

SUSTAINABLE PROCUREMENT IN TRANSPORTATION SECTOR OF BANGLADESH

By

**A S AS SABAHAH
Student ID # 21282017**

**A thesis submitted in partial fulfillment of the requirements for the degree of
Masters in Procurement and Supply Management**

**BRAC Institute of Governance and Development
BRAC University
January 2024**

**© 2024. A S AS SABAHAH
All rights reserved.**

Letter of Transmittal

January 28, 2024

Mr. Hasan Maksud Chowdhury
Assistant Professor
BRAC Business School, BRAC University
Bangladesh

Subject: **Letter of Transmittal**

Respected Sir,

It is with great satisfaction that I present the dissertation titled "Sustainable Procurement in the Transportation Sector of Bangladesh". This work has been completed as part of the requirements for the Master's in Procurement and Supply Management (MPSM) at the BRAC Institute of Governance and Development (BIGD), BRAC University.

My report has been meticulously compiled in accordance with established guidelines and exemplifies the best procurement practices employed by transportation sector organizations in Bangladesh, particularly Roads and Highways Department (RHD) and Bangladesh Railway (BR). I have adopted suitable methods for data collection, which were subsequently analyzed. Within the given time frame, I have given my best effort to prepare this report comprehensive, precise, and flawless to the extent possible.

In conclusion, I extend my deepest appreciation for your valuable and proficient guidance, which has significantly enriched my knowledge, expertise, and skills in procurement practices, thereby greatly contributing to my future professional pursuits.

Thanking You and Sincerely Yours,

A S AS SABAH
Student ID # 21282017

Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.
2. The thesis 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 thesis 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.

Student's Full Name & Signature:

A S AS SABAH
Student ID # 21282017

Approval

The thesis titled “Sustainable Procurement in the Transportation Sector of Bangladesh” submitted by

1. A S AS SABAH (Student ID # 21282017)

of Fall 2021 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Masters in Procurement and Supply Management on 15 February 2024.

Examining Committee:

Supervisor:
(Member)

Hasan Maksud Chowdhury
Assistant Professor
BRAC Business School, BRAC University

Program Coordinator:
(Member)

Mohammad Sirajul Islam
Senior Academic Coordinator
BRAC Institute of Governance and Development (BIGD)
BRAC University

External Expert Examiner:
(Member)

Md. Enamul Huque
Deputy Project Director
Dhaka Mass Rapid Transit Development Project
Dhaka Mass Transit Company Limited

Departmental Head:
(Chair)

Dr. Imran Matin
Executive Director
BRAC Institute of Governance and Development (BIGD)
BRAC University

Ethics Statement

The following issues had been considered in preparing the thesis:

No participants (respondents) were harmed or placed in an uncomfortable position during data collection. The participants were aware of their involvement in the research and understood the expectations placed upon them. Generally, the respondents were given information that could impact their choice to engage in the research questionnaire. The participants willingly engaged in the research, free from any coercion or deception.

Throughout every stage of the process, from data collection to publication, the research data was securely safeguarded. The respondent's anonymity and confidentiality were strictly considered. The research avoided all types of deceptive practices.

Student's Full Name & Signature:

A S AS SABA
Student ID # 21282017

Executive Summary

The Public Procurement Act, 2006 (PPA 2006) stands as the exclusive formal act governing public procurement practices within Bangladesh. PPA 2006 is not 'exclusive' act relevant for procurement, although it is the most relevant act. Other acts like Contract Act 1872, Arbitration Act 2001 etc. are also applicable for any procurement. Under PPA 2006, 'procurement' is characterized as "the process of purchasing or hiring goods, acquiring goods via purchase and hire, and carrying out works and services through various contractual methods."

Given that Bangladesh's transport infrastructures are managed by the Government, but the vehicles used for transport are mostly owned by the private owners. Procurement within this sector can be broadly described as "the process of purchasing, hiring, or acquiring goods, works, or services by the transport division through various contractual methods."

Procurement in the transportation sector encompasses a wide array of items, from basic goods and services like construction materials and cleaning services to extensive infrastructure projects. These include the development of road and rail infrastructure, procurement of road or track maintenance equipment, and various consulting services.

Procurement within the transport division widely differs from that within the private segment. The reason for procurement within the private division is fundamentally direct, wherein the public division is complex, because it considers the financial improvement and welfare of the country, instead of only the commercial benefits. Moreover, unlike other private sector procurement, transport division procurement must address the contemplations of integrity, accountability, and national intrigued since this segment deals with the common people's money within the nation.

Sustainable procurement aligns with the tenets of sustainable development, which include ensuring a strong, healthy, and fair society for everyone, operating within environmental boundaries, and fostering effective governance. This procurement approach integrates considerations of economic, social, and environmental sustainability into the decision-making process for all purchases.

This thesis includes an analysis of procurement processes in two transportation sector organizations, RHD and BR, to assess the potential for sustainable procurement. The current procurement framework in the transport sector, while containing some provisions in the Public Procurement Rules, 2008 (PPR 2008) and Standard Tender Documents (STDs) that address sustainability concerns, is found to be insufficient for fully integrating sustainability into the procurement practices of the transport division.

The examination of sustainable procurement practices in RHD and BR involved a comprehensive review of various documents, articles, public procurement rules and regulations, materials from the Central Procurement Technical Unit (CPTU), Roads and Highways Department (RHD), and Bangladesh Railway (BR). This was supplemented by interviews with key procurement professionals in these divisions and surveys conducted with various procurement officers from RHD and BR. These investigations focused on three primary aspects: economic, environmental, and social/ethical elements of sustainable procurement. The analysis reveals that while there are instances of sustainability practices being implemented, these are not extensively prevalent throughout Bangladesh's transport sector as a whole.

The current tendering system in Bangladesh predominantly focuses on the lowest bid price, which remains the principal factor in selecting suppliers or contractors. Whole life costing is rarely applied in project procurements. The criteria set out in tender documents do not sufficiently enable local firms to engage effectively in local bidding processes. In terms of environmental policy, the transport sector either follows government guidelines, those of funding agencies, or a combination of both. Ecolabels are not a consideration during the procurement of goods or services. Environmental criteria, such as Environmental Impact Assessments (EIA), are sometimes used in large contract procurements. However, the existing procurement system in the transport sector offers limited scope to ensure the environmental compliance of suppliers or contractors. There is also a lack of mechanisms to enforce adherence to minimum environmental legal standards. Conversely, the procurement framework generally ensures equal opportunity for all bidders and includes practices like ethical labor standards, encouraging female labor participation, and the prohibition of child labor.

It is essential to integrate sustainability criteria into the tendering framework of any organization. Enhancing knowledge and awareness among individual procurement

professionals is critically important for making informed and sustainable procurement decisions.

A definitive commitment from top management is crucial, and this dedication should be communicated to all individuals engaged in procurement or purchasing functions within the organization. Consequently, it's imperative to develop a sustainable procurement policy and align the organization's procurement framework with this policy.

Finally, there is a significant opportunity for further research on sustainability and procurement issues. In-depth studies should be conducted to gain a more comprehensive understanding of how sustainability relates to procurement in the transportation sector of Bangladesh.

Acknowledgement

At the outset, the Author wishes to express gratitude to Almighty Allah for providing the opportunity and capability to complete this dissertation, which forms a part of the requirements for the Masters in Procurement and Supply Management (MPSM) degree at the BRAC Institute of Governance and Development (BIGD), BRAC University.

The Author also wishes to convey profound appreciation and respect to his esteemed Supervisor, Mr. Md. Hasan Maksud Chowdhury, for his academic mentorship, keen interest, insightful critiques, invaluable advice, and diligent supervision during the thesis work, as well as in the development and finalization of this dissertation.

Additionally, the Author extends his deepest gratitude to the staff and officers from various departments of the Roads and Highways Department (RHD) and Bangladesh Railway (BR). Their generous contribution of time, effort, and provision of data, information, and suggestions have been invaluable to the Author.

Finally, the Author would like to convey his heartiest thankfulness to the officers and staff of the BIGD of BRAC University for their excellent support during the entire study period.

Student's Full Name & Signature:

A S AS SABAH
Student ID # 21282017

Table of Contents

| | |
|--|------------|
| Letter of Transmittal | iii |
| Declaration..... | iv |
| Approval | v |
| Ethics Statement..... | vi |
| Executive Summary | vii |
| Acknowledgement | x |
| Table of Contents | xi |
| List of Figures..... | xv |
| List of Acronyms | xvi |
| Chapter 1 INTRODUCTION | 1 |
| 1.1 Overview..... | 1 |
| 1.2 Objectives of the Research..... | 2 |
| 1.3 Research Questions | 3 |
| 1.4 Scope of the Study | 3 |
| 1.5 Research Methodology | 4 |
| 1.6 Limitations of the Thesis | 5 |
| 1.7 Thesis Structure | 6 |
| Chapter 2 LITERATURE REVIEW | 7 |
| 2.1 Overview..... | 7 |
| 2.2 Sustainability..... | 7 |

| | |
|--|-----------|
| 2.3 Sustainable Development..... | 7 |
| 2.4 Sustainable Development Goals | 8 |
| 2.5 Sustainable Procurement..... | 9 |
| 2.6 Procurement Cycle..... | 10 |
| 2.7 Whole Life Cost..... | 11 |
| 2.8 Ecolabel..... | 11 |
| 2.9 Triple Bottom Line | 12 |
| 2.10 Environmental, Social, and Governance (ESG) Framework..... | 14 |
| 2.11 Sustainable Procurement KPIs..... | 14 |
| 2.12 Sustainable Public Procurement | 15 |
| Chapter 3 TRANSPORT SECTOR AND SUSTAINABILITY ISSUES IN PUBLIC PROCUREMENT RULES OF BANGLADESH..... | 17 |
| 3.1 Overview..... | 17 |
| 3.2 Sustainable Public Procurement (SPP) Policy, 2023 | 18 |
| 3.3 Transport Sector of Bangladesh..... | 18 |
| 3.4 Roads and Highways Department..... | 20 |
| 3.5 Bangladesh Railway..... | 21 |
| 3.6 Public Procurement in Bangladesh | 22 |
| 3.7 Sustainability Issues in PPR 2008..... | 22 |
| Chapter 4 SUSTAINABLE PROCUREMENT IN TRANSPORT SECOTR OF BANGLADESH: AN ANALYSIS | 26 |
| 4.1 Overview..... | 26 |

| | |
|---|----|
| 4.2 Procurement Procedures of Transport Sector | 26 |
| 4.3 Procurement Methods Used in RHD and BR | 29 |
| 4.4 e-GP | 30 |
| 4.5 Tender Evaluation Committee | 31 |
| 4.6 Key Principles of Public Procurement in RHD and BR | 32 |
| 4.7 Sustainable Procurement in Procurement Policy of RHD and BR | 32 |
| 4.8 Data Collection and Interview Findings | 34 |
| 4.8.1 Information on Sustainable Development Goals | 34 |
| 4.8.2 Social/Ethical Aspects of Sustainable Procurement | 34 |
| 4.8.2.1 Equal Opportunity for Bidders..... | 35 |
| 4.8.2.2 Labor Practices..... | 35 |
| 4.8.2.3 Female Participation | 36 |
| 4.8.2.4 Child Labor | 37 |
| 4.8.2.5 CSR Activity..... | 37 |
| 4.8.3 Environmental Aspects of Sustainable Procurement..... | 38 |
| 4.8.3.1 Environmental Policy or Environmental Management Plan | 39 |
| 4.8.3.2 Environmental Performance of Suppliers or Contractors..... | 40 |
| 4.8.3.3 Enhancement of Suppliers Environmental Performance | 40 |
| 4.8.3.4 Ecolabel..... | 40 |
| 4.8.3.5 Compliance with Minimum Legal Standards | 41 |
| 4.8.4 Economic Aspects of Sustainable Procurement | 41 |

| | |
|---|-----------|
| 4.8.4.1 Key Criteria during Procurement..... | 41 |
| 4.8.4.2 Whole Life Costing..... | 42 |
| 4.8.4.3 Participation of Local Firms during Procurement | 43 |
| 4.8.5 Procurement Life Cycle | 43 |
| 4.9 Summary of the Analysis..... | 44 |
| Chapter 5 CONCLUSION AND RECOMMENDATION | 47 |
| 5.1 Overview..... | 47 |
| 5.2 Conclusion | 48 |
| 5.3 Recommendation | 50 |
| References..... | 53 |
| Appendix A - Research Questionnaire..... | 54 |

List of Figures

| | |
|---|-----------|
| Figure 1: Research Objectives | 2 |
| Figure 2: Research Questions | 3 |
| Figure 3: Overview of Methodology | 5 |
| Figure 4: Depositions of the Thesis | 6 |
| Figure 5: Foundations of Sustainability | 7 |
| Figure 6: Diagram Listing the 17 Sustainable Development Goals | 8 |
| <i>Figure 7: Supply Chain Procurement Cycle.....</i> | <i>10</i> |
| <i>Figure 8: The Triple Bottom Line of Sustainable Procurement</i> | <i>13</i> |
| <i>Figure 9: Supply Chain Focus Areas related to ESG</i> | <i>14</i> |
| <i>Figure 10: Organogram of Roads and Highways Department (Source: RHD website).....</i> | <i>26</i> |
| <i>Figure 11: Organogram of Roads and Highways Department (Source: RHD website).....</i> | <i>27</i> |
| <i>Figure 12: Brief Organogram of Bangladesh Railway (Source: BR Information Book 2020)</i> <i>.....</i> | <i>28</i> |
| <i>Figure 13: Approaches to Procurement for Goods and Services</i> | <i>29</i> |
| <i>Figure 14: Methods of Procurement for Services.....</i> | <i>30</i> |
| <i>Figure 15: Tender Evaluation Steps</i> | <i>31</i> |
| <i>Figure 16: Key Principles of Public Procurement</i> | <i>32</i> |
| <i>Figure 17: Ethical Labor Practices in the Organization.....</i> | <i>36</i> |
| <i>Figure 18: Female Labor Participation in the Organization.....</i> | <i>37</i> |
| <i>Figure 19: CSR Activity of the Organization.....</i> | <i>38</i> |
| <i>Figure 20: Organizations Environmental Policy or Environmental Management System</i> | <i>39</i> |
| <i>Figure 21: Key Criteria Consideration during Procurement.....</i> | <i>42</i> |
| <i>Figure 22: Consideration of Whole Life Costing during Procurement.....</i> | <i>43</i> |
| <i>Figure 23: Procurement Life Cycle Consideration during Procurement.....</i> | <i>44</i> |

List of Acronyms

| | |
|-------|--|
| ACE | Additional Chief Engineer |
| ADB | Asian Development Bank |
| APCC | Australasian Procurement and Construction Council |
| BIGD | BRAC Institute of Governance and Development |
| BPPA | Bangladesh Public Procurement Authority |
| BR | Bangladesh Railway |
| BRA | Bangladesh Railway Authority |
| BRTA | Bangladesh Road Transport Authority |
| BRTC | Bangladesh Road Transport corporation |
| CIPS | Chartered Institute of Procurement and Supply |
| CPTU | Central Procurement Technical Unit |
| CSR | Corporate Social Responsibility |
| DG | Director General |
| DOE | Department of Environment |
| DPM | Direct Procurement Method |
| DTCA | Dhaka Transport Co-ordination Authority |
| ECNEC | Executive Committee of the National Economic Council |
| EIA | Environmental Impact Assessment |
| E-GP | E-Government Procurement |

| | |
|----------|---|
| EMS | Environmental Management System |
| ESG | Environmental, Social, and Governance |
| FBS | Fixed Budget Selection |
| GCC | General Conditions of Contract |
| GDP | Gross Domestic Product |
| GOB | Government of Bangladesh |
| GRP | Government Railway Police |
| HOPE | Head of Procuring Entity |
| IMED | Implementation Monitoring and Evaluation Division |
| ISO | International Organization for Standardization |
| JICA | Japan International Cooperation Agency |
| KII | Key Informants Interviews |
| KPI | Key Performance Indicators |
| LCC | Life Cycle Cost |
| LTM | Limited Tendering Method |
| MDG | Millennium Development Goals |
| NGO | Non Government Organization |
| OTM | Open Tendering Method |
| PPA 2006 | Public Procurement Act, 2006 |
| PPR 2008 | Public Procurement Rules, 2008 |
| PMIS | Procurement Management Information Systems |

| | |
|------|----------------------------------|
| QCBS | Quality and Cost Based Selection |
| RFQ | Request for Quotation |
| RHD | Roads and Highways Department |
| RNB | Railway Nirapatta Bahini |
| SDG | Sustainable Development Goals |
| SPP | Sustainable Public Procurement |
| SRFP | Standard Request for Proposal |
| STD | Standard Tender Document |
| TBL | Triple Bottom Line |
| TSTM | Two-Stage Tendering Method |
| UN | United Nations |
| WB | World Bank |

Chapter 1

INTRODUCTION

1.1 Overview

Sustainable procurement, often referred to as "green procurement," involves the integration of environmental, social, and governance (ESG) goals into the processes of purchasing, supply chain management, and procurement activities. Sustainable procurement embeds responsible business practices and ethical corporate behavior into procurement processes, guidelines, and decision-making. Sustainable procurement achieves equilibrium among sustainability, profitability, and fulfilling stakeholder expectations.

The concept of sustainable procurement initially surfaced in a broad sense in 1992, following the Rio Earth Summit. Its primary objective is to minimize the adverse environmental, social, and economic effects of acquired goods and services over their entire lifecycle.

In 2005, the UK Government established a Sustainable Procurement Task Force, which formulated a definition of sustainable procurement. This definition is now recognized and utilized by the Australian Procurement and Construction Council (APCC), the United Nations (UN), and the UK Government:

“A method in which organizations fulfill their requirements for goods, services, works, and utilities in a manner that ensures value for money over the entire lifecycle. This approach aims to yield benefits not just for the organization, but also for society and the economy, while concurrently reducing environmental harm.”¹

This definition has been further described by Bryde and Meehan in 2010, which is as follows:

“Sustainable procurement involves recognizing and managing the social, ethical, safety, environmental, and economic values linked to supply chain and material selection. Enhancing procurement performance contributes to the establishment of

¹ APCC 2007, *Framework for Sustainable Procurement by the Australian and New Zealand Governments*

socially responsible purchasing practices. This includes aligning sustainable procurement with legal requirements and initiatives concerning the choice of materials, suppliers, and subcontractors. It also involves considering the impacts on the environment and community, responsible selection, and optimizing the use of products, works, and services”².

As an intermediary in the economy, the transportation sector occupies a special position when it comes to sustainable development. This intermediary role is both quantitative and qualitative. Through improving transportation system efficiency, the industry can promote sustainability. The transport sector in Bangladesh is developing with rapid growth to achieve sustainable goals. Therefore, the Bangladesh Government has continuously invested in various projects of the transportation sector. This in turn helps the transport sector organizations to improve their environmental, social/ethical, and economic performance.

1.2 Objectives of the Research

This research focuses on the sustainable procurement practices in the transport sector of Bangladesh. The research objectives are shown in Figure 1.

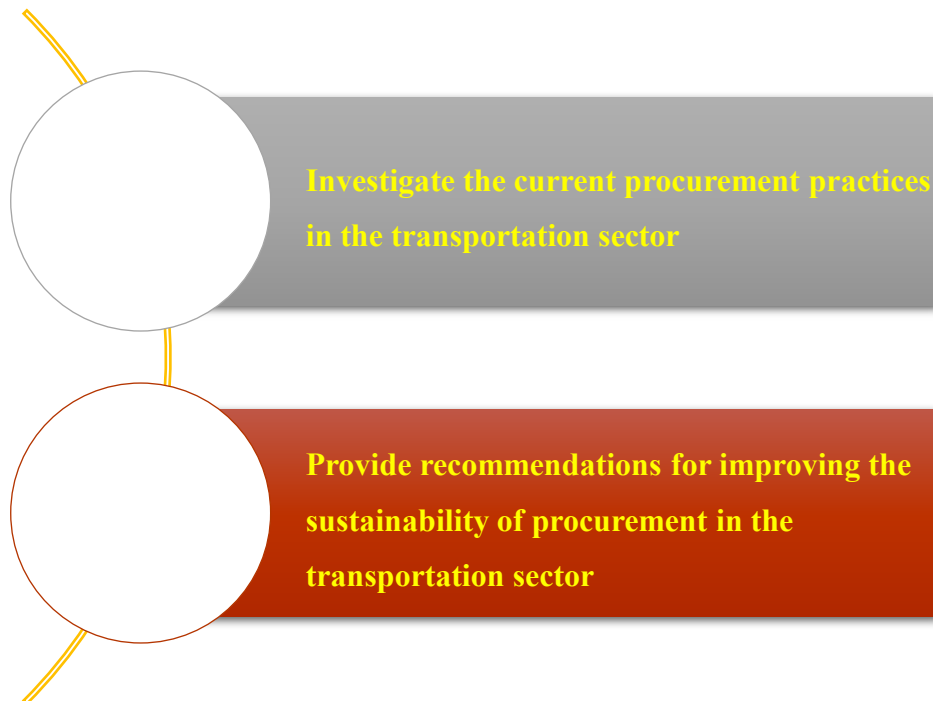


Figure 1: Research Objectives

² *Bryde and Meehan, 2010*

The research has used a mixed methods approach, integrating qualitative and quantitative data collection techniques. The study is anticipated to advance knowledge of sustainable procurement practices in Bangladesh and provide policymakers, practitioners, and stakeholders with recommendations for enhancing the sustainability of procurement in the transportation sector.

1.3 Research Questions

Two questions have been covered under this research in response to the objectives mentioned in the previous section (Figure 2).

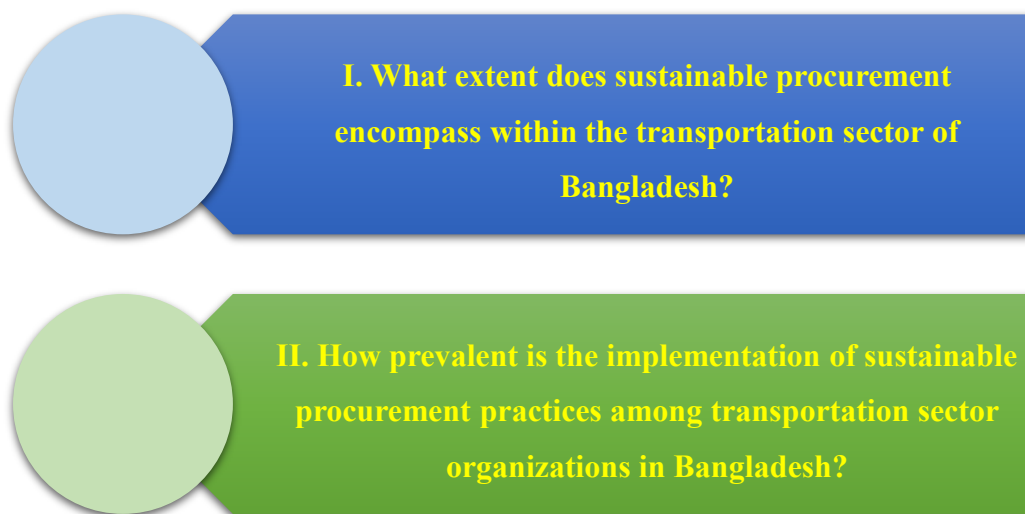


Figure 2: Research Questions

1.4 Scope of the Study

The primary focus of this study is on public procurement within Bangladesh's transportation sector. To understand sustainable procurement practices in the transportation sector, two key organizations have been considered in this study, namely Roads and Highways Department (RHD) and Bangladesh Railway (BR).

It is therefore important and relevant to study how money is spent and how to integrate green initiatives into transportation sector procurement, as there has been no in-depth research on sustainability in the sector.

This study has covered the measures/initiatives taken by organizations in the transport sector to integrate sustainable procurement into their systems and the extent to which they implement sustainable procurement supported by data obtained and information gathered through analysis of various reports and Key Informant Interviews (KII).

1.5 Research Methodology

The first approach of this research was to collect and review all the relevant literature for better understanding on sustainable procurement and subsequently proceed with the thesis to achieve the research objectives as described above.

After reviewing the secondary data, in-depth interviews with procurement professionals from different functions of RHD and BR were conducted to better understand sustainable procurement practice in the transport sector. Secondary data was collected and reviewed from the following sources:

- Procurement related materials, such as policies, documents, articles.
- Different types of reports, rules and regulations related to public procurement.
- Documents from Central Procurement Technical Unit (CPTU), RHD and BR.

The above secondary data was collected and reviewed to better apprehend the positioning of transport sector organizations in terms of sustainable procurement practices.

Both open-ended and closed-ended questions were developed for collecting requisite data through KII. The main emphasis of the interviews was to assess the preparedness and practices by the organizations to handle the three aspects of sustainable procurement: environmental, social, and economic.

Data collected from KII's using survey questionnaire has been analyzed based the questions asked during the interview process. The Author have made further analysis on each question to have a complete scenario of the topic. Qualitative analysis has been performed using the respondent's perception. Moreover, based on the information received from respondent's, some quantitative analysis has also been conducted, which are presented using graphs, figures, pie charts, etc.

Figure 3 below provides a graphical representation of the step-by-step methodology overview.

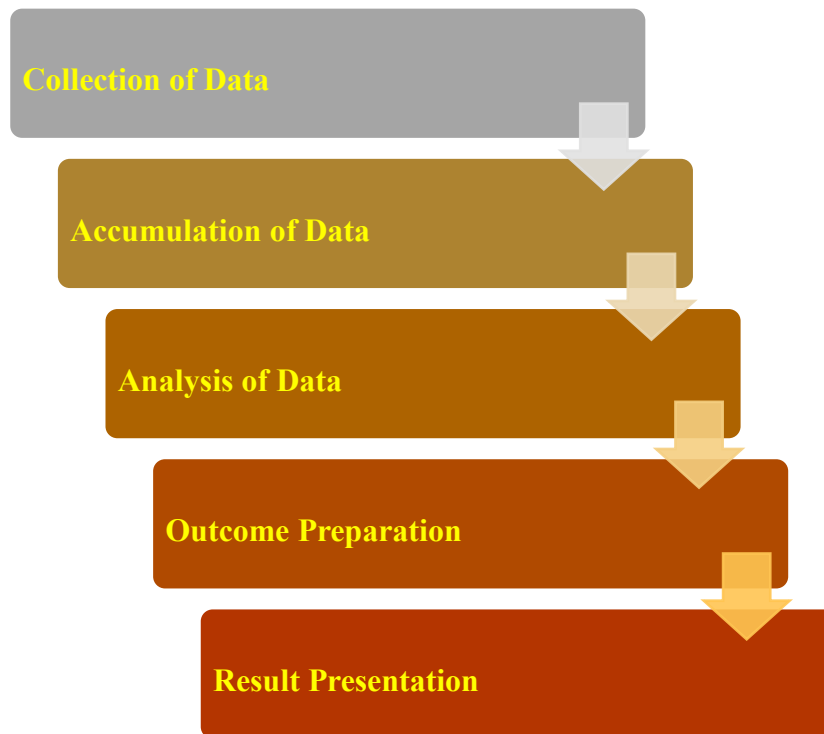


Figure 3: Overview of Methodology

The findings and results of this research, as presented in this thesis, have been composed in alignment with the stipulated guidelines of the BRAC Institute of Governance and Development (BIGD), BRAC University, and were developed under the supervision and guidance of the esteemed Supervisor.

1.6 Limitations of the Thesis

The respondents' response due to their busy schedules and the meeting appointment were the main constraints of this study, yet they participated and provided responses voluntarily.

It was not always possible to conduct a thorough in-field survey using questionnaires due to scheduling constraints of the respondents. This is why some data was gathered using other channels, such the telephone. This study attempted to investigate the sustainable procurement scenario in transportation sector of Bangladesh with an emphasis on legislative and organizational management.

Furthermore, the study has selected only two transport sector organizations: RHD and BR. Due to schedule and budget constraints, the study solely focused on overall and general procurement practices that the survey was conducted only from the classified and selected officers of RHD and BR.

1.7 Thesis Structure

Five (5) different chapters have been used to develop this thesis, as shown in Figure 4.

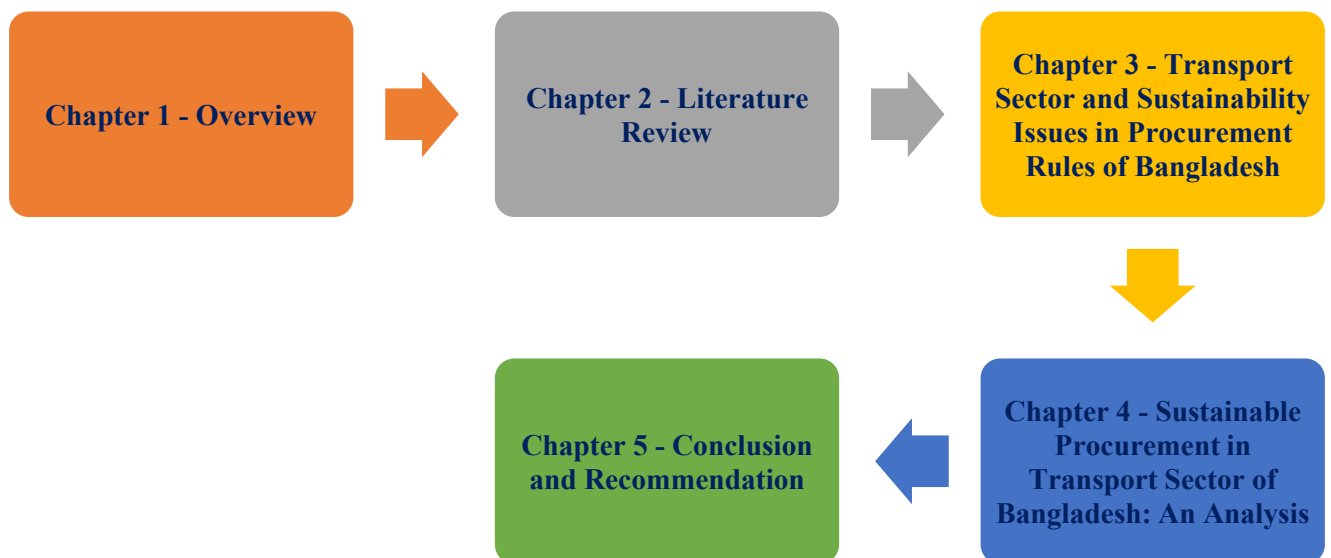


Figure 4: Depositions of the Thesis

Chapter 2

LITERATURE REVIEW

2.1 Overview

Chapter 2 covers the literature review section which includes theoretical background and related aspects of sustainable procurement.

2.2 Sustainability

Sustainability refers to fulfilling current needs in a manner that does not hinder future generations from meeting their own requirements. Alongside natural resources, there is a necessity to utilize social and economic resources responsibly while also safeguarding against environmental degradation. Sustainability extends beyond environmentalism, encompassing issues of social equity and economic development as well. Three foundational elements of sustainability are depicted in Figure 5.

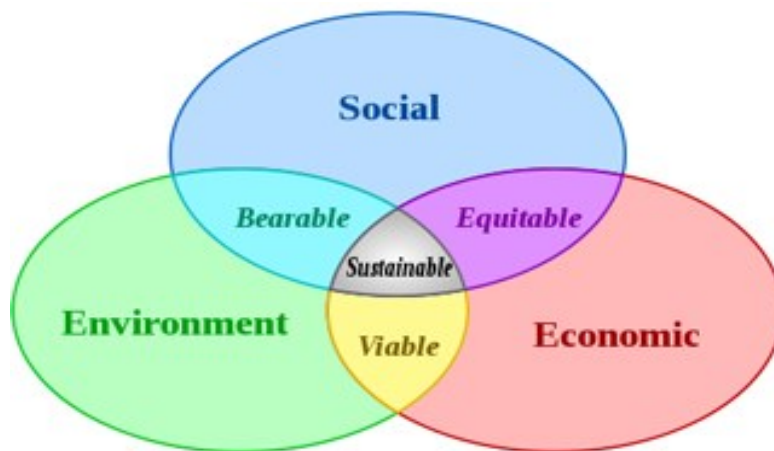


Figure 5: Foundations of Sustainability

2.3 Sustainable Development

There are various definitions of sustainable development, among which the Brundtland Commission's definition is extensively recognized and utilized as follows:

“Development that satisfies current requirements while ensuring that future generations retain the capability to fulfill their own needs”³.

³ Brundtland Commission Report, 1987

2.4 Sustainable Development Goals

The Sustainable Development Goals (SDGs), also referred to as the Global Goals, were established building upon the Millennium Development Goals (MDGs) with objectives to eradicate poverty, protect the planet, and guarantee that by 2030, all individuals experience peace and prosperity. The 17 goals covered under SDG as shown in Figure 6.



Figure 6: Diagram Listing the 17 Sustainable Development Goals ⁴

Within these goals, Goal 12 includes Sub-Clause 12.7, which specifically addresses sustainable procurement. This highlights the role of sustainable procurement as a crucial component of sustainable development. Sub-Clause 12.7 is outlined as follows:

“Sub-Clause 12.7: Encourage the adoption of public procurement practices that align with sustainability, consistent with national policies and goals⁵”.

⁴ Source: UN Website (<https://www.un.org/sustainabledevelopment/>)

⁵ Source: UN Website (<https://www.un.org/sustainabledevelopment/>)

2.5 Sustainable Procurement

Sustainable procurement involves the incorporation of environmental, social, and governance (ESG) objectives into the processes of purchasing and supply chain management. Sustainable procurement embeds ethical business practices and sustainable corporate behavior into procurement processes, guidelines, and decision-making. It achieves a harmony among sustainability, profitability, and meeting stakeholder requirements.

Sustainable procurement is a methodology that amalgamates economic, social, and environmental sustainability considerations in the decision-making process for purchases. It involves investigating the materials used in purchased items, their origin, its manufacture and who manufactured it, their intended purpose, and their necessity. Sustainable Procurement is also known as Green Procurement, or Responsible Procurement.

Business has a major responsibility to the planet and people, which makes sustainable procurement more crucial. For this reasons, thousands of companies/businesses have already committed to reducing emissions and complying with internationally recognized standards and agreements for corporate responsibility. Suppliers are viewed as integral extensions of their business, with a focus on collaborating to enhance capacity and diminish long-term risks.

Sustainable procurement is also vital for adhering to compliance and regulatory requirements. There are many standards and guidelines to evaluate ESG performance, including the ones as listed below.

- ☑ UN Global Compact
- ☑ ETI Base Code
- ☑ MNE Declaration
- ☑ International Labor Standards
- ☑ The UN Guiding Principles on Business and Human Rights
- ☑ Global Reporting Initiative
- ☑ ISO Standards 14001, 26000
- ☑ The SA8000 Standard

2.6 Procurement Cycle

The Procurement Cycle is the sequential process that an organization identifies and follows to procure goods or services they need to achieve its goals and objectives. Key Stages in procurement cycle according to the Chartered Institute of Procurement and Supply (CIPS) is shown in Figure 7 below.



Figure 7: Supply Chain Procurement Cycle ⁶

Every organization aspires to obtain the necessary works, services, or goods at the most affordable (lowest) cost with the highest level of satisfaction. Nobody wants to be on the losing end of a negotiation. Therefore, to make sustainable purchases, every organization should follow the aforementioned measures.

⁶ Source: CIPS Website (<https://www.cips.org/>)

2.7 Whole Life Cost

Whole Life Cost, or Life Cycle Cost, encompasses the comprehensive cost of ownership for an asset, spanning from its initial acquisition cost to the expenses associated with its end-of-life phase. Life cycle costing offers not merely the purchase price of an asset, but also a projection of the aggregate cost that the asset will accumulate throughout its lifespan. According to CIPS, it can be defined as the following:

“Whole life costing encompasses the comprehensive expense of a product or service throughout its lifespan, covering aspects from inception to disposal. This includes costs associated with purchase, hiring, or leasing, as well as maintenance, operation, utilities, training, and disposal⁷”.

The computation of life cycle costing typically involves summing up eight distinct types of costs, with the total of these costs yielding the life cycle cost value of an asset: Acquisition Costs (Costs associated with acquiring an asset); Tooling Costs (Costs associated with any specific tools that have to be purchased with the asset); Insurance Costs (Costs associated with insuring the asset); Operating Costs (Costs associated with running the asset); Maintenance Costs (Costs associated with keeping the asset in good condition); Training Costs (Costs associated with training the operators of the asset); Storage Costs (Costs associated with storing the asset); and Disposal Costs (Costs associated with removing the asset from site when it is no longer viable to keep at the end of its economic life).

2.8 Ecolabel

Ecolabels are the labeling systems for products or goods. Ecolabelling refers to a voluntary method of environmental performance certification. An ecolabel signifies products or services that have been verified as environmentally superior within their respective categories.

Ecolabels serve as indicators on product packaging or electronic catalogs, enabling consumers and institutional buyers to swiftly identify products that adhere to certain environmental standards, thereby considered as "environmentally preferable" based on their performance criteria.

⁷ Source: Chartered Institute of Procurement and Supply (CIPS)

International Organization for Standardization (ISO) classified this into three major categories:

- ☑ Type I – The 'classic' ecolabel.
- ☑ Type II – Self-declaration claims.
- ☑ Type III – Environmental declarations (report cards/information labels)

Ecolabels empower consumers with the knowledge to make environmentally conscious decisions, motivate businesses to implement greener practices, and heighten awareness about environmental significance among the public.

2.9 Triple Bottom Line

The Triple Bottom Line is a framework that integrates three dimensions of performance: economic, environmental, and social, with the aim of achieving sustainability in business operations.

The triple bottom line concept is encapsulated by the phrase "People, Planet, Profit," where 'People' signifies 'Social Sustainability,' 'Planet' denotes 'Environmental Sustainability,' and 'Profit' represents 'Economic Sustainability.' Under this concept, businesses are committed to evaluating their social and environmental impacts alongside their financial performance, rather than concentrating exclusively on profit generation.

People (Social Sustainability)

- This aspect of the triple bottom line underscores a business's impact on society, or its dedication to people.
- The 'People' element assesses how a company administers its workforce and the effects of its operations on individuals.
- Some examples: the impact of establishing a coal mine on the neighboring communities; or the range of advantages (benefits) provided by a company to its employees; or ensuring fair hiring practices and encouraging volunteerism in the workplace; or employee incentive programs; or increase female labor force numbers; etc.

Planet (Environmental Sustainability)

- This element of the triple bottom line focuses on creating a beneficial effect on the environment.
- Planet evaluates an organization's environmental impact.
- Some examples: cutting down on energy consumption and renewable energy use; or reduce carbon footprint; or complying with emission standards; or using energy-efficient tools/products; or reusable/recyclable product packaging; etc.

Profit (Economic Sustainability)

- This aspect of the triple bottom line pertains to the financial performance of a business, specifically the profit it yields for its shareholders.
- Profit represents the conventional approach to calculating profit and loss within corporate accounting.
- Some examples: external investment; or net income; decrease absenteeism in workplace by offering personal days/sick days; or facilitate career growth by job fairs or mentorship; or increase income by providing proper training protocols to all employees; etc.

The triple bottom line of sustainable procurement is represented graphically in Figure 8.

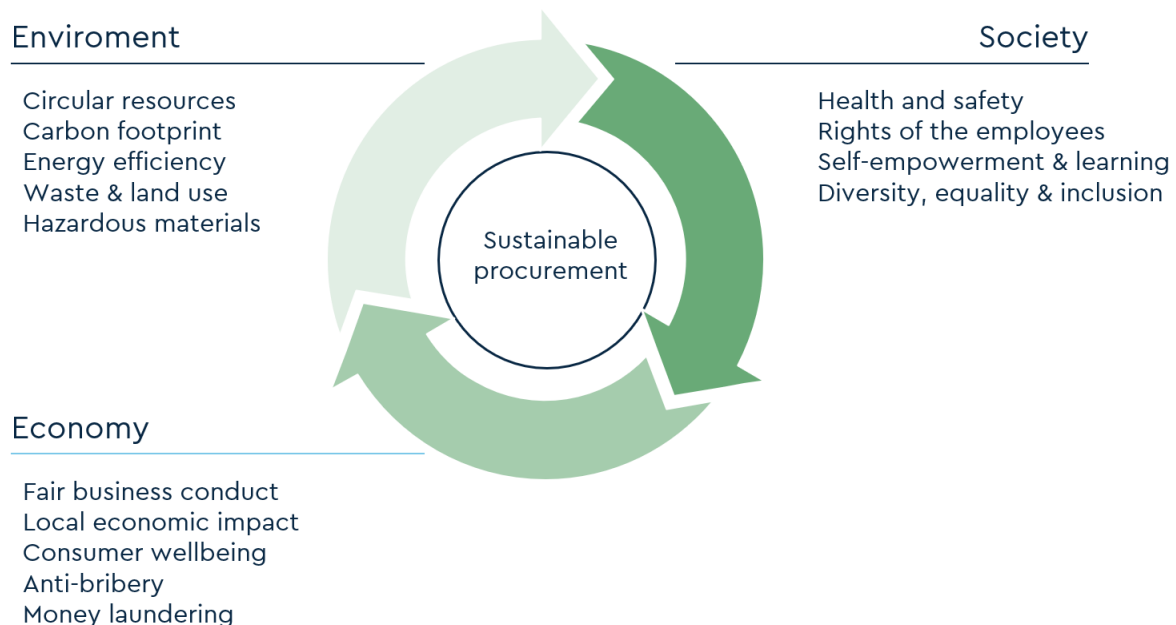


Figure 8: The Triple Bottom Line of Sustainable Procurement ⁸

⁸ Source: Website (<https://sievo.com/blog/sustainable-procurement-part1>)

The challenge in procurement lies in incorporating these factors into the decision-making framework.

2.10 Environmental, Social, and Governance (ESG) Framework

ESG, representing Environmental, Social, and Governance, serves as an alternative method to dissect the elements of sustainable procurement. Environmental criteria pertain to aspects such as CO₂ emissions and waste management; social factors encompass diversity, well-being, and other similar considerations; governance involves adherence to laws and compliance with certifications. Each of these three components holds equal significance. Figure 9 below illustrates supply chain focus areas related to ESG.



Figure 9: Supply Chain Focus Areas related to ESG ⁹

The ESG framework is relevant at every step of the supply chain, spanning from sourcing to the point of delivery. Prominent international organizations acknowledge that sustainable supply chains can provide a competitive edge. Therefore, it's imperative for organizations to encourage their suppliers to adopt sustainable practices.

2.11 Sustainable Procurement KPIs

Key Performance Indicators (KPIs) are the defined and precise metrics for a unit or organization, used to assess progress and performance.

KPIs for sustainable procurement can be assessed across three performance domains: economic, environmental, and social. Some of these KPIs are subsequently discussed.

⁹ Source: Website (<https://sievo.com/en/resources/sustainable-procurement-101>)

Some procurement KPIs for economic areas of performance include:

- ↳ Expense (for instance, the percentage of procurement costs relative to total expenditure)
- ↳ Cost Reductions (such as annual savings expressed as a percentage of total spending)
- ↳ Efficiency (for example, cost and duration of each procurement cycle)
- ↳ Supplier Influence (such as the percentage of suppliers accounting for 80% or more of the annual expenditure)
- ↳ Client satisfaction (for instance, the percentage of deliveries that are received completely and on schedule)

Some procurement KPIs for environmental areas of performance include:

- ↳ Percentage reduction in water and energy purchase
- ↳ Percentage decrease in suppliers' greenhouse gas emissions
- ↳ Percentage decrease in water and energy consumption by suppliers
- ↳ Percentage of water recycled and reutilized
- ↳ Percentage of recycled materials purchased or utilized
- ↳ Percentage of hybrid and electric vehicles in the fleet
- ↳ Amount of waste directed to landfills

Some procurement KPIs for social/ethical areas of performance include:

- ↳ Diversity and equal opportunity
- ↳ Training and development opportunity
- ↳ Compliance with labor law and standards
- ↳ Ethical sourcing
- ↳ Supplier diversity
- ↳ Supply chain compliance
- ↳ % SC monitored and managed for compliance

2.12 Sustainable Public Procurement

Public procurement organizations play an important role in making an impact. Sustainable public procurement is applicable to both governmental departments and local authorities.

Given that public procurement entails the utilization of taxpayer funds, it becomes increasingly vital to take into account the interests and values of stakeholders. Balancing the diverse expectations of numerous stakeholders can be particularly challenging in a political context.

Many local and national governments are forming strict guidelines and developing stringent regulations on the ESG aspects of public spending. Government expenditure on sustainability is addressed via sustainable public procurement policies. It addresses the sustainable agenda through vendor selection, life cycle analysis, and purchasing strategies.

Chapter 3

TRANSPORT SECTOR AND SUSTAINABILITY ISSUES IN PUBLIC PROCUREMENT RULES OF BANGLADESH

3.1 Overview

Chapter 3 delves into the context of the transportation sector in Bangladesh and discusses the sustainability concerns within the Public Procurement Rules, 2008 (PPR 2008) of the country.

The Public Procurement Act, 2006 (PPA 2006) stands as the sole formalized legislation governing procurement practices in all divisions and sectors within Bangladesh. In the context of PPA 2006, 'procurement' is described as "the process of purchasing or hiring goods, acquiring goods through purchase and hire, as well as the implementation of works and delivery of services via any contractual methods."

Given that Bangladesh's transport sector is overseen by public organizations, procurement within this domain can be broadly defined as "the acquisition, through purchasing, hiring, or other contractual methods, of goods, works, or services by the transport division."

Procurement within the transportation sector encompasses a wide array of items, from basic goods or services like construction materials and cleaning services to substantial infrastructure projects. These larger scale projects include road or rail infrastructure development, acquisition of road or track maintenance equipment, consulting services, and similar undertakings.

Procurement within the transport division widely differs from that within the private segment. The reason for procurement within the private division is fundamentally direct, wherein the public division is complex, because it considers the financial improvement and welfare of the country, instead of only the commercial benefits. Moreover, unlike other private sector procurement, transport division procurement must address the contemplations of integrity, accountability, and national intrigued since this segment deals with the common people's money within the nation.

3.2 Sustainable Public Procurement (SPP) Policy, 2023

A sustainable procurement policy is established to assist and direct businesses in the acquisition of goods and services, selecting items based on their social and environmental impacts. This policy is applicable to the procurement of products needed for internal operations as well as for the production of the business's own goods and services.

Recently, the government formulated its Sustainable Public Procurement (SPP) Policy 2023, aimed at enhancing the involvement of small and medium enterprises (SMEs) and women-owned business enterprises (WBEs) in public procurement processes. According to a gazette released by the Central Procurement Technical Unit of the Implementation Monitoring and Evaluation Division within the Ministry of Planning, government entities will adopt a competitive bidding process with a more flexible methodology when SMEs and WBEs participate in tenders for the provision of goods and services. Furthermore, procurement bodies may simplify the tender documentation process to encourage greater participation from SMEs and WBEs.

The national public procurement framework of the country currently overlooks the aspects of sustainability, encompassing social, economic, environmental, and governance dimensions. By incorporating sustainable procurement criteria and opting for the 'most advantageous' tender that accounts for the entire lifecycle cost, Bangladesh could maximize benefits. Embedding sustainable public procurement criteria into the nation's existing system could facilitate the transition of the country's public procurement towards sustainable or green public procurement practices.

3.3 Transport Sector of Bangladesh

The transportation sector in Bangladesh is diverse, comprising various modes. As the country is predominantly flat, all three forms of surface transport – road, railway, and waterways – are extensively utilized for the transportation of both passengers and cargo.

Currently, over half of Bangladesh's population resides within 3 miles of an all-weather, hard-surfaced road. The country has experienced a significant expansion of its road network in recent years. From just 461.8 kilometers of metalled roads in 1947, the total length of paved roads under the Roads and Highways Department exceeded 20,000 kilometers by 1997. It is

estimated that mechanized road transport accounts for approximately 70% of the nation's overall passenger and cargo traffic. *(Reference: Wikipedia)*

In recent years, Bangladesh has completed the construction of several major bridges, including the Padma Bridge, Bangabandhu Jamuna Bridge, Meghna Bridge, Meghna-Gumti Bridge, Bangladesh-China Friendship Bridge, Shambhuganj Bridge, and Mahananda Bridge. The Bangabandhu Bridge, opened to traffic in June 1998 and stretching 4.8 kilometers. The recently opened Padma multipurpose bridge is ranked 122nd longest in the world. The main bridge is 6.15 kilometres long, while the railway viaduct is 0.532 kilometres long. The bridge stretches for a total of 10.642 kilometres with 41 spans attached to 42 pillars. This bridge creates a vital connection between the eastern and western regions of Bangladesh, fostering national integration, yielding diverse benefits for the population, and enhancing inter-regional trade. Beyond the expedited movement of goods and passengers, the bridge also plays a key role in the transmission of electricity and natural gas and has bolstered telecommunication connectivity.

The state-run Bangladesh Railway offers efficient rail services across the country, covering approximately 32% of Bangladesh's total area. Bangladesh Railway operates a 2,706-kilometer network, employs around 60,000 individuals, and maintains a fleet of locomotives, passenger coaches, and freight wagons. It facilitates both passenger and cargo services across 502 stations. Additionally, the inter-city Express Service provides affordable travel options between major cities. *(Reference: Wikipedia)*

Bangladesh, with nearly two-thirds of its land comprising wetlands, is crisscrossed by an extensive array of rivers, canals, and creeks. In about 10% of the country's total area, water transport is the sole mode of transportation. The length of navigable waterways in Bangladesh fluctuates from approximately 8,372 kilometers during the monsoon season to around 5,200 kilometers in the dry season. The Bangladesh Inland Water Transport Authority (BIWTA) is a government-established body responsible for maintaining navigability of ports and channels, while the state-owned Bangladesh Inland Water Transport Corporation (BIWTC) provides passenger and cargo services in the inland waterways and coastal regions of the country. *(Reference: Wikipedia)*

Spanning 710 kilometers along the Bay of Bengal is Bangladesh's entire coastline. The country is home to two major ports. Chattogram, the more historic of the two, has served as an entry port for over a millennium. Meanwhile, the Mongla port, located in the Khulna region, caters to the western part of Bangladesh.

Bangladesh currently has 11 functional airports, located in Dhaka, Barisal, Chattogram, Comilla, Cox's Bazar, Ishurdi, Jessore, Rajshahi, Saidpur, Sylhet, and Thakurgaon. Among these, the airports in Dhaka, Chattogram, and Sylhet are equipped to handle international flights. The government has opened up air cargo services and short take-off and landing operations to private sector participation.

The Civil Aviation Authority, a public sector organization, is tasked with constructing, maintaining, and overseeing airports, as well as regulating air traffic. Biman, the national airline of Bangladesh, operates flights to 26 international destinations and 8 domestic routes.

The Dhaka Metro Rail, also known simply as the Dhaka Metro, represents a comprehensive mass rapid transit system that serves the capital and largest city of Bangladesh, Dhaka. It falls under the ownership and management of the Dhaka Mass Transit Company Limited (DMTCL). In conjunction with the ongoing construction of the Dhaka BRT, the proposed Dhaka Subway, and the planned Dhaka suburban circular rail, the metro aims to alleviate the city's traffic congestion. The proposed network includes five lines, with MRT Line 6 currently operational, MRT Lines 1 and 5 in the construction phase, and MRT Lines 2 and 4 in the planning stages. *(Reference: Wikipedia)*

Brief details of two key transport sector organizations: Roads and Highways Department (RHD) and Bangladesh Railway (BR) is subsequently provided.

3.4 Roads and Highways Department



The Roads and Highways Department (RHD), functioning under the Ministry of Road Transport and Bridges, holds responsibility for the construction and maintenance of national highways, regional highways, and feeder roads that connect Upazilla and Zilla headquarters to the broader arterial road network.

Additionally, the department oversees the upkeep of bridges and culverts.

Since its inception, the Roads and Highways Department has expanded the major road network in Bangladesh from an initial length of 2,500 km to the current expanse of 22,554.08 km. *(Source: RHD website)*

The Department bears the responsibility for constructing and maintaining the national network of roads, highways, and bridges, as well as their ongoing upkeep. Additionally, it has a more expansive strategy to substitute ferry routes with bridges.

The Chief Engineer (CE) serves as the head of the Department and is supported by multiple Additional Chief Engineers (ACEs) specializing in various disciplines. RHD has got five wings namely:

- Management Services Wing
- Technical Services Wing
- Bridge Management Wing
- Planning & Maintenance Wing
- Mechanical Wing

3.5 Bangladesh Railway



Bangladesh Railway (BR) is the Government owned railway transport agency of Bangladesh. BR is tasked with the operation and maintenance of the country's railway network. It operates under the governance of the Ministry of Railways and the Bangladesh Railway Authority.

Bangladesh Railway has a total length of 3,093 route kilometres at the end of the year 2019-2020. As of 2020, Bangladesh Railway has 26,449 employees of different categories. During 2019-2020, about 63.99 million passengers were transported by Bangladesh Railway and freight traffic was 3179.68 thousand metric tonnes. *(Source: BR website)*

Director General (DG) is the Head of BR and supported by several Additional Director Generals (ADGs) in different disciplines. BR has got several departments, such as:

Bangladesh Railroad is comprised of different specialized offices, such as: engineering, electrical, mechanical, signal & telecom, traffic, commercial, store, finance, personnel, planning, medical, security, estate department, etc.

3.6 Public Procurement in Bangladesh

Bangladesh has got decentralized public procurement system. The Constitution of the Country has no direct provision of public procurement. The legal and institutional framework governing public procurement in Bangladesh is directed by the Ministry of Finance and the Ministry of Planning.

The Executive Committee of the National Economic Council (ECNEC) chaired by Prime Minister also concerns with the public procurement. To perform public procurement activities for procurement of goods, works, or services, the procurement rules, guidelines, and policy is being followed and maintained by the respective executing agency of the concerned sector.

Additionally, the Central Procurement Technical Unit (CPTU), functioning under the Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning, has been consistently dedicated to enhancing efficiency, transparency, accountability, and the adoption of open tendering systems in public procurement since 2002.

To have complete procurement guideline, PPA 2006 and PPR 2008 have been developed. In addition, e-GP (e-Government Procurement) has also been introduced in 2011 which focuses to reduce time, cost, and open system in public procurement.

For foreign funded projects, the procurement guidelines of the funding agencies being followed in parallel with Government procurement guidelines.

3.7 Sustainability Issues in PPR 2008

Chapter 1 (Section 1.3 and Section 1.2) refers to two research objectives and two research questions. This section addresses the first research question related to scope of sustainable procurement in transport sector and first research objective concerning sustainability-related issues through research of sustainability-related components in RHD and BR's existing procurement system.

Currently, PPA 2006 and PPR 2008 are two principal procurement documents that govern the public sector procurement in the transport sector. Sometimes, Procurement Policy of the Concern Organization/Department or Government of Bangladesh (GOB) or Funding Agency Procurement Policy is also followed.

Beyond the Public Procurement Act 2006 (PPA 2006) and Public Procurement Rules 2008 (PPR 2008), the Central Procurement Technical Unit (CPTU) has also developed various Standard Tender Documents (STDs) for the procurement of goods and works, as well as Standard Request for Proposals (SRFP) for service procurements. These STDs and SRFPs are tailored to accommodate different sizes and volumes of procurement.

A summary of the sustainability factors or issues (concerning the performance areas of economic, environmental, and social/ethical sustainability) that have been addressed or covered in public procurement documents (PPR 2008¹⁰ and STDs¹¹) is exhibited hereunder.

☒ **Economic Sustainability**

- ☞ **Rule 15(2), PPR 2008:** It deals with the method of procurement and consolidating of goods packages focusing local market, price levels, and associated risks.
- ☞ **Rule 15(7), PPR 2008:** It deals with the prevalent conditions of contracting industry and expected competition while determining method of procurement for works.
- ☞ **Rule 29(2), PPR 2008:** It deals with the technical specifications to be expressed in terms of performance or output requirements to not limit competition.
- ☞ **Rule 29(3), PPR 2008:** It deals with the prohibition of trademark or trade name, patent, named country of origin, producer, or supplier in technical specifications.

¹⁰ Source: [CPTU | Central Procurement Technical Unit \(https://cptu.gov.bd/procurement-policy-and-procedure-documents/procurement-rules.html\)](https://cptu.gov.bd/procurement-policy-and-procedure-documents/procurement-rules.html)

¹¹ Source: [CPTU | Central Procurement Technical Unit \(https://cptu.gov.bd/standard-documents/standard-tender-document.html\)](https://cptu.gov.bd/standard-documents/standard-tender-document.html)

☒ **Social/Ethical Sustainability**

- ↪ **Rule 15(2), PPR 2008:** It deals with the approach to procurement and the aggregation of goods packages, with an emphasis on the local industry, market conditions, and the forecasted level of competition.
- ↪ **Rule 15(7), PPR 2008:** It deals with the capabilities of local contractors when determining the procurement method for works.
- ↪ **Rule 29(5), PPR 2008:** It deals with the development of technical specifications in close collaboration with relevant user or beneficiary of the goods, works, or services.
- ↪ **Rule 81(1)(e), PPR 2008:** It deals with the inclusion of domestic preference in tender documents, enabling local suppliers or contractors to competitively price their bids in relation to international competitors.
- ↪ **GCC 27.2, STD-PW3:** It deals with the Contractor's obligation about occupational health and safety of all workers working at site.
- ↪ **GCC 28.1, STD-PW3:** It deals with the Contractor's adherence to work on site during weekly holidays, at night or outside normal working hours, religious/public holidays.
- ↪ **GCC 29.1, STD-PW3:** It deals with the Contractor's compliance with the relevant labor law applicable to its personnel about employment, health, safety, welfare, legal right.
- ↪ **GCC 29.3, STD-PW3:** It deals with the Contractor's obligation regarding payment of reasonable wages on time to its laborers with provision of penalty in case of delay.
- ↪ **GCC 30.1, STD-PW3:** It deals with the Contractor's adherence to child labor in accordance with the applicable labor laws and other relevant Government treaties.
- ↪ **GCC 37.1, STD-PW3:** It deals with the Contractor's insurance provision specifying the name, duration, amount, and deductibles.

☒ **Environmental Sustainability**

- ↳ **GCC 27.1, STD-PW3:** It deals with the Contractor's measures about environmental protection at site and avoiding damage resulting from environmental pollution.
- ↳ **GCC 29.2, STD-PW3:** It deals with the Contractor's processes about laborers' accommodation, water supply, sanitation, hygiene provision to prevent epidemic.

The various points covered above are related to different performance areas of sustainable procurement. However, these seem not sufficient to integrate sustainability concerns into the procurement system. Moreover, the current public procurement document does not highlight much focus on environmental performance of sustainable procurement.

Chapter 4

SUSTAINABLE PROCUREMENT IN TRANSPORT SECTOR OF BANGLADESH: AN ANALYSIS

4.1 Overview

Chapter 1 (Section 1.3 and Section 1.2) refers to two research objectives and two research questions. This section addresses the second research question related to current practice of sustainable procurement by the transport sector and second research objective concerning sustainability-related issues through research of sustainability-related practice in RHD and BR's existing procurement system. This further helps to develop recommendations for improving the sustainability of procurement in the transportation sector.

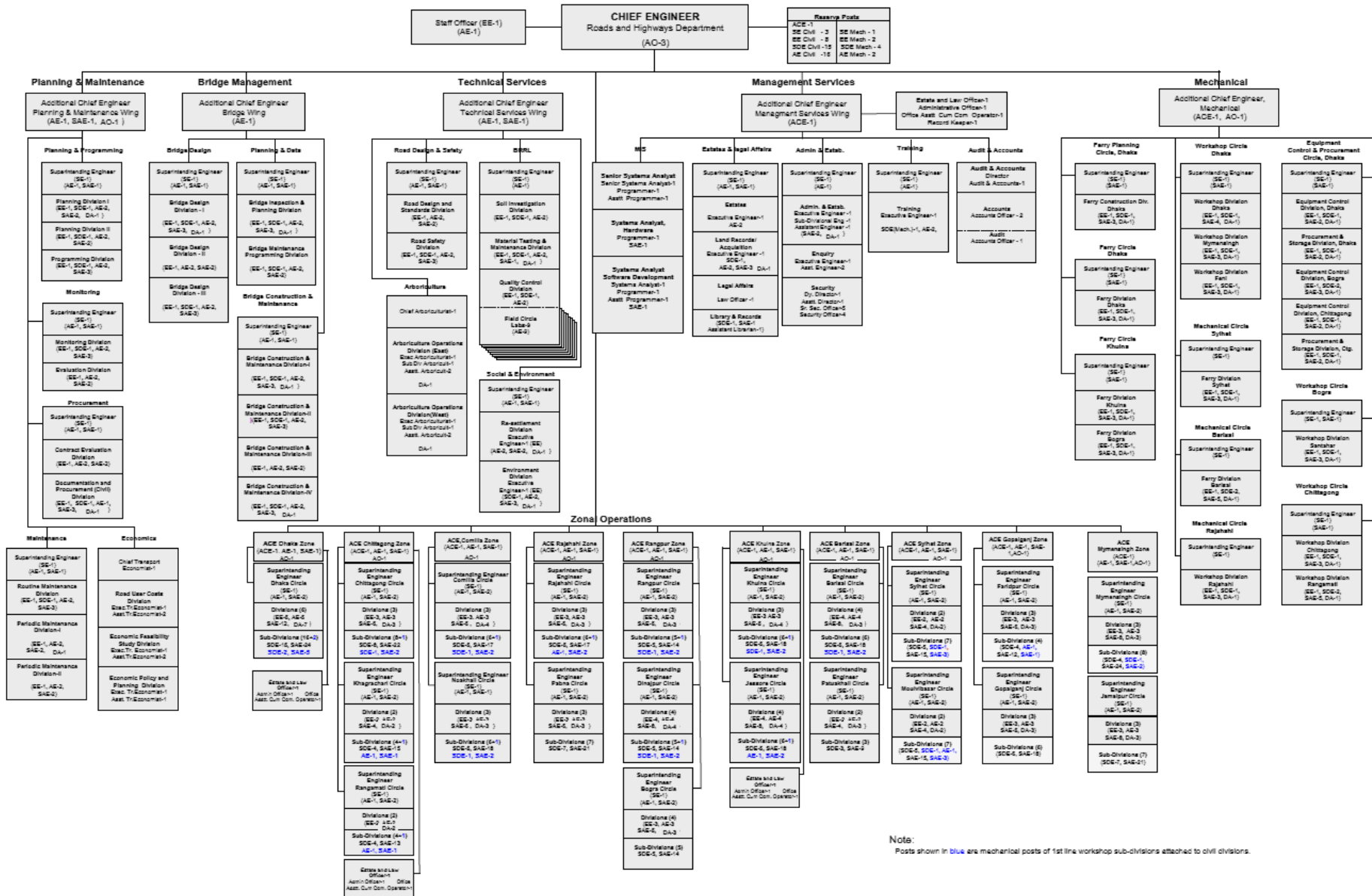
This chapter further represents a detailed analysis of collected data and detailed information on findings of questionnaire survey, which has been filled up by different levels of responsible procurement officials of RHD and BR to achieve the research objective mentioned above.

4.2 Procurement Procedures of Transport Sector

In Bangladesh, multiple organizations play a significant role in the development of the transportation sector, including:

- Roads and Highways Department (RHD),
- Bangladesh Road Transport Authority (BRTA),
- Bangladesh Road Transport Corporation (BRTC),
- Dhaka Transport Coordination Authority (DTCA),
- Bangladesh Railway (BR), among others.

All these organizations have established respective procurement or purchase departments to perform their procurement functions. The organization structure of RHD and BR showing the procurement department or purchase function in these organizations is shown in the following Figures 10 and 11.



Note: Posts shown in blue are mechanical posts of 1st line workshop sub-divisions attached to civil divisions.

Figure 10: Organogram of Roads and Highways Department (Source: RHD website)

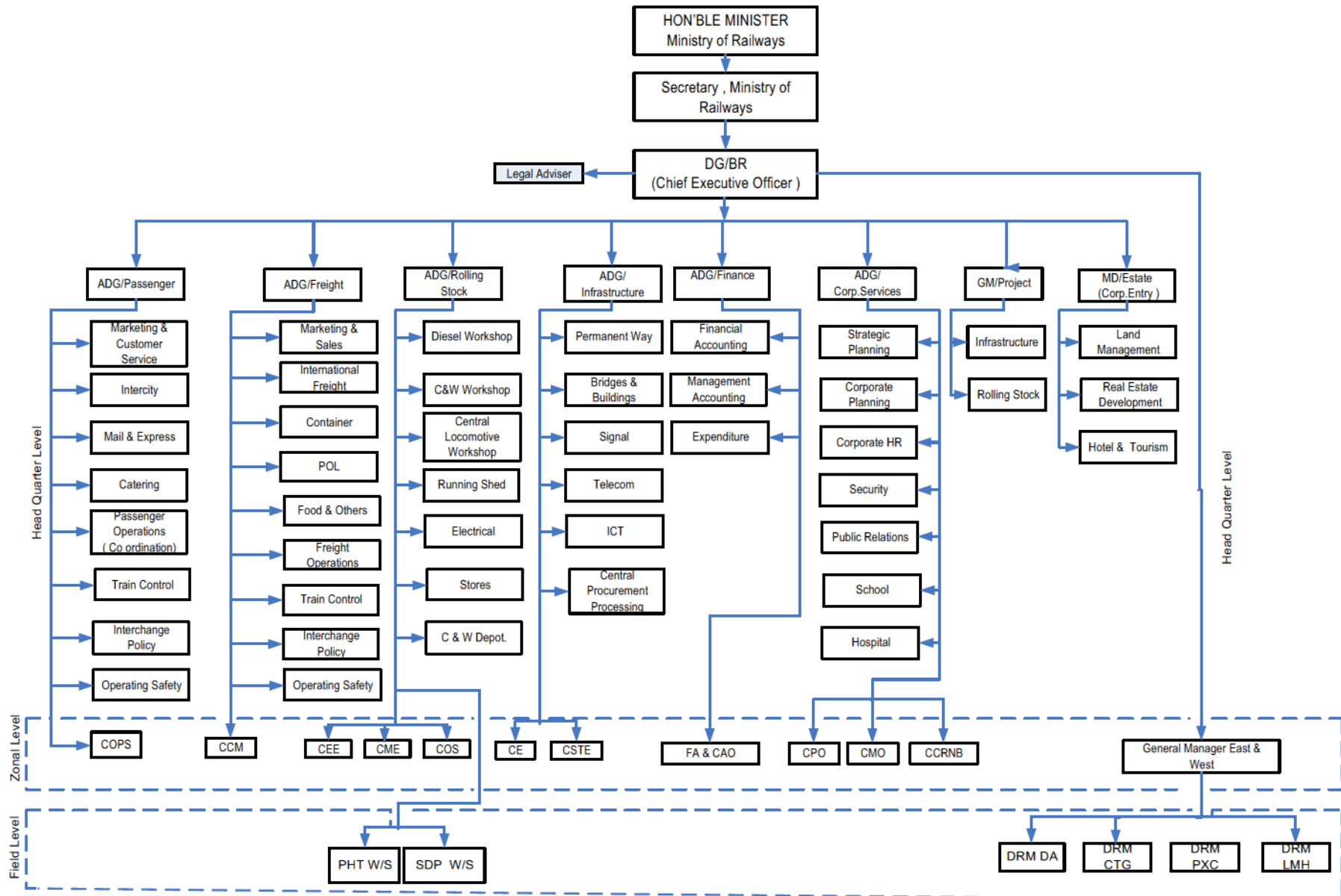
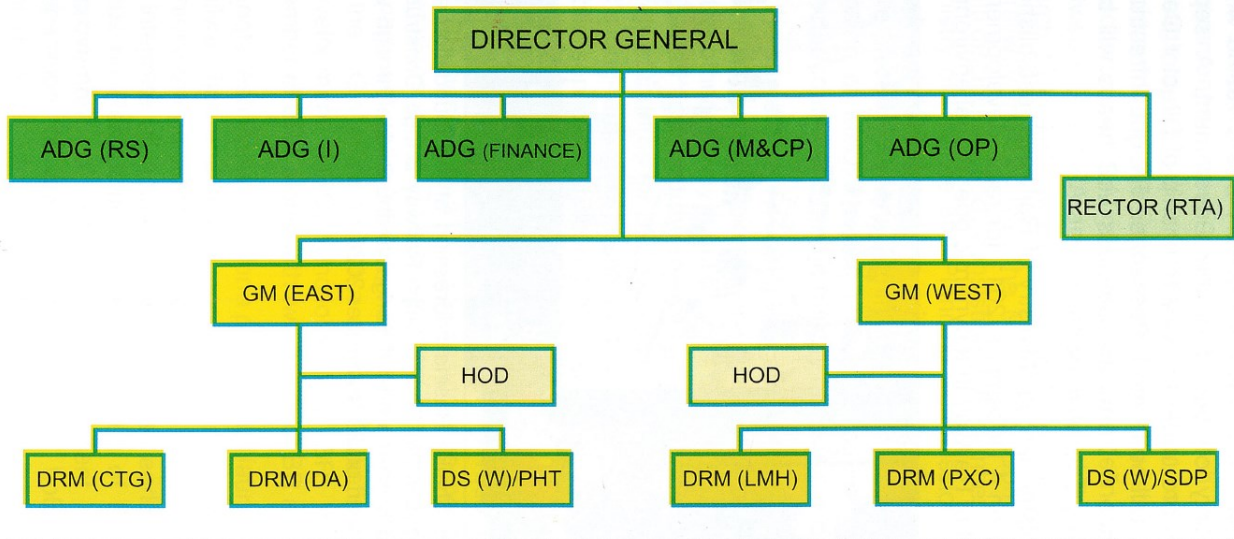


Figure 11: Organogram of Roads and Highways Department (Source: RHD website)

ORGANOGRAM OF BANGLADESH RAILWAY



Present organogram of Bangladesh Railway after the formation of BRA

| | | |
|---------------------------------------|--|-------------------|
| ADG = Additional Director General | GM = General Manager | DA = Dhaka |
| RS = Rolling Stock | HOD = Heads of Department | PHT = Pahartali |
| I = Infrastructure | DRM = Divisional Railway Manager | CTG = Chattogram |
| OP = Operation | DS(W) = Divisional Superintendent (Workshop) | LMH = Lalmonirhat |
| M&CP = Marketing & Corporate Planning | BRA = Bangladesh Railway Authority | PXC = Paksey |
| RTA = Railway Training Academy | | SDP = Saidpur |

Figure 12: Brief Organogram of Bangladesh Railway (Source: BR Information Book 2020)

Referring to Figures above, both organizations (RHD and BR) have their separate procurement departments to manage respective procurement functions.

The key focus of the procurement department is to ensure cost effective and proper utilization of funds by complying with the proper guidelines during procurement of goods, works, and services.

The department also maintains a database of registered contractors and makes sure that internationally accepted documents are used in the bidding and contracting processes.

4.3 Procurement Methods Used in RHD and BR

Organizations in the transportation sector make purchases of goods, works, and services. These organizations must adhere to the PPR 2008 being public entities. Nevertheless, it is noted that these organizations adhere to the majority of PPR requirements.

Methods of procurement depend on the nature of items to be procured and this act explicitly categorizes the items as goods, works, or services.

RHD and BR adopt several methods for procurement of goods and works as shown in Figure 13 below.

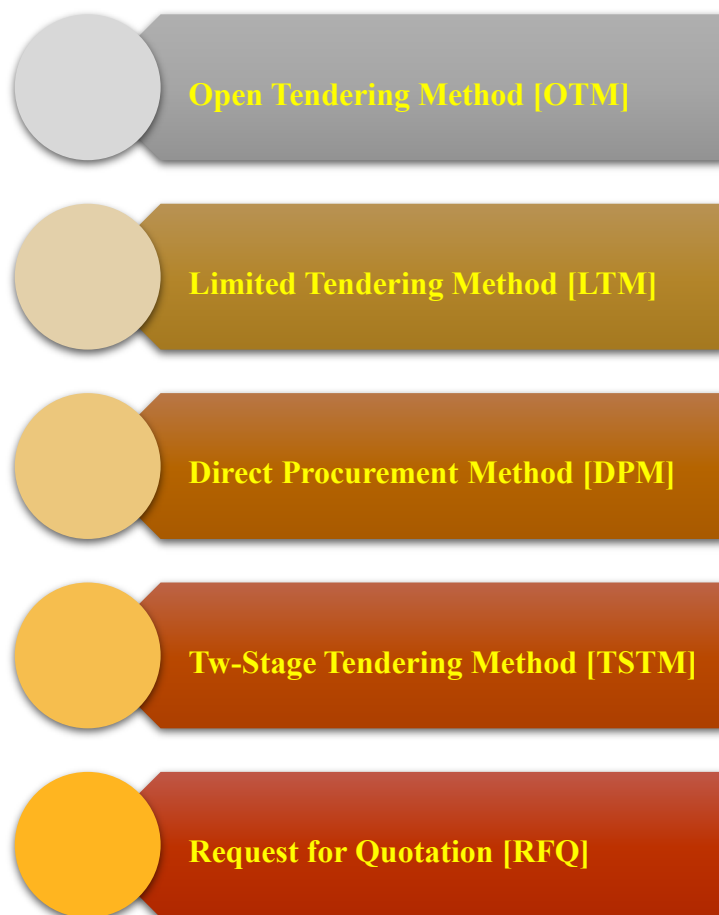


Figure 13: Approaches to Procurement for Goods and Services

Services procurement by RHD and BR is mainly made by different methods as shown in following Figure 14.



Figure 14: Methods of Procurement for Services

4.4 e-GP

e-GP refers to “e-Government Procurement”, which is a web-based system (online platform). Every procurement activity that takes place during a purchase is recorded by e-GP. Under this system, both Government agencies and other stakeholders collaboratively use information and communication technology for the procurement of goods, works, or services.

The e-GP system consists of multiple components, including centralized registration, workflow management, electronic tendering, electronic contract management, electronic payments, procurement performance management, system and security administration, error and exception handling, and application usability and support. Both Bangladesh Railway (BR) and the Roads and Highways Department (RHD) have integrated the e-GP system into their procurement processes.

4.5 Tender Evaluation Committee

The Tender Evaluation Committee processes all the procurement within the department. The composition of the committee varies depending on the type and size of procurement.

Tender Evaluation Committee (TEC) who does both Technical Evaluation and Financial Evaluation. A Technical Sub-Committee (TSC) may be formed to assist the TEC for complex procurement. The technical responsiveness of the bidders shall be evaluated first, and the lowest financially responsive bidder shall be called for negotiation and subsequent award of the tender.

The tender evaluation steps are shown in Figure 15 below.

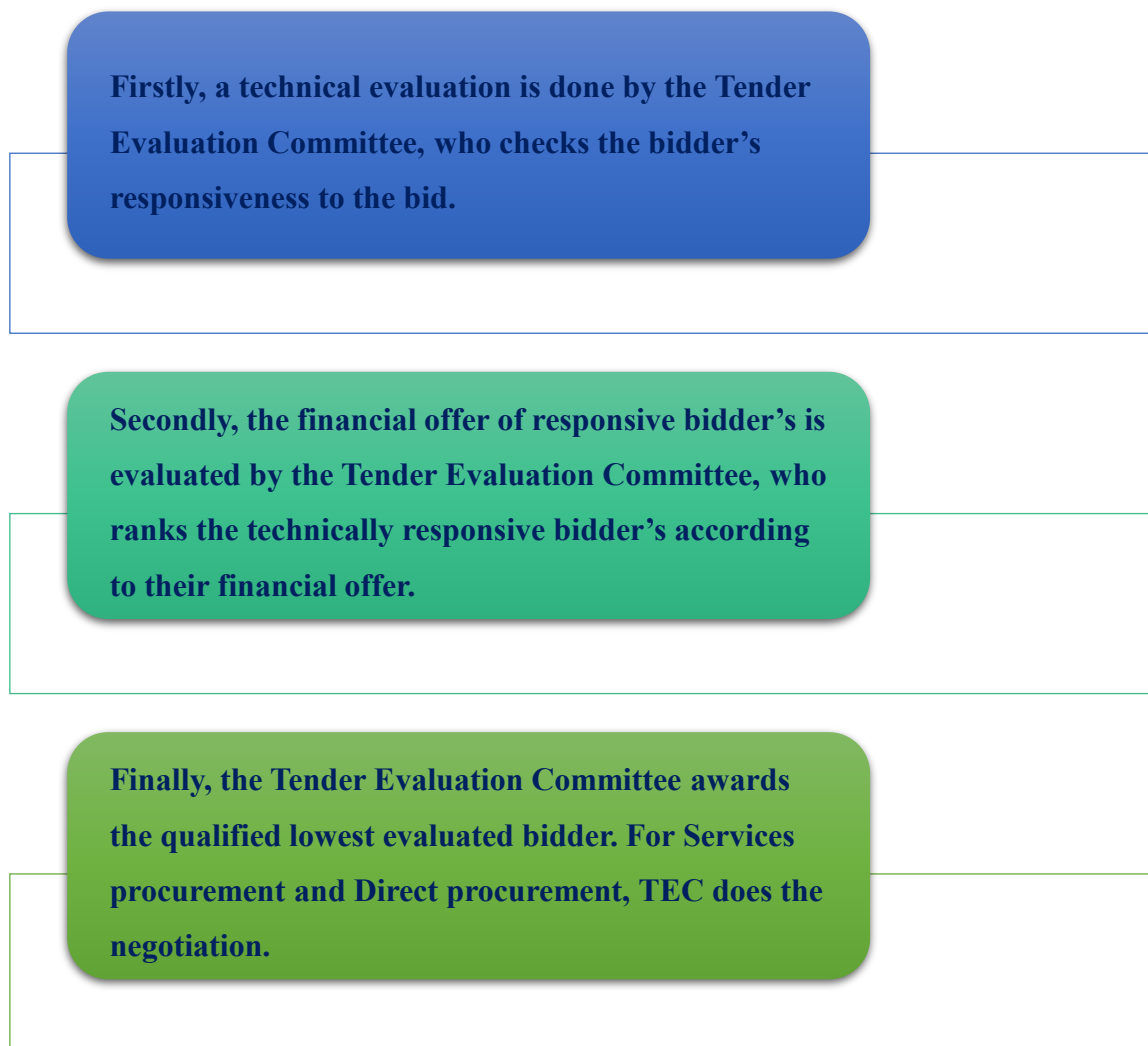


Figure 15: Tender Evaluation Steps

4.6 Key Principles of Public Procurement in RHD and BR

One of the most difficult management tasks in any organization is procurement. Both organizations (RHD and BR) follow some key principles for their procurement function, as exhibited in Figure 16 hereunder.



Figure 16: Key Principles of Public Procurement

The best practices to reduce challenges and to ensure good governance in public procurement, as well as the utilization of public resources and funds, are ensured by the successful execution of procurement principles.

4.7 Sustainable Procurement in Procurement Policy of RHD and BR

The procurement policy in the transportation sector is designed to establish a range of criteria that contribute to sustainable growth within the sector. This is achieved through the implementation of a sustainable procurement policy that focuses on fundamental principles and addresses critical issues aligned with this objective.

Although there is no specific procurement policy established in Bangladesh for sustainable procurement in transport sector, yet the Government has taken several initiatives to achieve sustainable goal through sustainable development.

Since the transport sector deals with the large amount of money being invested towards increasing economic growth of the country. Therefore, sustainable procurement becomes a vital issue in transport sector procurement. Specific KPI's towards this not yet set for the transportation sector.

However, both RHD and BR do maintain some of the aspects of sustainable procurement during the procurement process covering the areas listed below:

- Value for money,
- No child labor,
- Female participation,
- Equal opportunity for all,
- ISO accreditation, etc.

Nonetheless, the above are not enough to ensure sustainable procurement.

Like any other transport sector organization, both RHD and BR have considered procurement as one of their core functions for which a separate procurement department or wing has been established. Both these organizations follow PPA 2006, PPR 2008 and Guidelines from CPTU to perform purchasing through approval from competent authority.

Additionally, for projects financed by external sources, they adhere to the procurement guidelines of funding agencies, such as the Asian Development Bank (ADB), World Bank (WB), Japan International Cooperation Agency (JICA), and others.

Although these organization (RHD and BR) do not have their own sustainable procurement policy, yet indirectly both the organizations consider some aspects of sustainability during procurement of goods, works, or services. The findings are discussed in subsequent sections.

4.8 Data Collection and Interview Findings

Sustainable procurement comprises of three performance areas (social, environmental, and economic), which are being considered during procurement of goods, works, and services. A research questionnaire has been designed covering these aspects of sustainable procurement, as well as information about the organization's procurement practices.

There are six sections in the questionnaire. The first section of the questionnaire covered the personal information and working area of the respondents. The second section was related to their knowledge on SDG. The third, fourth, and fifth sections covered their awareness on social/ethical, environmental, and economic aspects respectively. And the last (sixth) section of the questionnaire contained information on the procurement life cycle.

An in-depth interview was conducted among 20 (twenty) officials from RHD and BR, who are involved with public procurement activities in their respective departments. These officials (respondents) were randomly selected and subsequently interviewed.

Every question in the questionnaire has been individually analyzed to have a complete understanding of the matter. The qualitative analysis was conducted based on interviews that focused on the perceptions of the respondents. The quantitative analysis was carried out using data provided by the respondents. Detailed findings and analyses are presented in the following sections.

4.8.1 Information on Sustainable Development Goals

The respondents were asked whether their awareness of Sustainable Development Goals (SDG) and whether their organization is working in line with SDG.

Everyone responded positively that they are aware about SDG, and they consider that their organization is working in line with SDG.

4.8.2 Social/Ethical Aspects of Sustainable Procurement

Sustainable procurement comprises of three performance areas (social, environmental, and economic), which are being considered during procurement of goods, works, and services.

Several questions were asked to the respondents regarding social/ethical aspects of sustainable procurement in their organizations, which are subsequently discussed.

4.8.2.1 Equal Opportunity for Bidders

Purpose: The question was designed to understand whether the technical specifications comply with equal opportunity for all potential suppliers and/or contractors.

Findings: Positive responses were received on this issue that all the potential suppliers, contractors, consultants are treated equally during their procurement process.

Analysis: PPR 2008 restricts preparation of technical specifications which may exclude some of the suppliers or contractors from the procurement process. Moreover, it is also prohibited in PPR 2008 to mention any specific brand or country of origin.

4.8.2.2 Labor Practices

Purpose: The question was designed to understand whether any criteria is set for evidence of ethical labor practices from the suppliers or contractors, in terms of equality, wages, terms & conditions, health & safety, diversity, compliance with ILO standards, adherence with country's labor law, etc.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 12 out of 20 responded that all the criteria for ethical labor practices are being followed during their procurement process.
- ✓ 5 out of 20 responded that depending on the procurement type these criteria are used in the tender document.
- ✓ 3 out of 20 responded that some of the criteria for ethical labor practices are being adopted in the tender document.

Analysis: It is observed that these organizations comply with ethical labor practices in terms of equality, wages, terms & conditions, health & safety, diversity, compliance with ILO standards, adherence with country's labor law, etc. The result is graphically represented in Figure 17 below.

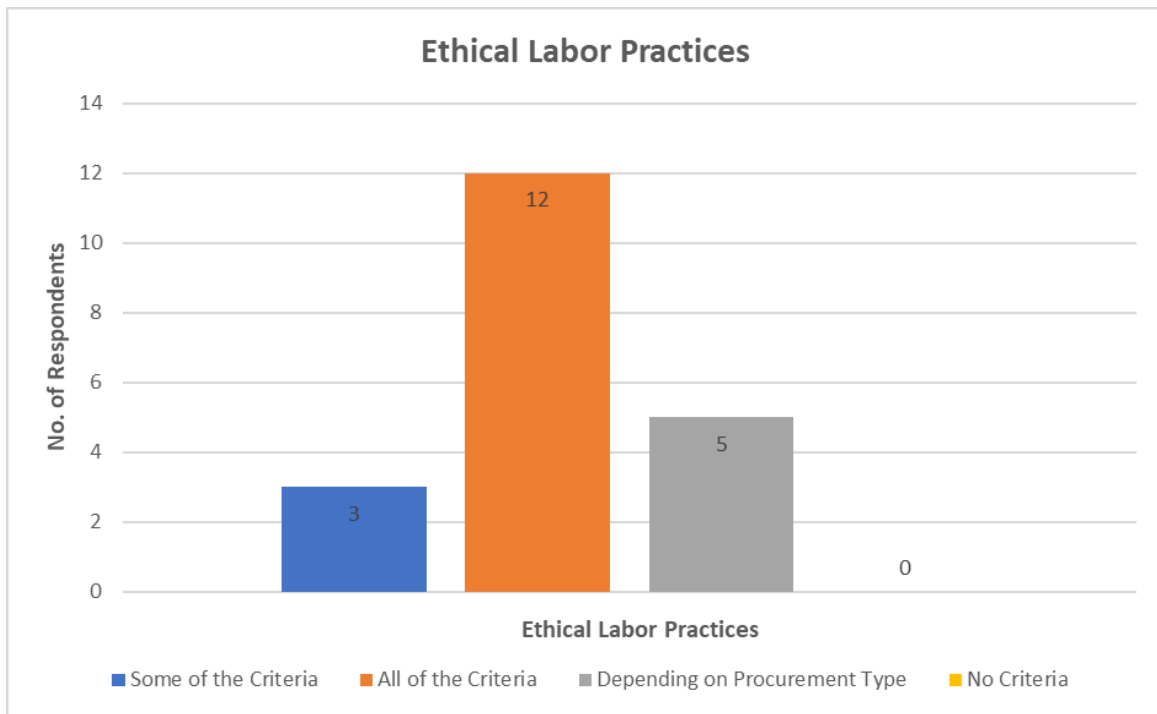


Figure 17: Ethical Labor Practices in the Organization

4.8.2.3 Female Participation

Purpose: The question was designed to understand whether female participation is practiced or encouraged for the suppliers or contractors, or in their own organizations.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 11 out of 20 responded that 10% or less than 10% of total employees are female.
- ✓ 7 out of 20 responded that 11% to 25% of total employees are female.
- ✓ 2 out of 20 responded that it may be more than 50% depending on the supplier or contract type (e.g., in cleaning agency, most of the cleaners are female).

Analysis: It is observed that a percentage of total recruitment includes female employment, however for outsourced contracts, there is no separate/specific provisions exist in the tender document regarding this issue. It is also found that female participation depends on the contractors or suppliers. Some female participation is ensured in the office as cleaner, some at site during construction as worker/labor. The result is graphically represented in Figure 18 below.

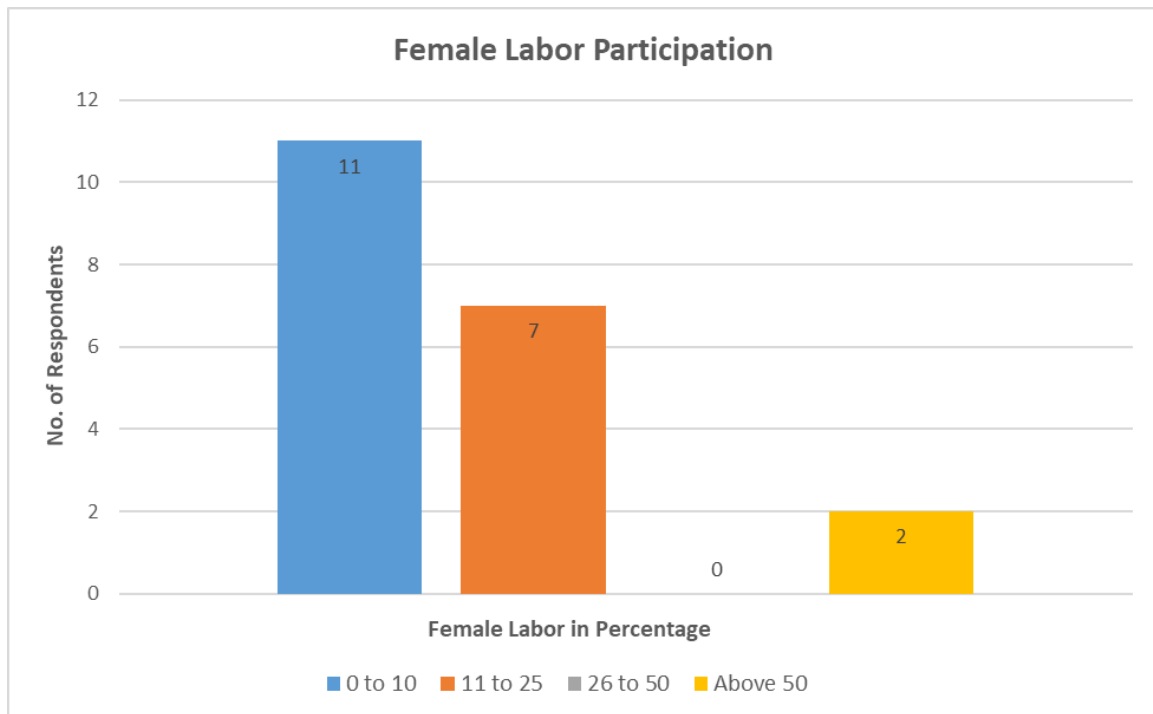


Figure 18: Female Labor Participation in the Organization

4.8.2.4 Child Labor

Purpose: The question was designed to understand whether child labor is allowed for the suppliers or contractors.

Findings: Positive responses were received on this issue that child labor is strictly prohibited.

Analysis: It is observed that strict adherence to this aspect that no child labor is allowed for the contractors or suppliers. This is found to be applicable not only for contractors or outsourced employees, but also applicable in their organizations' own recruitment.

4.8.2.5 CSR Activity

Purpose: The question was designed to understand whether these organizations have any CSR (Corporate Social Responsibility) activity and what are those activities. CSR pertains to a company's accountability for its influence on society, emphasizing the adoption of sustainable business practices. It underscores a firm's commitment to conducting business in a manner that is responsible and beneficial to societal well-being.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 2 out of 20 responded that humanitarian initiatives are being followed.
- ✓ 6 out of 20 responded that ethical business practices are being followed.
- ✓ 5 out of 20 responded that economic activities are being followed.
- ✓ 5 out of 20 responded that several types of activities are being taken.
- ✓ 2 out of 20 responded that their organization does not have any CSR activity.

Analysis: It is observed that these organizations perform different kinds of CSR activities. The result is graphically represented in Figure 19 below.

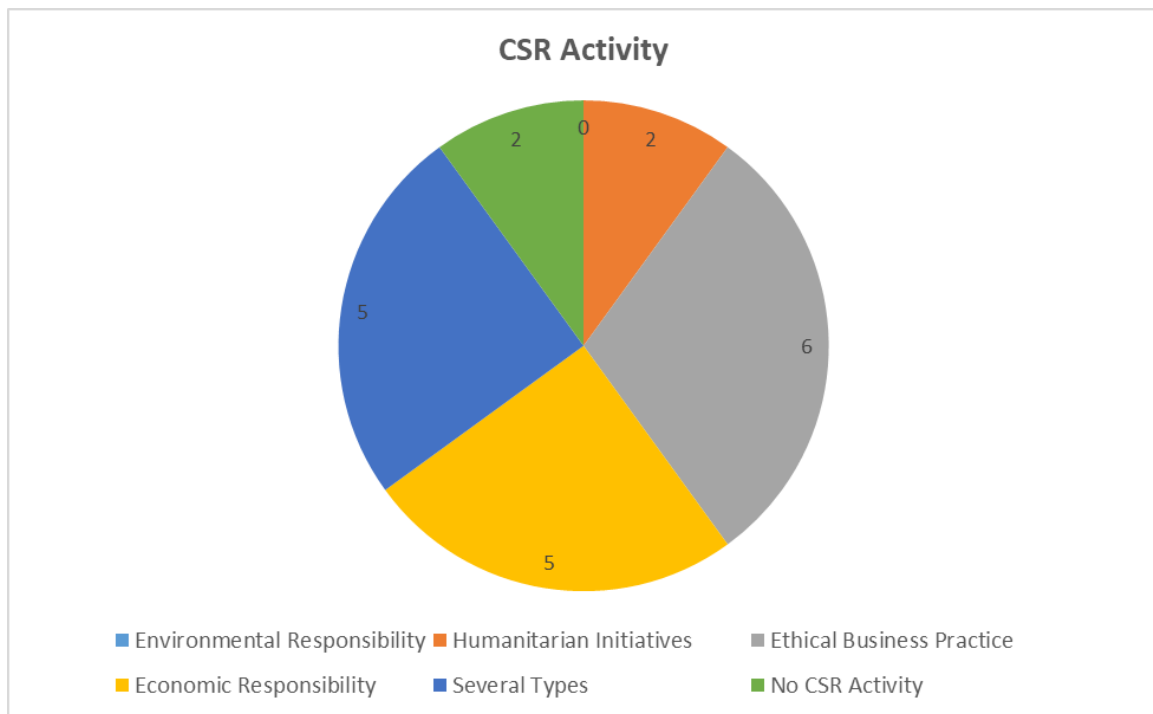


Figure 19: CSR Activity of the Organization

4.8.3 Environmental Aspects of Sustainable Procurement

Sustainable procurement comprises of three performance areas (social, environmental, and economic), which are being considered during procurement of goods, works, and services. Several questions were asked to the respondents regarding environmental aspects of sustainable procurement in their organizations, which are subsequently discussed.

4.8.3.1 Environmental Policy or Environmental Management Plan

Purpose: The question was designed to understand whether any environmental related policy, or environmental management system or environmental management standards are being followed by the organization during their procurement process.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 5 out of 20 responded that they follow funding agency guidelines.
- ✓ 6 out of 20 responded that they follow both Government and funding agency guidelines or regulations.
- ✓ 9 out of 20 responded that they follow Government guidelines in every project, i.e., an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) is done prior to project implementation, which must be approved by Department of Environment (DOE), subsequently taking site and environmental clearance from DOE.

Analysis: It is observed that these organizations follow some kind of environmental related policy, either complying with Government and/or funding agency guidelines or regulations. The result is graphically represented in Figure 20 below.

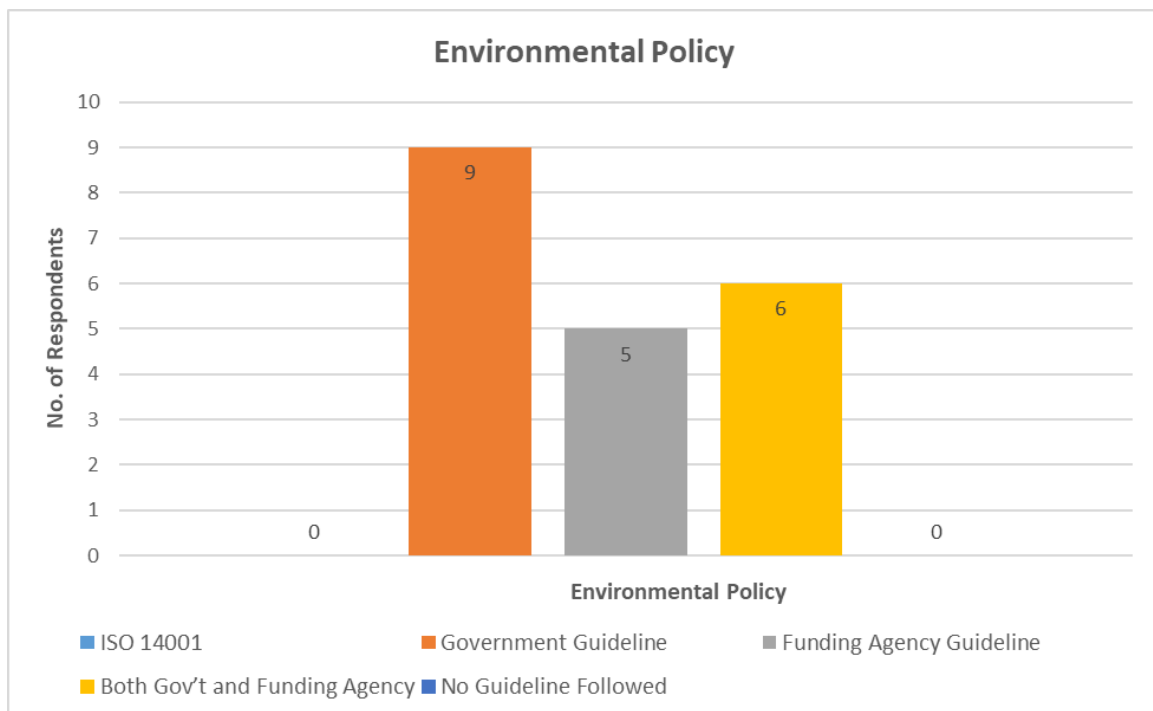


Figure 20: Organizations Environmental Policy or Environmental Management System

4.8.3.2 Environmental Performance of Suppliers or Contractors

Purpose: The question was designed to understand the mechanism about the environmental performance of the suppliers or contractors.

Findings: Negative responses were received on this issue that there is no mechanism to check the environmental performance of the suppliers or contractors.

Analysis: It has been noted that there appears to be an absence of mechanisms for evaluating the environmental performance of suppliers or contractors. Except PPR 2008, there is no such criteria to check the environmental performance, however the contractors are required to follow EIA report during project implementation.

4.8.3.3 Enhancement of Suppliers Environmental Performance

Purpose: The question was designed to understand whether any criteria is used to enhance the environmental performance of suppliers.

Findings: Negative responses were received on this issue by most of the respondents (13 out of 20) and others (7 out of 20) responded that they have no idea on this issue.

Analysis: It is observed that there is some provision in CPTU STDs to reflect this aspect. GCC 27.1 of STD-PW3 states the Contractor's measures about environmental protection at site and avoiding damage resulting from environmental pollution. GCC 29.2 of STD-PW3 states the Contractor's processes about laborers' accommodation, water supply, sanitation, hygiene provision to prevent epidemic.

4.8.3.4 Ecolabel

Purpose: The question was designed to understand whether the ecolabelling of goods or services is considered during procurement process.

Findings: Negative responses were received on this issue that ecolabelling is not considered during procurement of goods, services, or works.

Analysis: It is observed that ecolabelling is not an approach widely adopted by organizations. Moreover, there are no specific procurement guidelines related to this, or nothing is mentioned on this issue in PPR 2008 or CPTU guidelines.

4.8.3.5 Compliance with Minimum Legal Standards

Purpose: The question was designed to understand whether any criteria is used such that the contractors or suppliers do comply with minimum legal standards.

Findings: Positive responses were received on this issue that the organizations always try to ensure that the suppliers or contractors are maintaining minimum legal standards.

Analysis: It is observed that the organizations use the criteria during procurement of goods, works, or services. In the absence of this, the bidders are treated as non-responsive. In the event there is any violation of any legal standards, the party becomes blacklisted.

4.8.4 Economic Aspects of Sustainable Procurement

Sustainable procurement comprises of three performance areas (social, environmental, and economic), which are being considered during procurement of goods, works, and services. Several questions were asked to the respondents regarding economic aspects of sustainable procurement in their organizations, which are subsequently discussed.

4.8.4.1 Key Criteria during Procurement

Purpose: The question was designed to understand whether any key criteria are considered during preparation of technical specifications.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 10 out of 20 responded that the lowest price is considered as the main criteria.
- ✓ 8 out of 20 responded that the lowest price with higher quality is considered as the main criteria.
- ✓ 2 out of 20 responded that it depends on the importance or nature of the goods, works, or services.

Analysis: It is observed that the main criteria become the lowest price during procurement goods, works, or services. Besides, whole life costing is rarely considered by public sector organizations. The result is graphically represented in Figure 21 below.

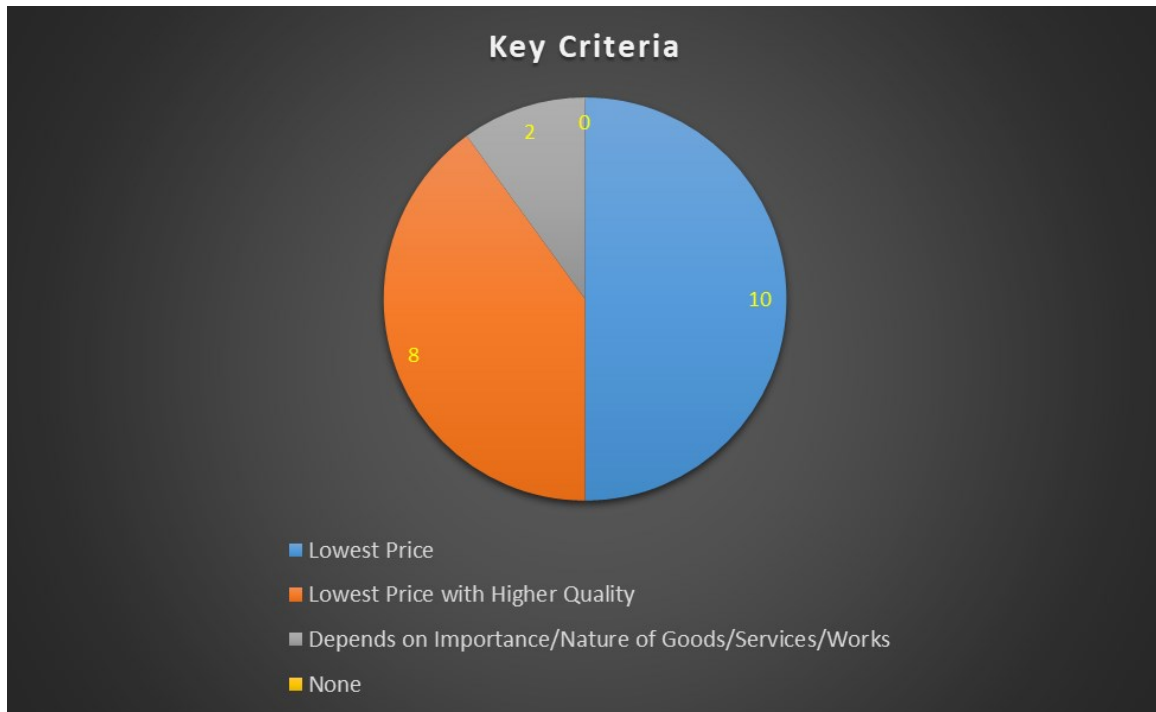


Figure 21: Key Criteria Consideration during Procurement

4.8.4.2 Whole Life Costing

Purpose: The question was designed to understand whether whole life costing is considered during procurement process.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 12 out of 20 responded that the whole life costing is not considered.
- ✓ 4 out of 20 responded that the whole life costing is considered during project procurement.
- ✓ 4 out of 20 responded that they have no idea about the whole life costing issue.

Analysis: It is observed that the whole life costing is positively considered during procurement process. The result is graphically represented in Figure 22 below.

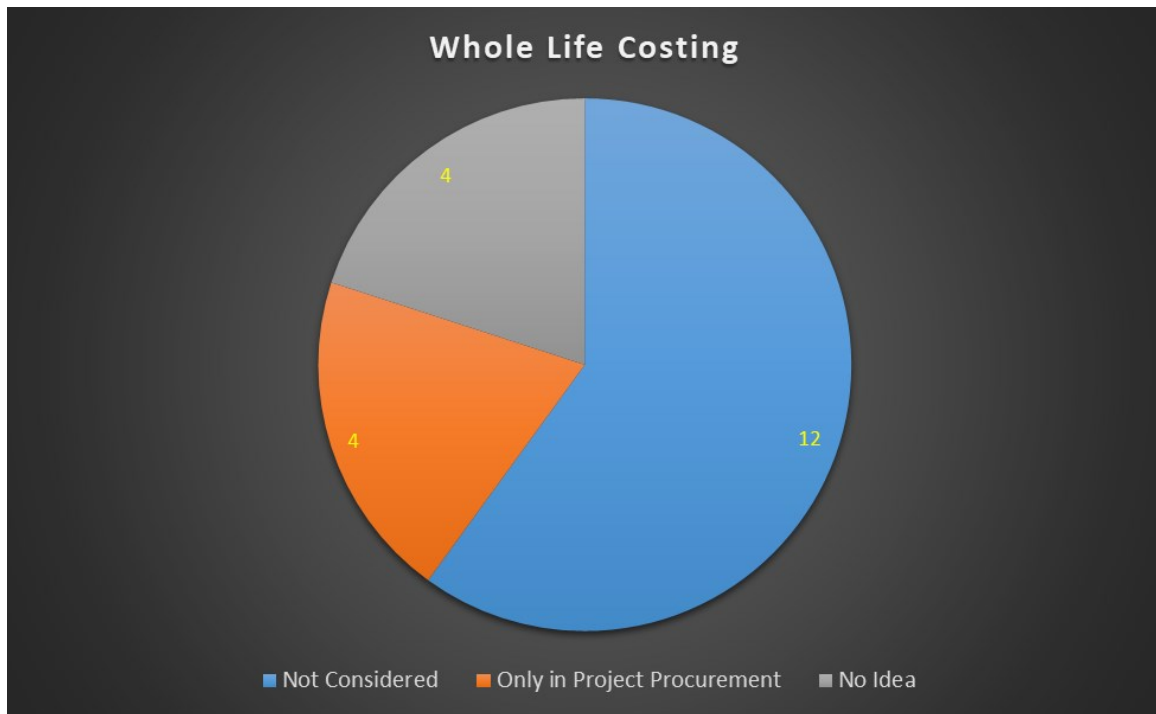


Figure 22: Consideration of Whole Life Costing during Procurement

4.8.4.3 Participation of Local Firms during Procurement

Purpose: The question was designed to understand whether any criteria is used in the tender documents to encourage participation of local firms during procurement process.

Findings: Positive responses were received on this issue by most of the respondents (18 out of 20) and others (2 out of 20) responded that they have no idea on this issue.

Analysis: It has been observed that while local firms are allowed to participate in the bidding process, there is limited opportunity for their exclusive involvement in international bidding within the current procurement practices. However, the Public Procurement Rules 2008 (PPR 2008) has introduced Limited Tendering Method (LTM) for participation of local firms.

4.8.5 Procurement Life Cycle

Purpose: The question was designed to understand whether every step of procurement life cycle is followed during procurement process.

Findings: The responses received from various respondents are summarized hereunder:

- ✓ 5 out of 20 responded that all steps of procurement life cycle are followed.
- ✓ 5 out of 20 responded that steps of procurement life cycle are partly followed.
- ✓ 10 out of 20 responded that they have no idea about the procurement life cycle issue.

Analysis: It is observed that several steps of procurement life cycle are followed during procurement goods, works, or services by the organizations, which is dependent on method of procurement and types of goods, works, or services being procured. Moreover, public sector organizations follow defined guidelines of PPA 2006, PPR 2008, and CPTU guidelines. The result is graphically represented in Figure 4.13 below.

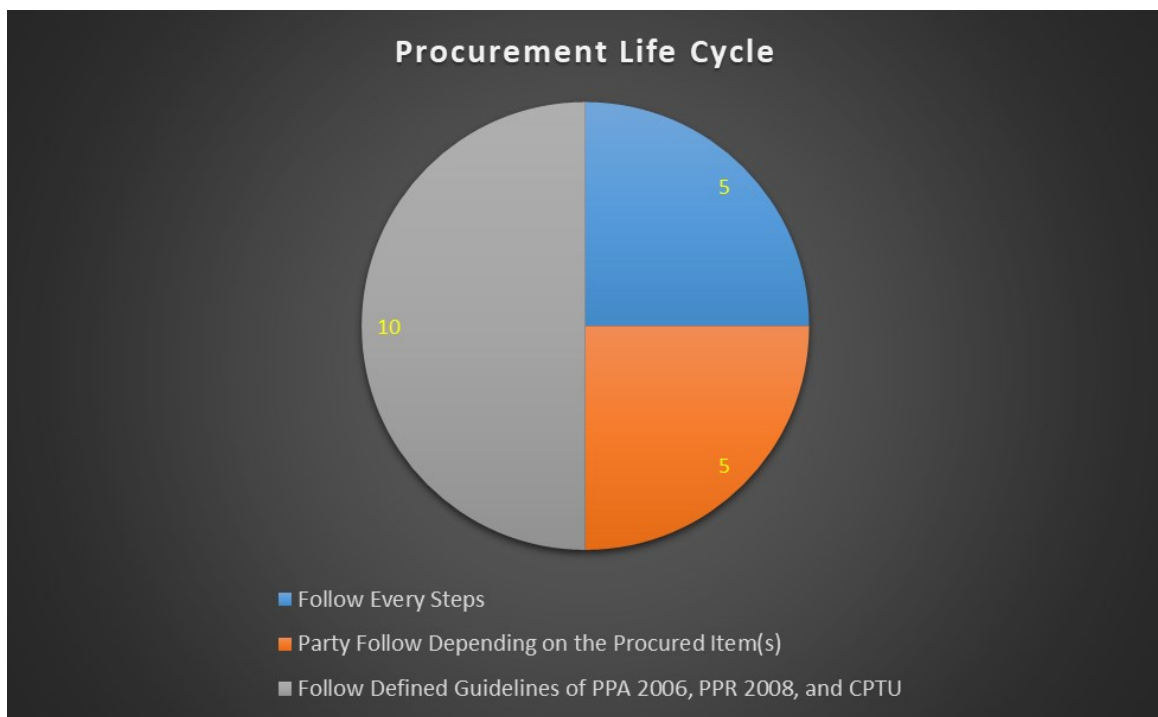


Figure 23: Procurement Life Cycle Consideration during Procurement

4.9 Summary of the Analysis

This section involves an analysis that categorizes the entire thesis into two distinct parts.

The first part involved an examination of procurement documents from transport sector organizations to identify any provisions in the procurement documents addressing sustainable procurement concerns. The analysis reveals that while some provisions exist within the procurement documents, they are deemed inadequate in accomplishing sustainability goals in procurement practices.

The second part of the research focused on evaluating the current status of sustainable procurement practices within transport sector organizations, specifically RHD and BR. Interviews or surveys were conducted involving twenty (20) Government officials, who are directly or indirectly engaged in procurement-related tasks. These individuals were furnished with printed questionnaires or feedback received over phone on the questionnaire to acquire a comprehensive understanding of sustainable procurement dynamics within these public sector organizations.

For this purpose, the interview and survey questionnaire were categorized into six sections, covering aspects related to economic, environmental, and social dimensions of sustainable procurement. Additionally, supplementary questions concerning procurement and SDGs were included. The analysis was conducted by analyzing responses to these inquiries, revealing that while certain sustainability practices are observed, there remains potential for integrating further provisions addressing sustainability within the procurement procedures.

The insights gained from the questionnaire and the responses received from participants offer a precise depiction of procurement practices in Bangladesh's public sector. The current tendering system in Bangladesh predominantly operates on a lowest price basis, with this being the primary criterion for determining and selecting suppliers or contractors. Whole life costing is only considered for project procurement. The criteria outlined in tender documents do not sufficiently empower the participation of local firms, particularly in the context of local bidding. In the transport sector, either the Government or funding agency or both guidelines for environmental policy or environmental management system are being followed. Ecolabelling is not considered for goods or services during procurement. In the procurement of large contracts, a limited number of environmental criteria, such as Environmental Impact Assessments (EIA), seem to be employed. Furthermore, the current procurement system in the transportation sector offers limited opportunities to guarantee the environmental performance of suppliers and contractors. In addition, there is an absence of mechanisms to enforce compliance with minimum legal environmental standards among contractors and suppliers. Conversely, equal opportunities for all bidders are generally assured. Aspects such as ethical labor practices, participation of female labor, and prohibition of child labor are present within the existing procurement framework.

Nevertheless, it is important to note that sustainability concerns are not deeply integrated into the procurement framework of the transportation sector in Bangladesh. But they are being practiced or followed to some extent by the procurement departments of RHD and BR.

Chapter 5

CONCLUSION AND RECOMMENDATION

5.1 Overview

Economic factors have traditionally been regarded as the single most significant indication in Bangladesh's public sector procurement. On the other hand, environmental and social/ethical considerations have never received top attention in the procurement process. However, due to the global adoption of the sustainable development concept worldwide, the importance of non-economic factors within the procurement process has significantly escalated.

The transportation sector stands as one of the significant industries in Bangladesh, directly influencing the country's GDP. Consequently, the purchases and acquisitions made by transport sector organizations, (particularly RHD and BR), concerning goods, services, and works, play a pivotal role in the nation's economy. These procurements not only impact the country's capacity to achieve sustainable development but also influence its standing and trustworthiness among its development collaborators. Broadening the scope of the Sustainable Development Goals would also yield advantageous outcomes.

Hence, to ensure long-term value for money while upholding environmental and social responsibilities, procurement practices within the transportation sector must integrate considerations for sustainability. By doing this, it would be even more certain that the SDG targets would be attained through the procurement of goods, works, and services that do not severely affect the environment or society.

In Bangladesh, Government has already approved Sustainable Procurement Policy (SPP). Nevertheless, insights gleaned from interviews with various procurement professionals affiliated with RHD and BR reveal a moderate level of awareness regarding sustainability issues. However, the research also unveiled that several professionals lacked expertise or sufficient knowledge regarding sustainable procurement practices.

Consequently, it would be assumed that procurement professionals would be more aware of sustainable procurement. This will result in the integration of sustainability concerns within the public procurement framework of Bangladesh.

5.2 Conclusion

Chapter 1 (Section 1.2) refers to two research objectives. First research question related to scope of sustainable procurement in transport sector of Bangladesh (particularly in RHD and BR) and the second research question related to current practice of sustainable procurement by the transport sector of Bangladesh (particularly in RHD and BR).

To address the aforementioned research questions, this dissertation paper endeavors to investigate and analyze the extent of sustainable procurement within the transport sector organizations of Bangladesh, specifically focusing on RHD and BR.

The findings derived from the analysis reveal that there is a limited opportunity for implementing sustainable procurement practices within the existing procurement structure of RHD and BR, as highlighted in Chapter 4. The insights obtained from procurement officials at RHD and BR affirm that while sustainability issues are not thoroughly integrated into the current procurement framework, certain practices aligned with sustainability are being partially followed by their respective procurement departments.

The tendering system remains predominantly reliant on the lowest price approach, with minimal conscientious consideration for environmental and social factors in specifications. Moreover, the incorporation of a whole life costing approach is infrequent. Standard tender documents formulated by the CPTU lack criteria aimed at fostering the engagement of local firms in national competitive bidding, despite some indications within the PPR 2008, as detailed in Chapter 3, which indirectly touch upon the matter. Conversely, in international competitive tendering, a provision exists for promoting the involvement of local firms through the term 'domestic preference.'

In the realm of the transport sector, adherence to environmental policy or environmental management system guidelines is observed either from the Government, or the funding agency, or both guidelines. However, the practice of considering ecolabels for procurement of goods

or services is absent. While some environmental criteria are utilized in large procurement contracts, such as Environmental Impact Assessments (EIA). The study underscores the absence of a mechanism within the PPR 2008 to assess the environmental performance of contractors/suppliers. Furthermore, procurement professionals at RHD and BR face limitations in incorporating criteria within tender documents to improve contractors/ suppliers environmental performance and lack mechanisms to ensure compliance with the minimum legal environmental standards. Nonetheless, the analysis reveals that RHD and BR have initiated efforts concerning environmental issues, although these initiatives are not notably robust.

In addressing the social dimension of sustainability, RHD and BR prioritize providing equal opportunities to all participants. They primarily employ the Open Tendering Method (OTM), which guarantees adequate advertising to enable participation from all interested suppliers. To ensure fairness, specifications abstain from mentioning specific brand names or countries of origin. However, this highlights the necessity for proficient and experienced specification writers, a skill set that several organizations lack. Moreover, during the preparation of specifications, all potential suppliers/contractors receive equal treatment.

The social aspect of sustainability concerning ethical labor practices is also addressed within the procurement systems of RHD and BR. The procurement documents stipulate various points pertaining to the health and safety of workers, restrictions on working during holidays, adherence to relevant labor laws, fair wages for laborers, encouragement of female labor force participation, ethical labor practices, prohibition of employing child laborers, and provisions for insurance in cases of personal injury or fatality.

Incorporating sustainability considerations within the procurement guidelines and adhering to them throughout the procurement process could potentially enhance the attraction of Bangladesh's transport sector to foreign-funding agencies like WB, ADB, JICA, and others for investment purposes.

5.3 Recommendation

While sustainable procurement holds significant importance in most developed countries, its prominence has not reached the same level of concern in developing countries like Bangladesh. Nevertheless, it is promising that sustainable procurement is progressively gaining recognition within our country. This shift in perspective is poised to foster sustainability within the procurement processes of the transport sector.

The Country's public procurement system has not yet considered sustainability dimensions (social, economic, environment, and governance) in its public procurement. Integration of sustainable procurement parameters and selection of the 'most advantageous' tender considering the whole life cost may help Bangladesh ensure maximum benefit. Introduction of sustainable public procurement parameters in the existing country system shall contribute to transit the country's public procurement to sustainable/green public procurement.

In the context of Bangladesh's transport sector, sustainable procurement holds particular significance due to its direct influence on economic growth. Therefore, the adoption of sustainable procurement practices in this sector necessitates the development of strategies across short-term, medium-term, and long-term timeframes.

As an immediate strategy (short-term strategy), it's essential to incorporate sustainability criteria into the tendering system. For example, environmental factors can be integrated at various stages of the tendering process. This integration could include embedding them in the pre-qualification documents of tenderers, instituting obligatory environmental conditions in contracts, or applying environmental criteria in the evaluation of tenders.

The criteria for selection of supplier or contractor should highlight environmental management measures and the approaches contractors plan to utilize in their environmental management practices. For instance, ISO 14000 standards serve as a practical framework for organizations to handle their environmental responsibilities comprehensively. Additionally, considering ecolabeling on goods ensures their environmental friendliness. Hence, these environmental parameters should be incorporated into the tender documents. Likewise, social criteria, encompassing aspects like worker health and safety, compliance with labor laws, encouraging female labor participation, ethical labor practices, prohibition of child labor, and worker

insurance, should also form part of the tendering process. This inclusive approach helps in selecting suppliers/ contractors capable of meeting not only economic requirements but also environmental and social obligations.

Compliance with the sustainable procurement policy (which is already published) should be regarded as a medium-term strategy to introduce sustainability practices. This policy formulation can be undertaken by the authorities like CPTU, or alternatively, amendments may be introduced to PPR 2008, incorporating regulations pertaining to sustainable procurement. Subsequently, transport sector organizations need to adhere to and implement this sustainable procurement policy accordingly. The willingness and proactive engagement of regulators are crucial in the initial stages of policy implementation. A definitive commitment from authorities is essential to establish a unified platform for sustainable procurement policies and to encourage adherence to sustainable procurement practices. Many procurement professionals within the public sector lack explicit directives from top management regarding the prioritization of achieving sustainable development objectives through the procurement process.

Comprehensive education and rigorous training in sustainable procurement at the individual professional level appear essential for increase the knowledge base required to implement sustainable procurement practices. Only formulating a policy and integrating sustainability criteria into tender documents are insufficient to establish a sustainable procurement system. Therefore, education and training initiatives should be considered as a long-term strategy necessary for the successful implementation of a sustainable procurement policy.

It is imperative for top-level management or government authorities to take proactive measures and lead the implementation of sustainable procurement practices by incorporating them into procurement guidelines. All procurement tasks should be assigned to individuals with well-developed procurement skills. Efficient execution of sustainable procurement relies on the professionalism and effectiveness of procurement activities. Therefore, these responsibilities should be entrusted to full-time procurement professionals operating within a dedicated procurement department. Furthermore, these procurement professionals should receive training in sustainable procurement practices, enabling them to seamlessly integrate their knowledge into their purchasing roles.

Simultaneously, it is crucial for the regulator to take proactive steps in eliminating any existing or perceived obstacles hindering sustainable procurement practices. Regular awareness campaigns should also be conducted, emphasizing the consideration of non-monetary advantages associated with sustainable procurement. All public sector authorities should be notified to review their respective budgeting frameworks to ensure they promote and endorse sustainable procurement efforts.

Newly formed BPPA may assume a pivotal role in this aspect. They have been conducting diverse awareness initiatives regarding public procurement activities across various public sector organizations in Bangladesh.

The transportation sector has experienced substantial growth in Bangladesh in recent years. This presents an opportune moment to prioritize sustainability considerations during the procurement of goods, works, or services. This can be achieved by revamping contract conditions, incorporating socio-economic aspects into contracts, integrating environmental considerations, and engaging in CSR activities.

As all transport sector organizations operate under government jurisdiction, adherence to PPR 2008, PPA 2006, directives from CPTU, and occasionally guidelines from foreign-funded agencies is mandatory. Hence, it is imperative for the government to develop a sustainable procurement policy or incorporate additional terms pertaining to sustainability within the PPR 2008 framework. A unequivocal commitment is required from senior officials, decision-makers, and the entire organizational hierarchy, affirming their dedication to implementing sustainable procurement practices.

Finally, there are scopes for additional study about sustainability issues within Bangladesh's transport sector. Currently, the concept of sustainable procurement is yet to be fully incorporated into the procurement systems of organizations within the transport sector. Consequently, this thesis provides an overview of sustainable procurement practices within transport sector of Bangladesh, particularly RHD and BR. Further comprehensive research and study are required to get deeper into sustainability concerns concerning procurement within transport sector.

References

- [1] APCC 2007, Framework for Sustainable Procurement by the Australian and New Zealand Governments

- [2] Bangladesh Railway (BR) | Website: <https://railway.portal.gov.bd/>

- [3] 1987 Brundtland Commission Report, "Our Common Future: The Report of the United Nations Brundtland Commission, 1987"

- [4] Bryde and Meehan, 2010

- [5] Chartered Institute of Procurement and Supply (CIPS) | Website: <https://www.cips.org/>

- [6] The Public Procurement Act, 2006 (PPA 2006)

- [7] The Public Procurement Rules, 2008 (PPR 2008)

- [8] Roads and Highways Department (RHD) Website <https://rhd.portal.gov.bd/>

- [9] Sustainable Development Goals (SDG) | Website: <https://sdgs.un.org/goals>

- [10] SDSs <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

- [11] Wikipedia <https://en.wikipedia.org/wiki/Procurement>

Appendix A - Research Questionnaire

This survey questionnaire is designed for a research study aimed at examining the scope and application of sustainable procurement practices in Bangladesh's transportation sector. It serves as an essential element for fulfilling the requirements of the 'Masters in Procurement and Supply Management' program at the BRAC Institute of Governance and Development, BRAC University. The researcher greatly appreciates your honest input. Please be assured that any information you provide will be treated with the highest level of confidentiality and used exclusively for academic research.

Section A: Respondent's Personal Details/Information

1. Name:
2. Designation:
3. Department:
4. Ministry:
5. Length of Professional Experience:

Section B: Information on Sustainable Development Goals (SDG)

1. Are you aware of Sustainable Development Goals (SDG)?
 Yes
 No
2. Do you think your organization is working in line with SDG?
 Yes
 No

If No, do you agree that your organization should be aligned with SDG?

- Agree
 Moderately Agree
 Strongly Agree
 Not Agree

Section C: Information on Social/Ethical Aspect

1. Do your specifications in place ensure equal opportunity for all potential suppliers/contractors?

Yes

No

If no, should it be acknowledged that ensuring equal opportunity for all potential suppliers/contractors is imperative?

Agree

Moderately Agree

Strongly Agree

Not Agree

2. Do you establish specific criteria to verify ethical labor practices among suppliers/contractors?

Some of the Criteria

All of the Criteria

Depending on Procurement Type

No Criteria

3. What percentage of female participation exists within the firms of your suppliers/contractors or within your organization?

0 - 10%

11 - 25%

26 - 50%

More than 50%

4. Do suppliers/contractors or your organization permit the employment of child labor?

Allowed

Prohibited

Depending on Procurement Type

No Idea

5. What kind of Corporate Social Responsibility (CSR) initiatives does your organization engage in?

- Environmental Responsibility
- Humanitarian Initiatives
- Ethical Business Practice
- Economic Responsibility
- Several Types
- No CSR Activity or Initiatives

Section D: Information on Environmental Aspect

1. Does your organization adhere to any environmental policy, environmental management system, or environmental management standard?

- ISO 14001
- Government Guidelines
- Funding Agency Guidelines
- Both Government and Funding Agency Guidelines
- No Guidelines Followed

2. Has your organization established any specific processes to evaluate the environmental performance of your contractors or suppliers?

- Yes
- No

If yes, please elaborate below -

3. Do you implement any specific criteria designed to enhance the environmental performance of your suppliers or contractors?

- Yes
- No

If yes, please elaborate below -

4. Do you take into account ecolabels when developing specifications for goods or services?

Yes

No

If yes, which specific type of ecolabel holds the most significance for consideration during the procurement process?

Type I

Type II

Type II

Depending on Procured Item(s)

5. Do you consider any criteria to ensure that suppliers/contractors adhere to the minimum legal standards?

Yes

No

If no, do you believe it is imperative to uphold the minimum legal standards?

Agree

Moderately Agree

Strongly Agree

Not Agree

Section E: Information on Economic Aspect

1. When formulating specifications, what criteria do you prioritize for the procurement of goods, services, or works?

Lowest Price

Lowest Price with Higher Quality

Depends on Importance/Nature of Goods/Services/Works

None

2. In the procurement process, do you take into account the concept of whole life costing?

Yes Considered

Not Considered

Only in Project Procurement

No Idea

3. Have you integrated any specific criteria into your tender documents to encourage local firms' participation?

Yes

No

If No, do you agree that it is beneficial to promote the involvement of local firms within transportation sector organizations?

Agree

Moderately Agree

Strongly Agree

Not Agree

Section F: Information on Procurement Life Cycle

1. Do you adhere to the stages of the procurement life cycle when executing procurement-related tasks?

Comply with All Steps

Comply with Several Steps

Party Comply Depending on the Procured Item(s)

Comply with Defined Guidelines of PPA 2006, PPR 2008 and CPTU

Thank you for your valuable feedback and your kind co-operation is much appreciated.