspective. There is no study about challenges of work public procurement in Haor. In this study I tried to find out the challenges of public procurement of works in Haor.

Chapter 3

Methodology

3.1 Method used in data collection

Questionnaire is a set of questions posed to the respondents to accumulate information. For information gathering a questionnaire is developed to conduct the survey. Questionnaire survey is well used by the researcher for academic research. This method is more reliable, easier and well accepted for research purpose.

Questionnaire survey is used for collecting primary data from the stakeholders. Secondary data collected from newspaper, works progress report, database from website and article public procurement. Qualitative and quantitative method is applied in this research. The questionnaire is used in this study is attached in Annexure A. This questionnaire consists of two parts. In part A is used to collect the respondent profile such as name, designation, name of the organization, length of service, length of experience in public procurement, age and educational qualification. Part B consists of eight closed questions and one is open question to find out the challenges and four closed and one open question to find out the ways to combat the challenges. Likert scale is used to measure the perception of the respondents. In this Likert scale 1 is for strongly disagree, 2 is for disagree, 3 is for neither agree nor disagree, 4 is for agree and 5 is for strongly agree.

3.2 Research area

This research is conducted at Khaliajuri Upazila under Netrokokna District of Bangladesh. For this research questionnaire survey is performed from personnel of Executive Engineer office and enlisted tenderer under Executive Engineer office, LGED, Netrokona, personnel of Upazila Engineer office and tenderer of Khaliajuri Upazila, and Modon Upazila adjacent to the research area which have Haor region. Questionnaire survey also conducted from the personnel of at LGED head quarter who have experience in Haor region works procurement.

3.3 Research period

This research was conducted during the Spring 2024 semester (January 2024 to April 2024) as a part of the MPSM course at Brac University.

3.4 Sample size

Forty one respondents participate in this study. Respondents play different role in works procurement in such as procuring entity, member of tender evaluation committee, approving authority, tenderer, and others. All respondents selected on random basis. Respondents are Project Director, Executive Engineer, Senior Assistant Engineer, Assistant Engineer from LGED head quarter. Respondents are also from field level such as Executive Engineer, Senior Assistant Engineer, Upazila Engineer, Sub-assistant Engineer, Surveyor, Work Assistant, Office Assistant, Account Assistant and tenderer.

Table 2: Respondents detail

Sl no	Designation	Role	Number of respondent
1	Project Director	Approving authority	04
2	Executive Engineer/Upazila Engineer	Procuring entity	07
3	Executive Engineer/ Senior Assistant Engineer/Sub-Assistant Engineer	Member of TEC	07
4	Tenderer	Tenderer	09
5	Surveyor, Work Assistant, Office Assistant, Account Assistant	Others	14

Progress report of Fourth Primary Education Development Program (PEDP4), Need Based Infrastructure Development of Government Primary School (NBIDGPS) and Need Based Infrastructure Development of Newly Nationalized Government Primary school (NBIDNNGPS) projects are collected from LGED head office and Upazila Engineer office, Khaliajuri Netrokona. From the progress report we find the name of the works, official estimate cost of works, contract signing date, intended completion date, actual completion date and percentage of physical progress of the works. There are 3 (three) works under PEDP4, 6(six) works under NBIDGPS and 2(two) works under NBIDNNGPS project.

3.5 Instrument for data processing and presentation

Open and close ended type questions are used in questionnaire for this study. Collected data are processed with Microsoft excel software and for graphical representation such as table, pie chart and column chart are presented using Microsoft Word and Microsoft Excel software in this study.

3.6 Ethical issue

In this questionnaire survey form researcher ensured that to give the name and signature of the respondent was optional and their repose will be kept confidential and will be used only academic purposes. Respondents answered willingly and there was no force or influence to the respondents during this survey.

Chapter 4

Data Analysis and Result Discussion

4.1 Demographic analysis

4.1.1 Characteristics of respondents

41 (Forty one) respondents respond to the questionnaire survey. All the respondents answered the part A portion of the questionnaire which is about profile of the respondents and the closed questions of the questionnaire. 14 (Fourteen) respondents did not respond, 3 (three) respondents respond 01 (one) question and 20 (twenty) 4 (four) respondents answered 2 (two) question of the open question of the questionnaire.

Table 3: Statistic of respondents profile

Particulars	Variables	No of respondents	Percentage (%)
Designation	Project director	04	9.75
	Executive engineer	06	14.63
	Senior assistant engineer	03	7.33
	Upazila engineer	03	7.33
	Assistant engineer	02	4.87
	Sub -assistant engineer	06	14.63
	Work assistant	04	9.76
	Account assistant	01	2.44
	Office assistant	01	2.44
	Surveyor	02	4.87
	Tenderer	09	21.95
Length of service(excluding 9 nos tenderer)	<5 years	9	28.12
	5-10 years	4	12.5
	11-15 years	2	6.25
	16-22 years	4	12.5
	>20 years	13	40.63
Length of experience in procurement of work	<5 years	18	43.90
	5-10 years	4	9.76
	11-15 years	4	9.76
	16-22 years	4	9.76
	>20 years	11	26.82
Last academic degree	Post graduate	11	26.82
	Graduate	15	36.59
	Below graduate	15	36.59

4.2 Statistical assessment of works procurement challenges of works at Haor

4.2.1 Measurement of the central tendency & dispersion of the respondents in the view of challenges in procurement of works at Haor

To find out mean and standard deviation the Likert scale can be response can be assigned by numerical value. For strongly disagree=1, disagree=2, neither agree nor disagree=3, agree=4 and strongly agree=5

Table 4: Central tendency & dispersion of respondents view of challenges in procurement of works at Haor

Statement	No of respondent					Mean	Variance	Standard deviation
	1	2	3	4	5			
Procurement of work at Haor is quite harder than plain land	1	0	0	8	32	4.71	0.50	0.71
Field survey for cost estimate preparation at Haor is difficult	0	2	1	10	28	4.56	0.58	0.77
Participation of Tenderer in Haor is not sufficient	0	1	0	17	23	4.51	0.39	0.66
Transportation of material is a problem at Haor	0	0	0	5	36	4.88	0.098	0.313
Scarcity of water during dry season hinder the progress of construction work at Haor	0	3	1	8	29	4.54	0.767	0.875
Flash flood often causes damages construction work at Haor	0	0	0	12	29	4.7	0.183	0.428
Supervision of work at Haor is difficult due to transportation problem	0	0	0	14	27	4.66	0.229	0.478
Construction of work cannot be completed at intended completion time	0	0	1	33	7	4.15	0.178	0.422

We find that majority of the respondents strongly agree with the statements (a) Procurement of work at Haor is quite harder than plain land (b) Field survey for cost estimate preparation at Haor is difficult. (c) Participation of tenderer is not sufficient (d) Flash flood often causes damages construction work at Haor (e) Supervision of work at Haor is difficult due to transportation

problem. (f) Transportation of material is a problem in Haor. We also find that majority of respondents agree with the statements (a) Scarcity of water during dry season hinder the progress of construction work at Haor (b) Construction of work cannot be completed at intended completion time.

4.3 Graphical representation of respondents view for procurement challenges of works at Haor

Figure 1: Procurement of works at Haor is quite harder than plain land

Among 41 (forty one) respondents of this study 32 (thirty two) respondents strongly agree, 8(eight) respondents agree and 01 (one) respondent strongly disagree that procurement of work at Haor is quite harder than plain land. Here 78.05% respondents strongly agree, 19.51% respondents agree and 2.44% respondents strongly disagree with the statement.

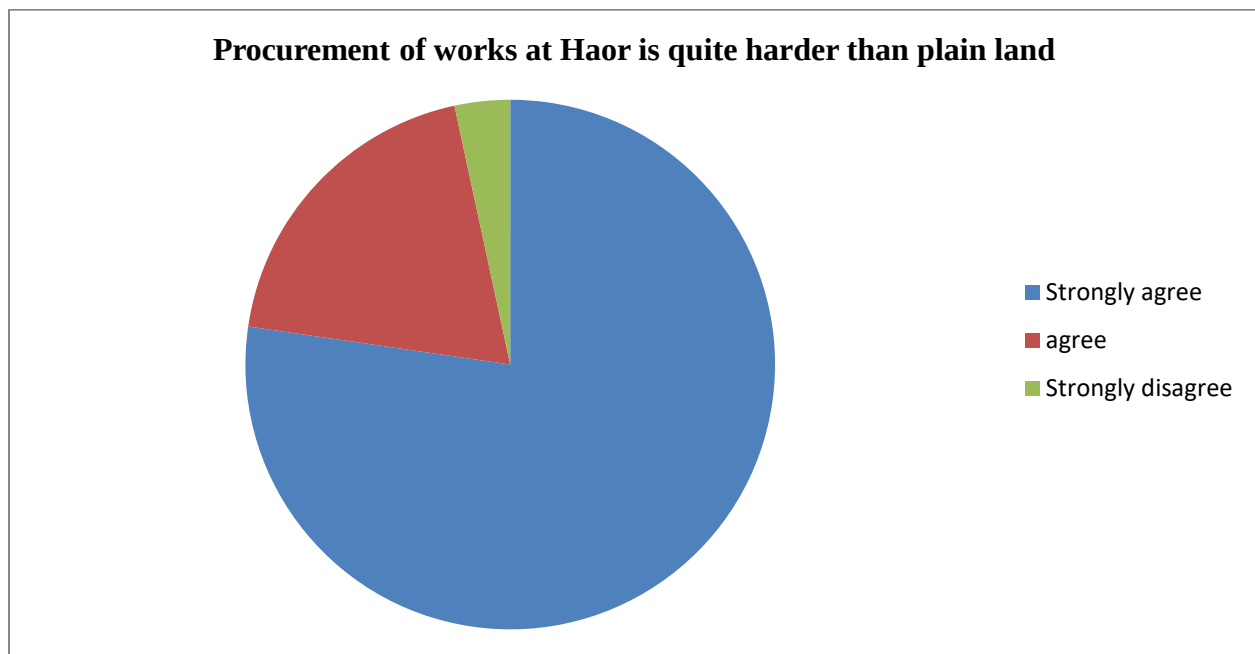


Figure 2: Field survey for cost estimate preparation at haor is difficult

Among 41 (forty one) respondents of the study 28 (twenty eight) respondents strongly agree, 10 (ten) respondents agree, 01 (one) respondent neither agree nor disagree and 2 (two) respondents disagree with the statement. Here 68.29% respondents strongly agree, 24.39% respondents agree, 2.44% neither agree nor disagree and 4.88% disagree with the statement.

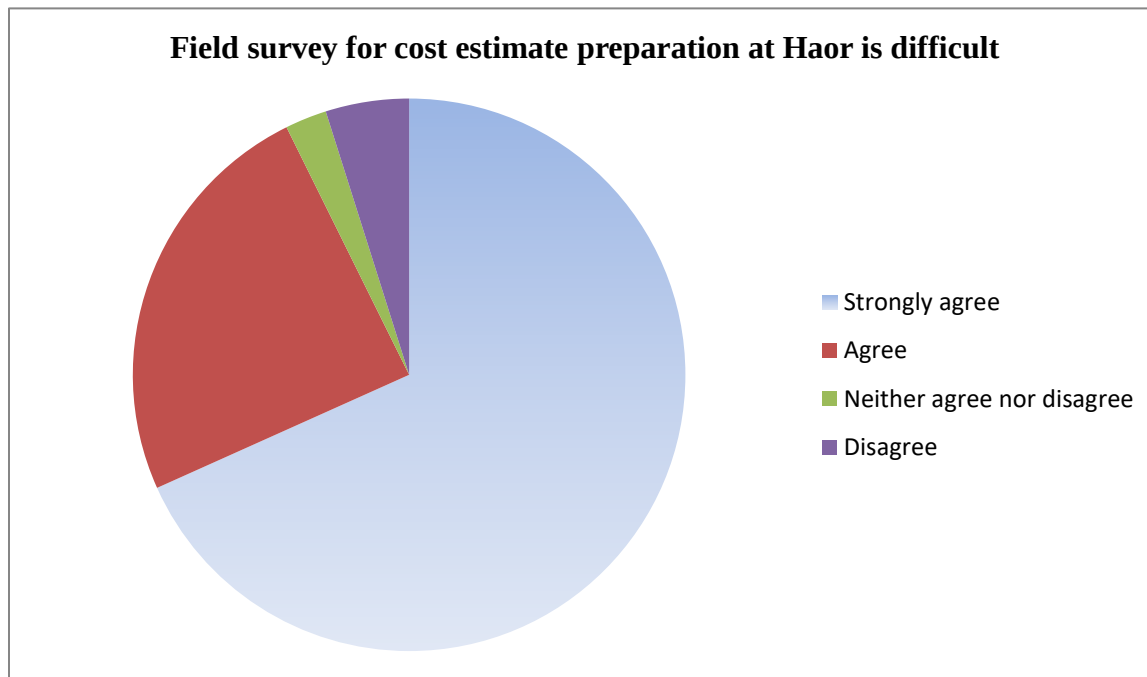


Figure 3: Participation of Tenderer at Haor is not sufficient

Among 41 (forty one) respondents 23 (twenty three) respondents strongly agree, 17 (seventeen) respondents agree, 01 (one) respondent disagree with the statement. Here 56.10% respondents strongly agree, 41.46% respondents agree and 2.44% respondents disagree with the statement.

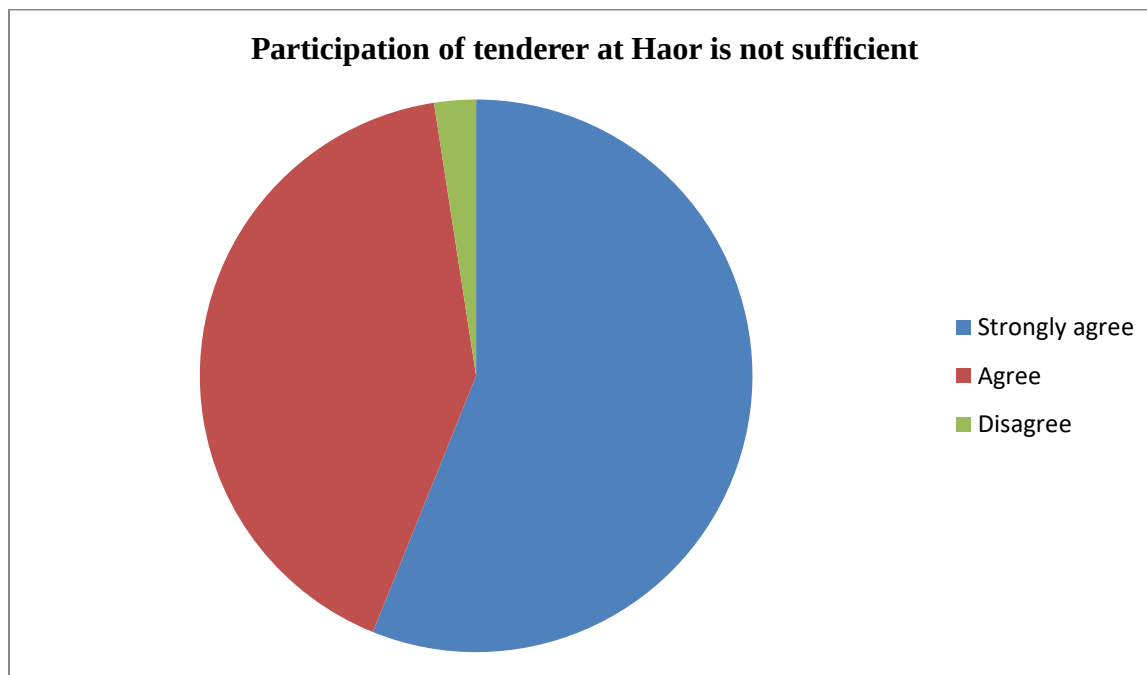


Figure 4: Transportation of material is a problem in haor

Among 41 (forty one) respondents 36 (thirty six) respondents strongly agree and 5 (five) respondents agree with the statement. Here 87.80% respondents strongly agree and 12.2% respondents agree with the statement.

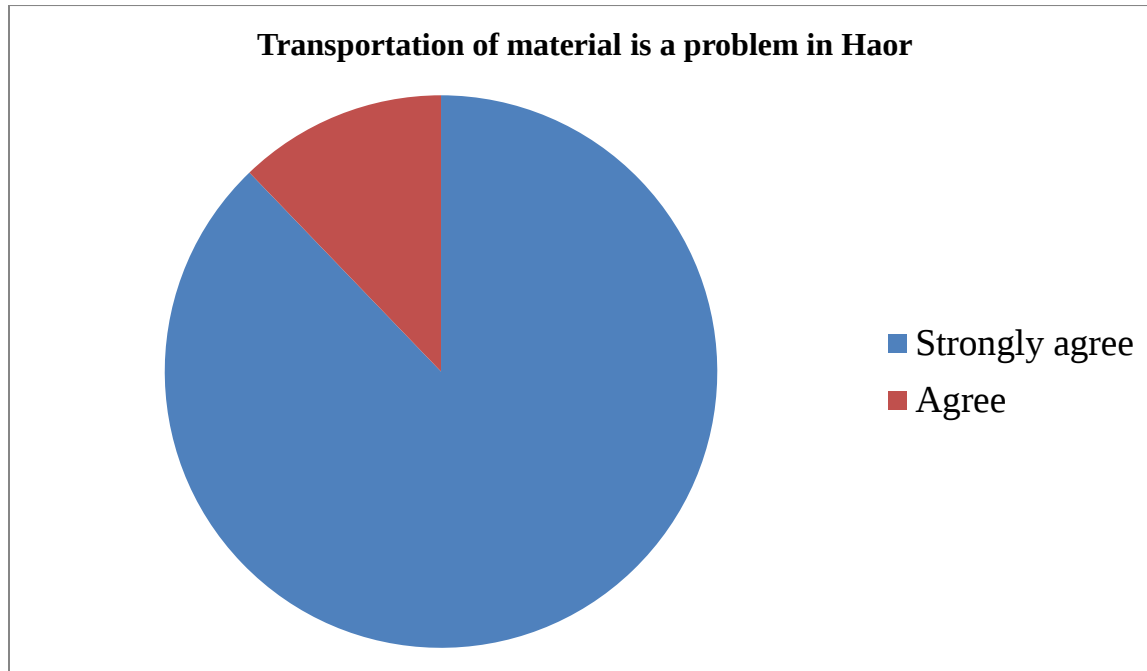


Figure 5: Scarcity of water during dry season hinder the progress of construction works

Among 41 (forty one) respondents 29 (twenty nine) respondents strongly agree, 8 (eight) respondents agree, 1 (one) respondent neither agree nor disagree and 3 (three) respondents disagree with the statement. Here 70.73% respondents strongly agree, 19.51% respondents agree, 2.44% respondents neither agree nor disagree and 7.32% respondents disagree with the statement.

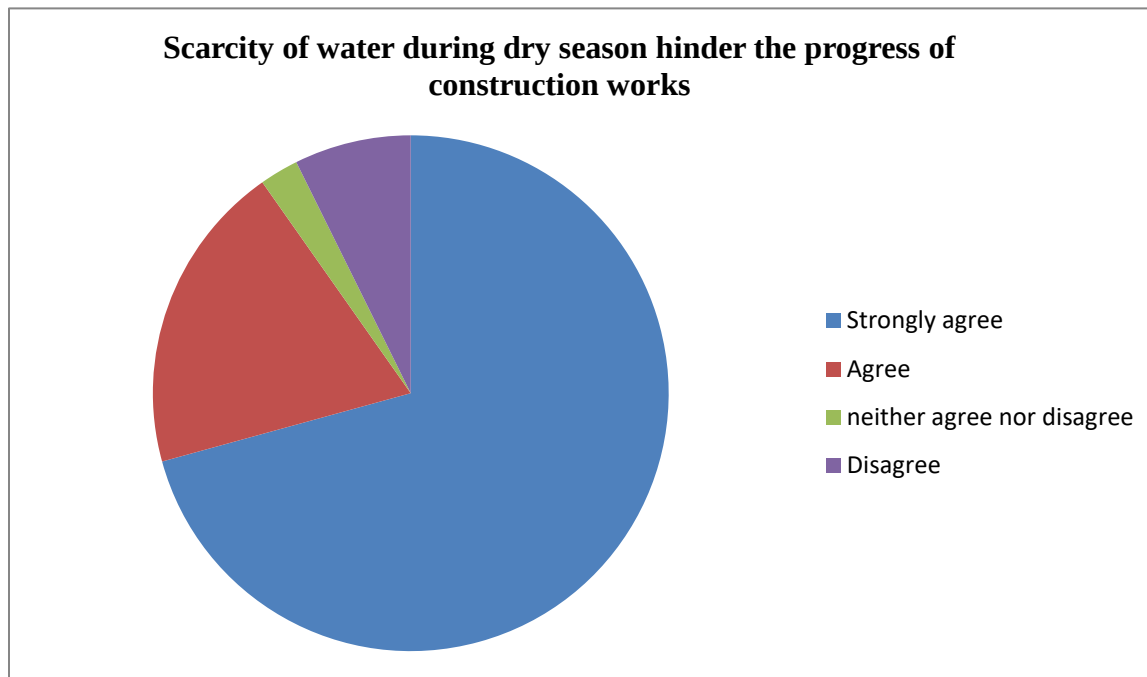


Figure 6: Flash flood often causes damages construction works in Haor

Among 41 (forty one) respondents 29 (twenty nine) respondents strongly agree with the statement and 12 (twelve) respondents agree with the statement. Here 70.73% respondents strongly agree and 29.27% respondents agree with the statement.

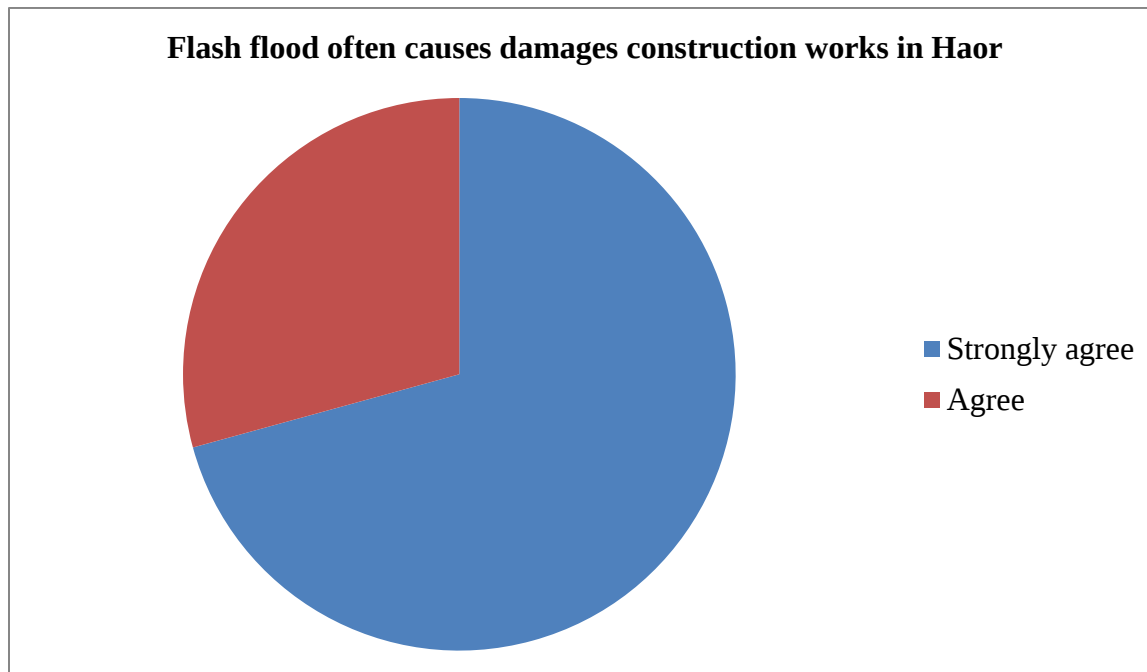


Figure 7: Supervision of work at Haor is difficult due to transportation problem

Among 41 (forty one) respondents 27 (twenty seven) respondents strongly agree and 14(fourteen) respondents agree with the statement. Here 65.85% respondents strongly agree and 34.15% respondents agree with the statement.

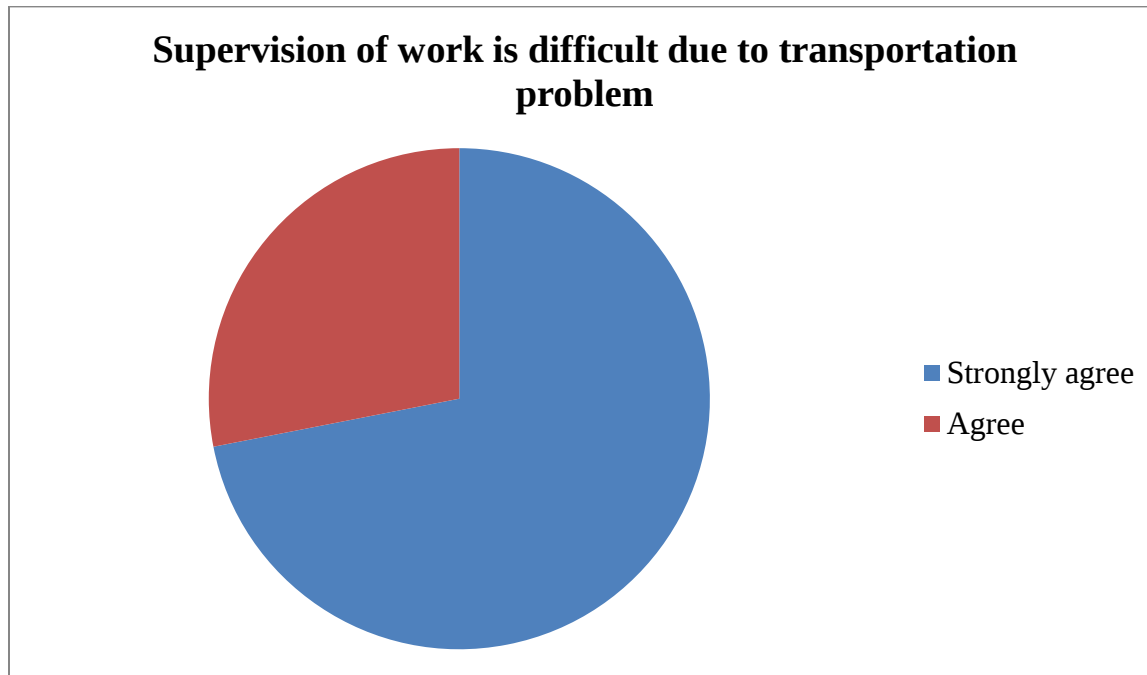
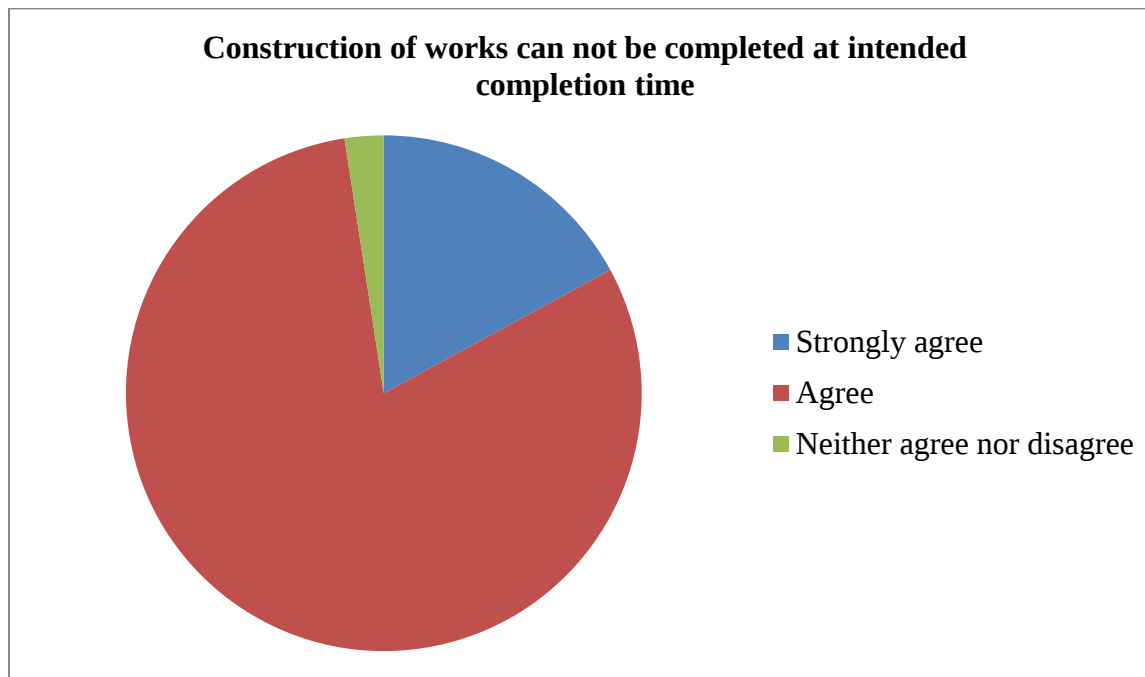


Figure 8: Construction of works cannot be completed at intended completion time

Among 41 (forty one) respondents 7 (seven) respondents strongly agree, 33 (thirty three) respondents agree and 01 (one) respondent neither agree nor disagree with the statement. Here 17.07% respondents strongly agree, 80.49% respondents agree and 2.44 % respondents neither agree nor disagree with the statement.



In this study questionnaire contains open type question which is challenges in work procurement at Haor which is not stated at closed type question. From the total respondent 17 respondents stated no additional cost in rate schedule for procurement in Haor. The other challenges stated in the open question by the respondents are over rainfall, less official and contractor, use of construction equipment, less working time, Skilled labor scarcity, scarcity of quality material, poor financial capacity of the contractor, insufficient electricity supply, slow internet speed.

4.4 Statistical assessment the way to combat the procurement challenges of works at Haor

4.4.1 Measurement of the central tendency & dispersion of the respondents in the view of combat challenges in procurement of works at Haor

To find out mean and standard deviation the Likert scale can be response can be assigned by numerical value. For strongly disagree=1, disagree=2, neither agree nor disagree=3, agree=4 and strongly agree=5

Table 5: Central tendency & dispersion of the respondents in the view of combat challenges in procurement of works at Haor

Statement	No of respondent					Mean	Variance	Standard deviation
	1	2	3	4	5			
To increase participation in tender tenderer development activity can be started	0	0	2	31	8	4.15	0.22	0.47
Tender process can be	0	2	3	14	22	4.37	0.67	0.82

completed during the time when both road and water way communication is difficult								
To reduce the risk due to flash flood insurance can be included in tender document PW2a and PW2b	1	3	0	22	15	4.15	0.85	0.92
To control quality of work construction material testing facilities should be available at Upazila office	0	1	0	26	14	4.29	0.35	0.59

The result shows that majority of the respondents agree the statements of (a) To increase participation in tender tenderer development activity can be started (b) Tender process can be completed during the time when both road and water way communication is difficult (c) To reduce the risks due to flash flood insurance can be included in tender document PW2a and PW2b. (d) To control quality of work construction material testing facilities should be available at Upazila office.

4.5 Graphical representation of respondents view to combat procurement challenges of works at Haor

Figure 9: To increase participation in tender tenderer development activity can be started

Among 41 (forty one) respondents 8 (eight) respondent strongly agree, 31 (thirty one) respondents agree and 2 (two) respondents neither agree nor disagree with the statement. Here 19.51% respondent strongly agree, 75.61% respondent agree and 4.88% respondents neither agree nor disagree with the statement

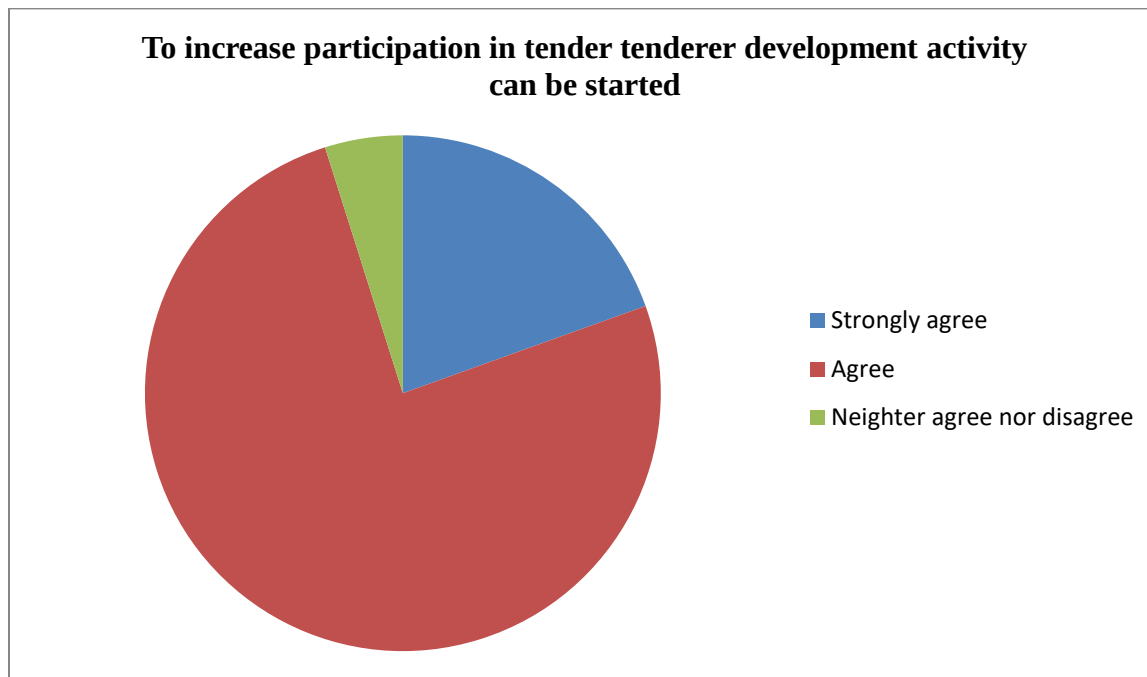


Figure 10: Tender process can be completed during the time when both road and water way communication is difficult

Among 41 (forty one) respondents 22 (twenty two) respondents strongly agree, 14 (fourteen) respondents agree, 3 (three) respondents neither agree nor disagree and 2 (two) respondents disagree with the statement. Here 53.66% respondents strongly agree, 34.14% respondents agree, 7.32% respondents neither agree nor disagree and 4.88% respondents disagree with the statement.

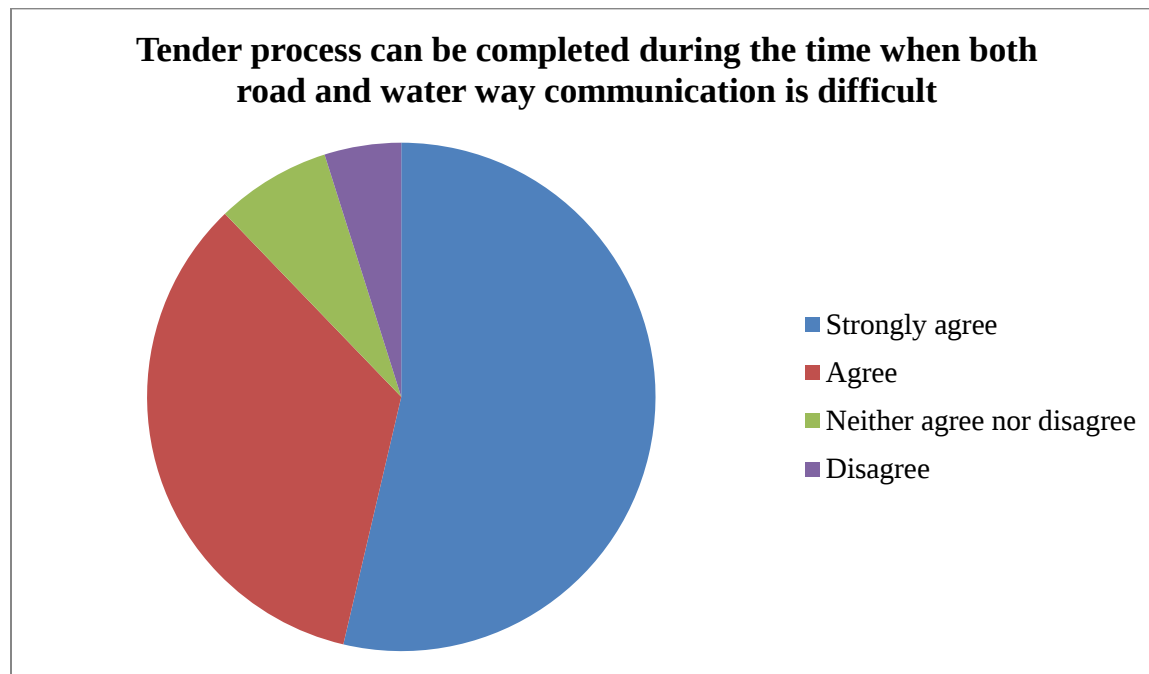


Figure 11: To reduce the risk due to flash flood insurance can be included in tender document PW2a and PW2b

Among 41 (forty one) respondent of the study 15 (fifteen) respondents strongly agree, 22 (twenty two) respondents agree, 3 (three) respondents disagree and 01 (one) respondent strongly disagree with the statement. Here 36.58% strongly agree, 53.66% agree, 7.32% disagree and 2.44% strongly disagree with the statement.

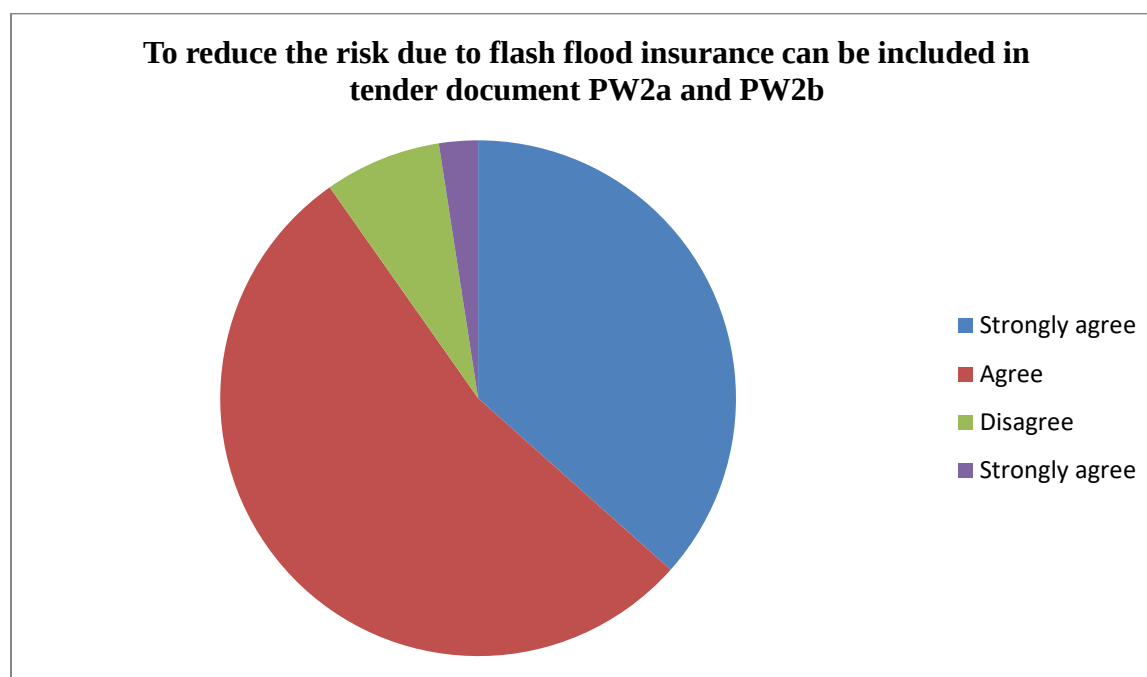
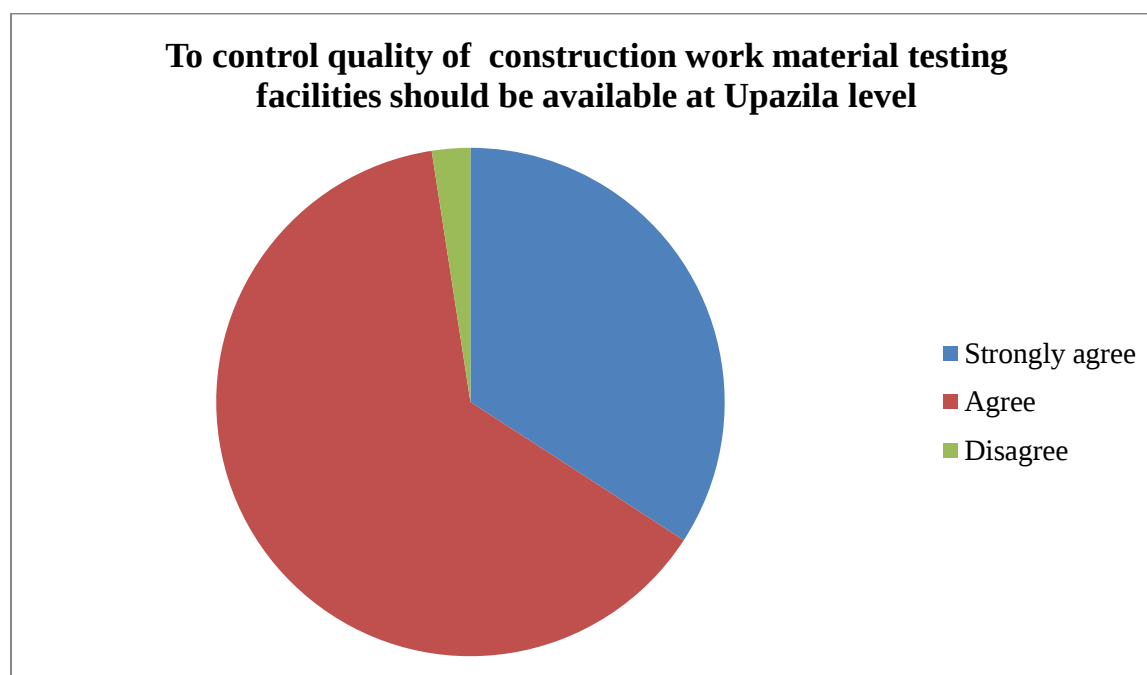


Figure 12: To control quality of construction work material testing facilities should be available at Upazila office

Among 41 (forty one) respondents 14 (fourteen) respondents strongly agree, 26 (twenty six) respondents agree and 01 (one) respondent disagree with the statement. Here 34.15% respondents strongly agree, 63.41% respondents agree, 2.44% respondents disagree with the statement.



From the open question in the questionnaire the respondents are asked to write other approach which is not stated to combat the challenges of procurement of work in Haor. Among the respondent 16 (sixteen) respondents stated need additional cost for transportation of construction material in rate schedule and 2 (two) respondents stated special or separate schedule of rates for Haor region. The other respondents stated the way to combat the challenges of procurement of work at Haor are STD can be changed for Haor area, skill development training for the labor, setting intended start time as per requirement.

4.6 Data analysis of works progress for LGED projects under Khaliajuri Upazila

From the progress report issued by Upazila Engineer, Khaliajuri on 3 march 2024 we find that there are 3(three) works of school construction under PEDP4 project. Two ongoing works not completed where intended completion time of the work has elapsed. One completed work's intended completion time was at 9 months but it completed at 15 months 8 days. Under NBIDGPS project out of 6 (six) works 5 (five) works completed and 01 (one) work is under progress. Among 6 (six) works 5 (five) works completed at extended completion time. NBIDNNGPS project has 2 (two) works. Two works is completed with extended completion time. The progress report of the three projects is shown in Table 6.

Table 6: Progress analysis of works for LGED projects at Khaliajuri Upazila

Name of Project	Number of work	Intended completion time(days)	Actual required time(days) up to earned progress	%Excess time required with respect to in intended time	Progress(%)
PEDP4	03	270	458	69%	100%
		270	640	137%	95%
		270	641	137%	60%
NBIDGPS	06	365	901	153%	100%
		270	584	116%	100%
		270	1706	531%	95%
		270	1098	306%	100%
		270	1420	426%	100%
		270	1174	335%	100%
NBIDNNGPS	02	244	1415	480%	100%
		225	761	238%	100%

The 01 (one) completed work of PEDP4 has completed at more than 69% of intended completion time. The other ongoing works need 137% more time than the intended completion time. NBIDGPS project has 6 (six) works. Out of 6 (six) works 5 (five) works completed where maximum 426% and minimum 116% excess time is needed with respect to intended completion time. NBIDNNGPS project has 2 (Two) works where maximum 480% and minimum 238% time is needed with respect to intended completion time. From the progress report of work of the three projects we can say that work progress at Khaliajuri Upazila is slow and no project completed at intended completion time and extended completion time is high.

4.7 Graphical representation of physical progress of the works Khaliajuri Upazila under Netrokona District

Figure 13 : Intended completion time (day) vs actual required time (day) of works under PEDP4 project at Khaliajuri Upazila, Netrokona District

This column chart show the comparison intended completion time (day) and actual required time (day) of works under PEDP4 project at Khaliajuri Upazila Netrokona District. Intended completion time (day) and actual required time (day) are shown in Y-axis. In X-axis works are shown as work-1, work-2 and work-3.

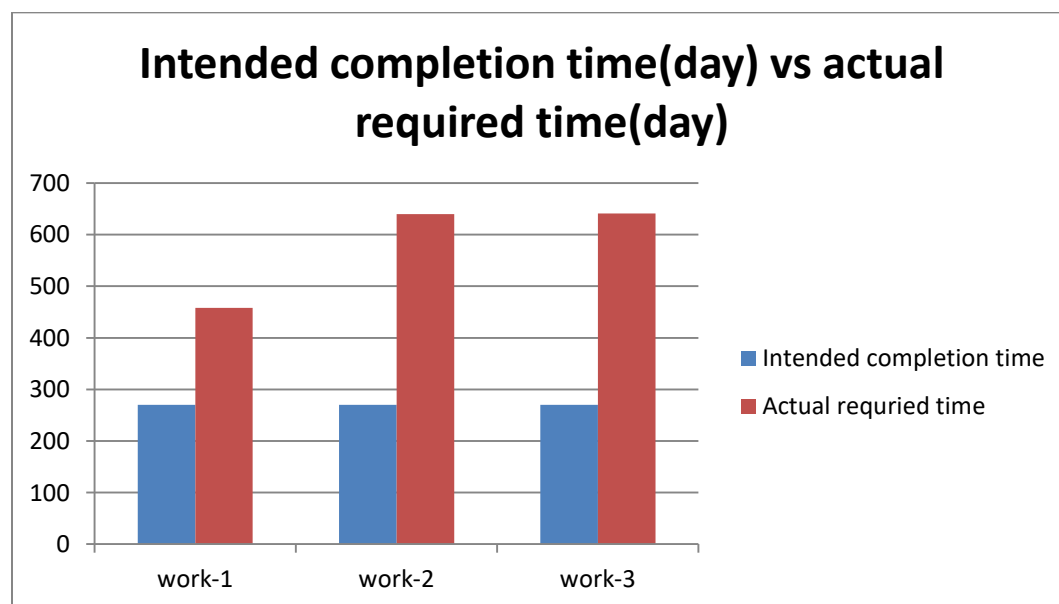


Figure 14 : Intended completion time (day) vs actual required time (day) of works under NBIGPS project at Khaliajuri Upazila, Netrokona District

This column chart show the comparison between between intended completion time (day) and actual required time (day) of works under NBIDGPS project at Khaliajuri Upazila Netrokona District. Intended completion time (day) and actual required time (day) are shown in Y-axis. In X-axis works are shown as work-1, work-2, work-3, work-5 and work-6.

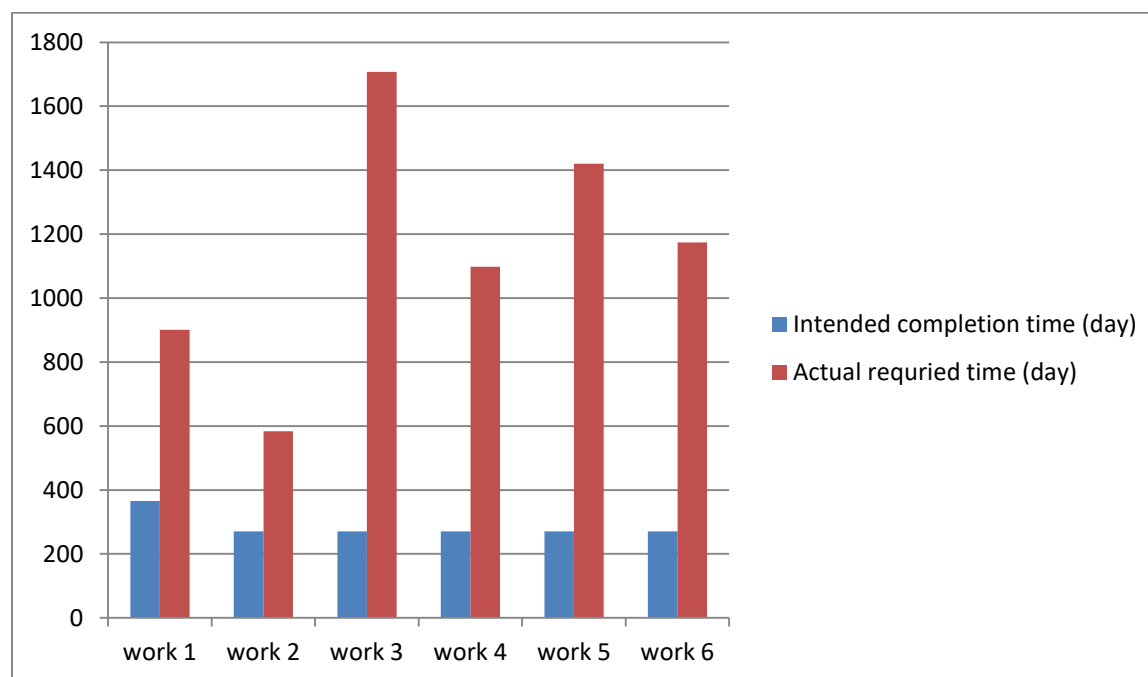
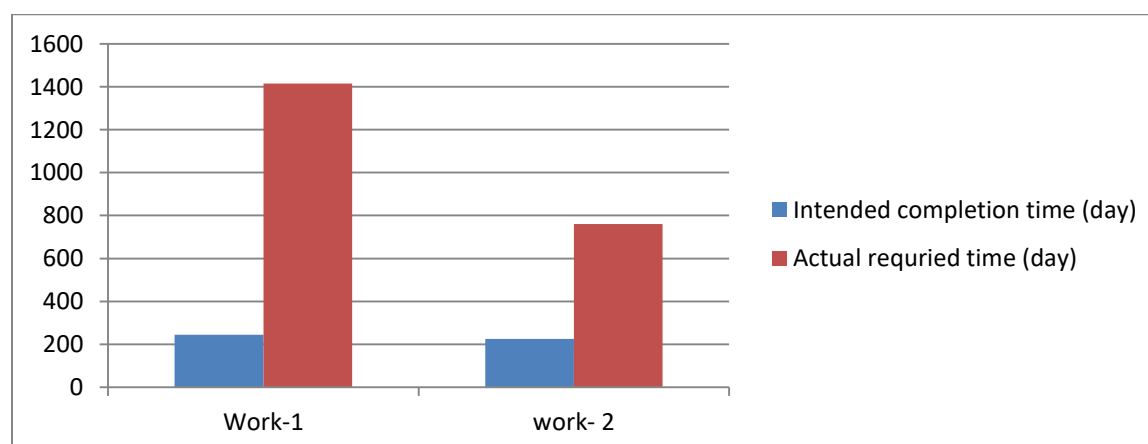


Figure 15 : Intended completion time (day) vs actual required time (day) of works under NBINNGPS project at Khaliajuri Upazila, Netrokona District

This column chart show the comparison between between intended completion time (day) and actual required time (day) of works under NBIDNNGPS project at Khaliajuri Upazila Netrokona District. Intended completion time (day) and actual required time (day) are shown in Y-axis. In X-axis works are shown as work-1, work-2.



Chapter 5

Conclusion and recommendations

5.1 Conclusion

Public procurement plays a vital role for development of a country. Bangladesh have a different topography such as Haor, Hilly area, Plain land, Costal area, Char land and Barind tract. Each of the topography has different landscape features. Procurement of work is implemented by contractor following PPA 2006 and PPR 2008. Terms& condition for public procurement in Bangladesh is same. But due to different topography features terms and condition should be different considering its different complexity. Haor is a landscape where the region remains watershed for 6-7 months in a year and due to insufficient road structure communication system is difficult some.

In this study we can see that procurement of work at Haor is harder and challenging than the plain land. Due to communication problem transportation of construction material is not easy and also costly. Watershed area in Haor proper measurement cannot be done to prepare cost estimate for work. Schedule of rates for cost estimate preparation do not have separate rate for Haor. To conduct electronic government procurement (e-GP) need proper electricity supply and internet speed. In study area electricity supply and internet speed is insufficient. We find that participation of tenderer in Haor is not sufficient in number. Quality of works depends on proper supervision and monitoring, materials quality, use of construction equipment. Communication system of Haor hinders supervision of work, procurement of quality material and use of construction equipment. Flash flood in Haor causes damages the construction work. There are also scarcity of water during dry season and scarcity of labor for works which hinder the progress of construction work as per planned schedule. From the progress report of Upazila Engineer office, Khaliajuri we find that works progress is not satisfactory and works is not completed within the intended completion period.

In this study we tried to find out the ways to combat the challenges of procurement of work in Haor. Tenderer`s wider participation in tender increase competition in tender. Tenderer development activity can be taken such as advance payment, ensuring credit facilities, training for tenderers can be increased participation in tender process. In Haor the time in between dry condition and water submerged condition both water way and road way become impossible to carry construction material and also conduct supervision of work. As we know online tendering is office based work. To utilize this time tender process can be completed when both road and water way communication is difficult and work can't be started. Standard tender document PW2a & PW2b for work has no insurance coverage in GCC and PCC. In Haor flash flood damages construction materials. To reduce the risks due to flash flood insurance provision can be included in standard tender document PW2a and PW2b. Quality is an important issue for works procurement. In Hoar materials to control quality of works construction materials testing facilities should be made available at Upazila Engineer office.

5.2 Recommendations

From the study we find that there are some challenges of procurement of work at Haor due to its topography. We also find some ways to combat the challenges based on this study. Recommendations from the study are given below-

- (a) Authority should include insurance coverage provision in Standard Tender Document PW2a and PW2b for man, material and equipment loss.
- (b) Project at Haor need wider time extension approval. Time extension approval authority of Upazila Engineer and Executive Engineer at Haor region should be increased.
- (c) Schedule of rates for cost estimate preparation for Haor region should contain separate rate considering topographical complexity, scarcity of construction materials and scarcity of construction labor.
- (d) Procuring entity of Haor region should prepare Annual Procurement Plan considering scenario of Haor.
- (e) Authority should take tenderer development activity so that participation of tenderer at Haor is increased.
- (f) Since communication problem at Haor hinder quality of work. Authority should set up laboratory facilities at Upazila for conducting materials test.
- (g) Authority should provide speed boat for supervising work so that supervision can be done properly during water logging time.
- (h) Contractors of work should deploy more work forces when working time exists so that more progress can be achieved and it should be incorporated in work plan of contractor.
- (i) Intended completion time of works at Haor should be determined considering workable period.

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Appendix-A

Brac Institute of Governance and Development (BIGD)

BRAC University

Survey Questionnaire

Research topics: Challenges in procurement of works at Haor. A case study of LGED projects under Khaliajuri upazila, Netrokona.

This is a survey questionnaire for conducting a study to find out the challenges in public procurement of works in Haor. This study is a part academic necessity for Masters in Procurement and Supply Management in Brac Institute of Governance and Development, BRAC University. Your response is valuable to the researcher. The researcher ensures you that the information to be provided by you will be kept confidential & will be used only for academic purpose.

Part A : Respondent's Profile [Please tick (✓) in respective box]

1	Name (Optional)	:					
2	Designation	:					
3	Name of the organization	:					
4	Length of service	:	< 5yrs	5-10 yrs	11-15 yrs	16-20 yrs	>20 yrs
5	Length of experience in public procurement	:	< 5yrs	5-10 yrs	11-15 yrs	16-20 yrs	>20 yrs
6	Role in procurement		PE	Member Of TEC	Approving Authority	Tenderer	others
6	Age	:					
7	Educational qualification	:					

Part B: To find out challenges of procurement of works at Haor please encircle (0) only one number that best reflect your opinion (1= Strongly disagree, 2=Disagree, 3=Neither agree nor disagree , 4=Agree , 5= Strongly agree)

Sl No	Question	Scale 1 to 5				
1	Procurement of works at Haor is quite harder than plain land	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2	Challenges you face /experienced in haor area are listed below					
2.a	Field survey for cost estimate preparation at Haor is difficult	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2.b	Participation of Tenderer at Haor is not sufficient	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2.c	Transportation of material is a problem at Haor	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2.d	Scarcity of water during dry season hinder the progress of construction works	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2.e	Flash flood often causes damages construction works at Haor	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
2.f	Supervision of works at Haor is difficult due to transportation problem	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5

2.f	Construction of works can not be completed at intended completion time	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
3	The ways to combat the challenges					
3.a	To increase participation in tender tenderer development activities can be started	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
3.b	Tender process can be completed during the time when both road and water way communication is difficult	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
3.c	To reduce the risks due to flash flood insurance can be included in tender document PW2a and PW2b	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
3.d	To control quality of works construction materials testing facilities should be available at Upazila office	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
4	Please write down if any challenge in works procurement at Haor which is not stated above					
5	Please write down if any way which is not stated above to combat challenge in works construction at Haor					

Signature (Optional)