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COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES (COBAMS)

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AN ASSESSMENT OF PROCUREMENT PLANNING AT THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY IN UGANDA

BY

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A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF MAKERERE UNIVERSITY

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DECLARATION

I, Gonza Ian, affirm that this research report is my original work. It has not been submitted, in whole or in part, to Makerere University or any other institution for the purpose of obtaining an academic qualification.

Signature: ..... Date: 16/11/2026

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APPROVAL

This research report titled ***"An assessment of procurement planning at the National Environment Management Authority in Uganda"*** by GONZA IAN has been conducted under my supervision and is now ready for examination.

Signature: ..... Date: 16/11/2026

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DEDICATION

I dedicate this research report to my family and friends, who have been my anchor and inspiration throughout this academic journey. Your prayers, patience, encouragement and support made this achievement possible.

May the Almighty God reward you abundantly.

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ACRONYMS

CVI - Content Validity Index

e-GP - Electronic Government Procurement

ICT - Information and Communication Technology

NDP IV - Fourth National Development Plan

NEMA - National Environment Management Authority

NTR - Non-Tax Revenue

OAG - Office of the Auditor General

OECD - Organisation for Economic Co-operation and Development

PDE - Procuring and Disposing Entity

PPDA - Public Procurement and Disposal of Public Assets (Authority/Act)

SD - Standard Deviation

SPSS - Statistical Package for the Social Sciences

UGX - Uganda Shilling

ABSTRACT

This study assessed procurement planning in public agencies in Uganda, using the National Environment Management Authority (National Environment Management Authority (NEMA) as a case study. The specific objectives were to examine procurement planning practices at National Environment Management Authority (National Environment Management Authority (NEMA), to assess the challenges affecting procurement planning, and to suggest strategies for improving procurement planning. The study adopted a descriptive cross-sectional survey design and a quantitative approach. The study population comprised 119 staff of National Environment Management Authority (NEMA) , from which a sample of 92 respondents was determined using the Krejcie and Morgan (1970) table and selected through purposive and simple random sampling. A total of 76 respondents completed and returned self-administered questionnaires, representing a response rate of 82.61 per cent. Data were analysed using SPSS version 28 and presented using frequencies, percentages, means, and standard deviations. The findings revealed that procurement planning practices were rated highly, though only just above the acceptable level, with an overall average mean of 3.50. Compliance with the PPDA Act and regulations, approval of the procurement plan before the financial year begins, and needs assessment of user departments were rated highest, while timely completion of procurement activities and monitoring of plan implementation were rated lowest. Challenges were rated highly, with an overall average mean of 3.68, the most pronounced being delays in the approval of procurement requirements, inadequate communication among the Procurement and Disposal Unit, finance and user departments, vacant key positions, and inaccurate cost estimation. Respondents rated the proposed strategies highly, with an overall average mean of 4.08, with the strongest support recorded for paying suppliers on time, strengthening coordination between the units involved in planning, and filling key vacant positions. The study concluded that although National Environment Management Authority (NEMA) has a functioning legal and procedural framework for procurement planning, weaknesses in costing, timeliness, and monitoring, together with approval delays, staffing gaps, and revenue shortfalls, continue to undermine the implementation of its procurement plans. The study recommended that National Environment Management Authority (NEMA) institutionalises quarterly monitoring of plan implementation, requires market assessments for major procurements, sets time limits for approvals, fills key vacant positions, and strengthens the collection of receivables and the clearance of supplier invoices.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Procurement planning is the foundation of the public procurement cycle because it determines what an entity will buy, when, by which method and within what budget. In Uganda, every procuring and disposing entity (PDE) is required under the Public Procurement and Disposal of Public Assets (PPDA) Act, Cap. 205 to prepare procurement plans that are aligned to its approved budget, and to prepare multi-year procurement plans where a procurement spans more than one financial year. Public agencies such as the National Environment Management Authority (National Environment Management Authority (NEMA) are Government bodies that buy goods, works and services with public resources and are therefore expected to plan their procurements within this framework.

National Environment Management Authority (NEMA) faces a particular planning burden because its mandate to coordinate, monitor, supervise and enforce environmental compliance across the country depends on adequately planned and timely procurement of monitoring equipment, field vehicles, enforcement logistics and specialised services, within a budget drawn mainly from Government releases and non-tax revenue. Successive reports of the Office of the Auditor General (OAG) show that the Authority has experienced revenue shortfalls, understaffing of its Procurement and Disposal Unit, split procurements, contracts awarded without performance security, and delayed procurements. This chapter presents the background of the study, problem statement, purpose of the study, objectives, research questions, scope of the study, significance of the study and justification of the study.

1.2 Background of the Study

Public procurement plays a critical role in enabling governments to deliver services, infrastructure and development programmes effectively (Danieli, 2026). It accounts for a significant portion of public expenditure worldwide and is governed by principles of transparency, accountability, fairness, competitiveness and value for money (Fazekas & Blum, 2021; Acheampong et al., 2026). Procurement planning, one of the earliest stages of the procurement cycle, is essential for ensuring that public entities acquire goods, works and services in a timely, efficient and cost-effective manner (Changalima et al., 2021). Poor planning usually

results in delays, cost overruns, emergency procurements and failure to meet organisational goals (Udoba & Mwalukasa, 2025).

Globally, governments have undertaken reforms to ensure that procuring entities adhere to proper planning and regulatory compliance (Changalima et al., 2021). The OECD (2019) highlights that procurement planning directly influences procurement outcomes by determining what is procured, when and at what cost. Effective planning reduces the risks of mismanagement, corruption and waste of public resources. In many developing countries, however, procurement planning remains weak because of limited institutional capacity, inadequate budgeting practices and insufficient market assessments (Navarro, 2023; Changalima et al., 2021).

In Africa, empirical studies have linked procurement planning to the performance of public institutions. In Tanzania, Mahuwi and Panga (2020) found that procurement best practices, including planning, improved the performance of public institutions, while Changalima et al. (2021) established that procurement planning is a strategic tool for procurement effectiveness among public procuring entities in Dodoma.

In Ghana, Acheampong et al. (2026) linked procurement planning and vendor management to the performance of a regional hospital, and in Kenya, Kiruki (2025) found that procurement management practices significantly affected the performance of state corporations in Nairobi City County. Commercially oriented public enterprises face a particular planning difficulty: they must follow public procurement rules while competing with private firms that can buy quickly, and their procurement budgets depend on revenue they earn rather than on fixed Government releases.

Uganda's procurement framework, guided by the PPDA Act, Cap. 205 and its regulations, requires public entities to prepare annual procurement plans aligned to approved budgets, to obtain market prices before initiating procurements, and to prepare multi-year procurement plans for procurements that span more than one financial year. Despite this framework, the Auditor General continues to report weaknesses in procurement planning across government.

In the financial year 2023/24, 11 out of 72 sampled entities undertook 63 unplanned procurements worth UGX 59.02 billion, 79 procurements worth UGX 25.45 billion were

undertaken without market prices to support their estimated values, and 79 procurements worth UGX 1,062.45 billion took an average of six months from initiation to contract signing (OAG, 2024). In the financial year 2024/25, 64 procurements worth UGX 385 billion were initiated in prior periods and completed in the year without multi-year procurement plans, and none of the 65 sampled entities reserved the required 15% of its procurement plan budget for registered associations of women, youth and persons with disabilities (OAG, 2025).

The National Environment Management Authority (National Environment Management Authority (NEMA) is Uganda's principal agency for environmental management. It was established in May 1995 under the National Environment Act, Cap. 153 (formerly the National Environment Statute, 1995), which empowers it to coordinate, monitor and supervise all activities in the field of the environment (National Environment Act, 2019). National Environment Management Authority (NEMA) is a semi-autonomous Government agency operating under Vote 150 within the Natural Resources, Environment, Climate Change, Land and Water programme, and is subject to audit by the Auditor General as a procuring and disposing entity under the PPDA Act (OAG, 2025).

Its functions include the review and approval of Environmental and Social Impact Assessments, the issuance and monitoring of environmental and wetland resource user permits, enforcement of pollution, emission and noise standards, and management of the National Environment Fund established under Section 32(1) of the National Environment Act, 2019 (National Environment Management Authority (NEMA), n.d.). Its head office is National Environment Management Authority (NEMA) House, Plot 17/19/21 Jinja Road, Kampala.

The Auditor General has reported planning and resource-management concerns at National Environment Management Authority (NEMA) in each of the last four audit years. In the financial year 2021/22, National Environment Management Authority (NEMA) collected non-tax revenue (NTR) of UGX 5.93 billion against an estimate of UGX 8.98 billion, received only UGX 14.18 billion (79%) of its approved Government budget of UGX 17.88 billion, accumulated receivables of UGX 12.08 billion, and had its NTR collections swept to the Consolidated Fund instead of the National Environment Fund, while its Environmental Protection Force remained unestablished (OAG, 2022).

In the financial year 2022/23, the Authority received UGX 17.32 billion (91.4%) of an approved budget of UGX 18.94 billion, had only 119 of 413 approved positions filled, a gap of 294 vacant posts, failed to enforce Annual Environmental Audits for 776 issued permits and continued to allow the use of wetlands under 708 expired permits, carried long outstanding receivables of UGX 11.874 billion, and operated with only 23 of its 42 fleet vehicles functional (OAG, 2023).

In the financial year 2023/24, the Authority's Board term expired without renewal, it lacked a centralised database of compliance certificates and a tracking system for issued permits, UGX 12.24 billion on the National Environment Fund remained unspent and idle, and a contract for motorcycles worth UGX 0.06 billion was signed without the bidder providing performance security (OAG, 2024). The Accounting Officer's own records also showed that procurements of laptops and desktops at the Authority had been split during that financial year (OAG, 2024).

These findings point to persistent gaps between what National Environment Management Authority (NEMA) plans and budgets for and what it is able to procure and deliver. In the financial year 2024/25, the Authority's Procurement and Disposal Unit had only 2 of its 4 approved positions filled, bids worth UGX 1.4 billion were not acknowledged as received by suppliers, and the Authority over-committed Government by UGX 936.99 million through uncleared supplier invoices (OAG, 2025). Understaffing of the procurement function makes realistic planning difficult, revenue shortfalls leave planned procurements unfunded, and weak contract safeguards expose the Authority to the risk of non-performance. As procurement planning is foundational to effective service delivery and the use of public resources, assessing these weaknesses is essential for strengthening procurement performance at National Environment Management Authority (NEMA) and in other public agencies in Uganda.

1.3 Problem Statement

Proper procurement planning and execution are essential for enhancing service delivery and improving institutional performance in public sector organisations (Ybañez, 2026). Planning ensures that needs are identified, budgets are aligned and activities are implemented in line with approved plans and the regulatory framework. At National Environment Management Authority (NEMA), effective procurement planning should ensure that field vehicles, monitoring and enforcement equipment, ICT systems and other specialised services are available when needed to

deliver the Authority's environmental compliance, monitoring and enforcement mandate effectively. As a PDE, the Authority is required by the PPDA Act, Cap. 205 to prepare and adhere to annual and, where necessary, multi-year procurement plans.

However, Auditor General reports for the financial years 2021/22 to 2024/25 show persistent planning weaknesses at the Authority. In the financial year 2022/23, six of National Environment Management Authority (NEMA) 's outputs with fifty-seven activities worth UGX 16.9 billion were only partially achieved, with twenty-four of the fifty-seven activities not implemented at all, while only 119 of 413 approved positions were filled (OAG, 2023). In the financial year 2023/24, procurements of laptops and desktops were found to have been split, and a contract for motorcycles worth UGX 0.06 billion was signed without the bidder providing performance security, which exposed the Authority to the risk of non-performance (OAG, 2024).

In the financial year 2024/25, National Environment Management Authority (NEMA) collected only UGX 16.287 billion (53%) of its budgeted non-tax revenue of UGX 30.876 billion, which affected the implementation of planned activities, bids worth UGX 1.4 billion were not acknowledged as received by suppliers, and the Authority's Procurement and Disposal Unit had only 2 of its 4 approved positions filled (OAG, 2025). Receivables remained high throughout the period, rising from UGX 12.08 billion in 2022 to UGX 11.874 billion in 2023 and standing at UGX 11.87 billion in 2025, over 80% of it government-related and more than ten years outstanding, which exposes the Authority to funding uncertainty and weakens planning (OAG, 2022; OAG, 2023; OAG, 2025). Staffing gaps of between 50% and 71% across the four years, including key commercial posts, further weaken the capacity to plan and manage procurements (OAG, 2022; OAG, 2024; OAG, 2025).

If not addressed, these weaknesses could continue to result in unfunded or delayed procurements, poorly secured contracts, weak enforcement of environmental standards, and continued loss of statutory revenue that should strengthen the National Environment Fund. The Auditor General's reports on National Environment Management Authority (NEMA) described these financial and operational symptoms but did not examine the Authority's procurement planning practices, the challenges behind them or possible improvements from the perspective of staff involved in procurement planning. This study therefore sought to assess procurement planning at National Environment Management Authority (NEMA).

1.4 Purpose of the Study

The purpose of the study was to assess procurement planning at National Environment Management Authority (NEMA).

1.5 Objectives of the Study

1.5.1 To examine the procurement planning practices at National Environment Management Authority (NEMA).

1.5.2 To assess the challenges affecting procurement planning at National Environment Management Authority (NEMA).

1.5.3 To suggest strategies for improving procurement planning at National Environment Management Authority (NEMA).

1.6 Research Questions

1.6.1 What procurement planning practices are used at National Environment Management Authority (NEMA)?

1.6.2 What challenges affect procurement planning at National Environment Management Authority (NEMA)?

1.6.3 What strategies can be implemented to improve procurement planning at National Environment Management Authority (NEMA) ?

1.7 Scope of the Study

1.7.1 Geographical Scope

The study was conducted at National Environment Management Authority (NEMA) 's head office at National Environment Management Authority (NEMA) House, Plot 17/19/21 Jinja Road, Kampala, where the Authority's management, Procurement and Disposal Unit, finance and planning functions are located, and covered the technical and support departments that raise procurement requirements. National Environment Management Authority (NEMA) was selected because it is Uganda's principal environmental regulatory agency with a nationwide compliance

and enforcement mandate that requires continuous procurement of monitoring equipment, field vehicles, ICT systems and enforcement logistics.

The Authority had also been cited in successive Auditor General reports for staffing gaps in its Procurement and Disposal Unit, split procurements, contracts awarded without performance security and delayed procurements, making it a relevant case for investigation. Data were collected from staff involved in the procurement process, including Procurement and Disposal Unit staff, Contracts Committee members, finance and planning staff, and heads and staff of technical user departments.

1.7.2 Content Scope

The study focused on procurement planning within the public procurement process. Specifically, it examined procurement planning practices at National Environment Management Authority (NEMA), including needs assessment, budget alignment and costing, preparation of annual and multi-year procurement plans, market assessment, coordination between the Procurement and Disposal Unit and user departments, and monitoring of plan implementation. It also assessed the challenges affecting procurement planning, such as staffing and capacity gaps, revenue shortfalls, delays and off-plan procurements, and explored strategies for strengthening procurement planning. The study aimed to generate practical insights for improving compliance, efficiency, accountability and value for money at National Environment Management Authority (NEMA) and other public agencies.

1.7.3 Time Scope

The study covered the period from the financial year 2021/22 to 2024/25, corresponding to the Auditor General reports of 2022 to 2025. This period was considered appropriate because it captured the years during which the Auditor General repeatedly reported staffing gaps in the Procurement and Disposal Unit, split procurements, contracts awarded without performance security, delayed procurements and revenue shortfalls at the Authority. It also covered the transition from the Third to the Fourth National Development Plan (NDP IV), during which public entities were expected to align their strategic plans and budgets to new national priorities.

1.8 Significance of the Study

The study will be significant because procurement planning is essential for the efficient use of public resources, timely service delivery and accountability in public agencies. The findings are expected to benefit different stakeholders as follows.

The findings will provide the Board of Directors and management of National Environment Management Authority (NEMA) with evidence on procurement planning gaps, including staffing shortfalls in the Procurement and Disposal Unit, split procurements and contracts awarded without performance security. The recommendations will help management strengthen procurement capacity, align procurement plans with realistic revenue forecasts and strategic objectives, and improve compliance with the PPDA Act.

The study will offer the Procurement and Disposal Unit, Contracts Committee and user departments practical knowledge on needs assessment, costing, scheduling, market assessment and adherence to procurement plans, which will help them reduce delays and improve value for money.

Regulators and oversight institutions, including the PPDA Authority, the Office of the Auditor General, the Ministry of Information and Communications Technology and National Guidance, the Ministry of Finance, Planning and Economic Development and the Uganda Communications Commission, will benefit from evidence that can inform guidelines, enforcement and policy reforms on procurement planning in public agencies.

Other public agencies in Uganda, which operate under similar regulatory and resourcing pressures, may use the findings to strengthen their own procurement planning.

The study will contribute to scholarly literature on procurement planning, particularly in regulatory public agencies in Uganda, where empirical studies remain limited, and will provide a reference point for future research.

Finally, improved procurement planning at National Environment Management Authority (NEMA) will contribute to more effective environmental compliance monitoring and enforcement services for the country, and will strengthen public confidence in how the Authority's resources are used.

1.9 Justification of the Study

National Environment Management Authority (NEMA) managed an approved Government budget of about UGX 42.29 billion in the financial year 2023/24 (OAG, 2024), and successive Auditor General reports showed recurring staffing, procurement method and resource-management weaknesses despite a clear legal framework. Most local studies on procurement planning had focused on ministries, local governments, universities and private firms, with less attention to regulatory public agencies, whose procurement budgets depend mainly on Government releases supplemented by non-tax revenue and whose regulatory mandate exposes them to distinct capacity pressures. A study that captured the views of staff directly involved in procurement planning at National Environment Management Authority (NEMA) was therefore justified, as it sought to generate practical solutions for improving procurement planning and to contribute to better management of public resources in Uganda.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

A literature review is a systematic and critical examination of existing scholarly works related to a specific research topic. It involves identifying, evaluating and synthesising published studies, books, journals and policy documents in order to establish what is already known, identify gaps in knowledge and position the current study within existing academic discourse. This chapter discusses the existing literature on procurement planning in public sector organisations. Specifically, it explains the key concepts related to the study, reviews empirical literature on procurement planning practices, explores the major challenges affecting procurement planning and discusses strategies for improving procurement planning. The chapter concludes with a summary of the reviewed literature and the knowledge gaps that justify the current study.

2.2 Key Concepts

This section presents the key concepts that underpin the study. It defines procurement planning and public agencies, and describes the National Environment Management Authority (NEMA)) as the case under study.

2.2.1 Procurement Planning

Procurement planning refers to the process of deciding what to purchase, when and from what sources. Its role is to assist public service managers in formulating and executing a procurement strategy that identifies all stakeholders in the acquisition of the required goods and services, who can then be consulted, and the legal obligations with which they must comply (Celestin, 2023). Changalima et al. (2021) view procurement planning as a strategic tool that links an entity's needs, budget and timelines, while Udoba and Mwalukasa (2025) emphasise that it covers needs identification, specification, cost estimation, scheduling and the choice of procurement method.

In Uganda, procurement planning in the public sector is a legal requirement under the PPDA Act, Cap. 205. Accounting Officers and procurement units are expected to prepare procurement plans in line with approved annual budgets, update them when needs change, and prepare multi-year procurement plans for procurements that span more than one financial year (OAG, 2025). Procurement is a complex function that requires the participation of user departments, the

procurement unit, finance and planning staff and the Contracts Committee, each of whom must perform their roles for the procurement function to succeed. In this study, procurement planning is defined as the process through which National Environment Management Authority (NEMA) identifies, prioritises, costs and schedules its requirements for goods, works and services in line with its approved budget, strategic plan and the PPDA legal framework.

2.2.2 Public Agencies

A public agency is a Government body established by statute to perform regulatory, coordination or service functions on behalf of the State. In Uganda, the Auditor General classifies such statutory authorities separately from ministries and local governments, but subjects them to the same audit and procurement planning requirements (OAG, 2025). Public agencies that use public resources are PDEs subject to the PPDA Act and to audit by the Auditor General. Unlike commercial public enterprises, many regulatory agencies finance their procurement budgets mainly from Government releases, with non-tax revenue from fees, permits and fines forming a smaller, often under-collected, share (OAG, 2023; OAG, 2025).

2.2.3 The National Environment Management Authority (NEMA))

The National Environment Management Authority ((NEMA)) is the national environmental regulatory agency of Uganda. Its history dates to the National Environment Statute of 1995, which established National Environment Management Authority (NEMA) as a semi-autonomous coordinating, monitoring and supervisory body for environmental management. The Statute was repealed and replaced by the National Environment Act, 2019, which continued National Environment Management Authority (NEMA) 's mandate and strengthened its enforcement powers, including the recognition of the rights of nature. The Authority is a government body operating under Vote 150, falls under the Natural Resources, Environment, Climate Change, Land and Water programme, and has its head office at National Environment Management Authority (NEMA) House, Plot 17/19/21 Jinja Road, Kampala (OAG, 2025; National Environment Act, 2019).

The Authority's functions include the review and approval of Environmental and Social Impact Assessments, the issuance, renewal and monitoring of environmental and wetland resource user permits, enforcement of pollution, emission and noise standards, environmental education and

public awareness, and coordination of Lead Agencies and Local Governments on environmental matters (National Environment Act, 2019). National Environment Management Authority (NEMA) depends on the Environment Police Protection Unit of the Uganda Police Force for enforcement, pending the establishment of its own National Environment Protection Force under Section 25(1) of the National Environment Act, 2019 (OAG, 2022). These functions are directly relevant to procurement planning, which must ensure the timely acquisition of monitoring equipment, field vehicles, protective gear and enforcement logistics that the Authority's compliance and enforcement work requires.

The Authority finances its operations mainly from Government budget releases, supplemented by non-tax revenue (NTR) it collects from permits, fees and fines. In the financial year 2022/23, out of 413 approved positions, only 119 (29%) were filled, leaving a gap of 294 vacant posts (OAG, 2023). Procurements are managed by the Procurement and Disposal Unit, approved by the Contracts Committee and initiated by user departments, including Environmental Monitoring and Compliance, Wetlands Management, Legal and Corporate Services.

2.3 Empirical Literature Review

This section reviews empirical studies related to procurement planning in public sector organisations. The review is organised according to the study objectives: procurement planning practices, procurement planning challenges and strategies for improving procurement planning.

2.3.1 Procurement Planning Practices

This section reviews empirical studies on procurement planning practices adopted by public sector organisations.

Compliance with procurement policies is a key practice in procurement planning in public institutions. A study by Castañeda et al. (2023), conducted at the Philippine Center for Postharvest Development and Mechanization (PhilMech), found that strict adherence to the RA 9184 procurement law improved transparency and reduced irregularities in bidding processes. Similarly, Navarro (2023), in a policy study on procurement reforms in the Philippines, established that compliance with procurement guidelines strengthens accountability and ensures proper resource allocation.

Castillo and Gabriel (2023), in a review of local government units in the Philippines, found that organisations with strong compliance systems recorded higher transparency and improved stakeholder trust. In addition, Riak and Musoke (2025), in a study on procurement under public–private partnerships in Uganda's oil and gas industry, found that strong legal and policy frameworks significantly improve procurement compliance, although institutional weaknesses and enforcement gaps still affect implementation. This means that procurement compliance enhances fairness, reduces corruption risks and improves efficiency, although capacity limitations remain a challenge in developing country procurement systems.

Alignment of procurement planning with organisational goals ensures efficiency and relevance in public resource use. Limbo (2020) studied agribusiness ventures under agrarian reform programmes in the Philippines and found that aligning procurement with strategic objectives improved productivity and reduced wastage. In Uganda, Konneh (2024) examined procurement planning in the Inspectorate of Government in Kampala and found that alignment between procurement activities and institutional priorities significantly improved service delivery.

These studies show that procurement alignment enhances resource optimisation, reduces duplication and strengthens institutional performance. However, misalignment between budgets, procurement plans and strategic priorities continues to hinder efficiency in many public institutions, especially where planning coordination is weak. This is relevant to National Environment Management Authority (NEMA), where the Auditor General found that the Authority collected only UGX 16.287 billion (53%) of its budgeted non-tax revenue of UGX 30.876 billion in the financial year 2024/25, a shortfall of UGX 14.589 billion that affected the implementation of planned activities (OAG, 2025).

Timeliness and efficiency in procurement planning are essential for effective service delivery. Udoba and Mwalukasa (2025), in a study of public institutions in Tanzania, found that timely preparation of procurement plans improved budget utilisation and reduced project delays. Early preparation of procurement plans, adherence to timelines and efficient resource allocation therefore improve institutional performance. However, delays in fund disbursement, weak coordination and inadequate procurement capacity were identified as persistent challenges affecting timeliness.

Coordination and communication among organisational units play a critical role in procurement planning. Go (2025), in a study in the Department of Agriculture Cordillera Administrative Region in the Philippines, found that strong internal communication significantly improved employee performance and service delivery. In Uganda, Konneh (2024) found that poor coordination between planning and procurement units in government institutions negatively affected procurement timelines and service delivery. Effective communication improves information sharing, reduces duplication of effort and enhances procurement accuracy, which is particularly important in a regulatory agency whose requirements originate from several technical departments and field enforcement operations.

Budgeting is closely linked to procurement planning. Namwanje et al. (2024), in a study at Centenary Bank Uganda, found that budgeting significantly improves procurement performance by ensuring cost control and timely execution of procurement activities. Similarly, Jindal et al. (2021) noted that structured planning processes help organisations coordinate requirements and reduce wastage. In Uganda, Aheebwa et al. (2026), in a study on budgeting and resource allocation in Rukungiri District Local Government, found a strong and significant relationship between budgeting and service delivery, confirming that weak budgeting practices negatively affect service outcomes such as access, quality and responsiveness.

These findings show that effective budgeting enhances procurement efficiency, accountability and timely service delivery, while weak budgeting leads to delays and poor resource utilisation. The Auditor General's finding that six of National Environment Management Authority (NEMA) 's outputs, with fifty-seven activities worth UGX 16.9 billion, were only partially achieved in the financial year 2022/23, with twenty-four activities not implemented at all (OAG, 2023), shows why this practice matters for the Authority.

Needs assessment is a critical procurement planning practice that enables organisations to identify actual requirements, determine priorities and use resources efficiently. Namwanje et al. (2024) found that proper needs assessment improves procurement performance by ensuring accurate specifications, reducing unnecessary purchases and supporting timely procurement. Similarly, Nuwagaba et al. (2021), in a study at Uganda Management Institute, established that procurement planning, including needs assessment, positively influences procurement performance for operations and projects. In the Philippines, Ybañez (2026), in a study at the

Department of Agrarian Reform in Masbate Province, found that effective procurement planning practices, including proper needs identification, improved service delivery despite challenges such as inaccurate cost estimates and limited supplier participation.

Contract administration ensures that procurement activities are implemented according to agreed terms, timelines and quality standards. Namwanje et al. (2024) found that contract administration supports procurement performance by promoting quality control, compliance with agreed terms and timely completion. Tarigan et al. (2021) established that internal integration and supply chain partnerships improve supplier accountability and timely delivery, while Schmelzle and Tate (2022) found that structured purchasing practices with clear procedures support successful implementation of procurement plans. In Kenya, Kiruki (2025), in a study on state corporations in Nairobi City County, established that contract management practices had a significant positive effect on organisational performance. Proper contract administration therefore strengthens accountability, improves procurement efficiency and enhances institutional performance.

Adherence to procurement plans is another important practice. Namwanje et al. (2024) found that adherence to procurement plans improves coordination and reduces delays in procurement execution. Muhwezi et al. (2020), in a study of Ugandan local governments, established that procurement planning processes affect the performance of construction contracts, while Mahuwi and Panga (2020) found in Tanzania that compliance with procurement best practices enhances institutional performance by improving efficiency and accountability.

Supplier selection and market assessment also form part of procurement planning. Namwanje et al. (2024) found that systematic supplier selection improves procurement efficiency and reduces risks associated with poor-quality supplies. Zhang and Liao (2024) established that rigorous supplier evaluation improves winner determination and value for money in public tenders, and Yang et al. (2022) found that attention to supplier quality differentiation affects procurement costs and outcomes. The Auditor General has similarly advised Accounting Officers to undertake market assessments before initiating procurements to avoid uneconomical contract prices (OAG, 2024).

Monitoring of procurement activities improves accountability and helps identify implementation gaps early (Namwanje et al., 2024). Mélon and Spruk (2020), in a study on e-procurement and institutional quality, established that procurement monitoring systems enhance institutional

quality and reduce inefficiencies. Caravella and Crespi (2021), in a study of public procurement in Italy, found that well-designed procurement frameworks support innovation and procurement performance. These studies demonstrate that monitoring and evaluation strengthen accountability, improve compliance and enhance efficiency in procurement systems.

2.3.2 Procurement Planning Challenges

This section examines the major challenges affecting procurement planning in public sector organisations.

Limited availability of qualified suppliers and contractors affects procurement planning in public institutions. Procurify (2025), in an industry analysis of procurement systems, observed that limited supplier markets reduce competition, delay procurement and affect efficiency. Ybañez (2026), in a study at the Department of Agrarian Reform in Masbate Province in the Philippines, identified limited qualified suppliers as a key challenge to procurement planning and timely service delivery.

In Kenya, Kiruki (2025) found that weak supplier management contributes to procurement inefficiencies, delays and poor outcomes among state corporations. Low bidder turnout has also been reported in Ugandan public entities; for example, the Auditor General noted that the Uganda Tourism Board received bids from only 32 of 85 shortlisted bidders for 13 procurements worth UGX 0.47 billion (OAG, 2025). Where an entity carries uncleared supplier invoices and unbudgeted domestic arrears, as National Environment Management Authority (NEMA) does, supplier reluctance to bid is likely to be greater (OAG, 2025).

Inadequate training and limited procurement competencies remain major challenges. Akirolabs (2025) observes that insufficient procurement skills contribute to errors in planning, budgeting and contract management. In Uganda, Riak and Musoke (2025) found that institutional capacity gaps and weak technical expertise negatively affect procurement compliance and implementation. Consequently, institutions with limited procurement expertise often experience delays, inefficiencies and poor implementation of procurement plans. At National Environment Management Authority (NEMA) , a gap of 294 out of 413 approved positions in the financial year 2022/23, and a Procurement and Disposal Unit operating with only 2 of its 4 approved

positions by the financial year 2024/25 (OAG, 2023; OAG, 2025), suggest that planning capacity may be stretched.

Inaccurate cost estimation and budgetary limitations are persistent challenges. Ybañez (2026) found that inaccurate cost estimates negatively affect procurement planning and service delivery even where procurement practices are strong. Aheebwa et al. (2026), in Rukungiri District Local Government in Uganda, found that inadequate funding, political interference and delays in budget approval significantly weaken service delivery. Mahuwi and Panga (2020) also established that weak budgeting and poor procurement planning contribute to inefficiencies in public institutions in Tanzania. At National Environment Management Authority (NEMA), revenue shortfalls such as the UGX 14.589 billion gap between budgeted and collected non-tax revenue in the financial year 2024/25 (OAG, 2025), together with long outstanding receivables of UGX 11.874 billion carried since the financial year 2022/23 (OAG, 2023), illustrate how funding uncertainty can disrupt procurement plans.

Delays in procurement processes and late availability of funds significantly affect procurement planning. Udoba and Mwalukasa (2025) found that delays in procurement planning and fund disbursement negatively affect budget utilisation and contribute to project delays. The Auditor General reported that 79 procurements worth UGX 1,062.45 billion across government took an average of six months from initiation to contract signing, which the Accounting Officers attributed to delayed responses from stakeholders (OAG, 2024). Delays disrupt implementation schedules, increase costs through price and exchange rate changes and weaken institutional performance.

Weak coordination and communication among departments is another major challenge. Konneh (2024) established that poor communication between procurement and planning units at the Inspectorate of Government negatively affected procurement timelines and service delivery. Go (2025) also found that ineffective communication reduces employee performance and weakens service delivery. Ineffective communication among departments often results in delays, misunderstandings and reduced effectiveness of procurement planning.

Weak monitoring, compliance and contract management systems continue to hinder procurement planning. Namwanje et al. (2024) found that weak contract administration and inadequate monitoring reduce procurement efficiency and affect implementation of procurement plans.

Kiruki (2025) established that weak procurement audit and contract management practices contribute to governance challenges and reduced performance. The split procurement of laptops and desktops and the signing of a motorcycle supply contract without performance security at National Environment Management Authority (NEMA) (OAG, 2024) are consistent with weaknesses in monitoring and enforcing procurement methods and contract safeguards.

2.3.3 Strategies for Improving Procurement Planning

This section reviews the strategies proposed by previous studies to enhance procurement planning in public sector organisations.

Continuous training and capacity development is one of the most effective strategies for improving procurement planning. Udoba and Mwalukasa (2025) found that well-trained procurement personnel are more capable of preparing accurate procurement plans, managing suppliers and ensuring compliance. Akirolabs (2025) observes that continuous professional training improves procurement decision-making, planning accuracy and contract management. In Uganda, Riak and Musoke (2025) found that strengthening institutional capacity and technical skills significantly improves procurement compliance and implementation.

Strengthening coordination and communication among procurement, planning and budgeting units is another important strategy. Navarro (2023) found that reforms that improve coordination and competition in public procurement in the Philippines improve procurement efficiency. Go (2025) established that strong communication systems improve employee performance and service delivery, and Konneh (2024) found that effective coordination between planning and procurement units improves procurement timelines and service delivery in Uganda. Regular coordination meetings, collaborative planning and clear communication channels are therefore essential, especially in regulatory agencies such as National Environment Management Authority (NEMA), whose procurement requirements originate from several technical departments, including environmental compliance, wetlands management and enforcement operations.

Digitalisation and adoption of e-procurement systems is another important strategy. Althabatah et al. (2023) found that integrating Industry 4.0 technologies into procurement enhances transparency, improves data accuracy and reduces delays. Mélon and Spruk (2020) found that e-procurement improves institutional efficiency, transparency and monitoring of procurement

activities. In Uganda, the Auditor General has urged faster roll-out of the electronic Government Procurement (e-GP) system to improve efficiency, transparency and accountability (OAG, 2024).

Supplier engagement and market analysis improve procurement planning accuracy. Limbo (2020) found that engaging suppliers and conducting market assessments improves procurement planning and reduces wastage. Zhang and Liao (2024) established that rigorous evaluation of bidders improves value for money, and Yang et al. (2022) found that attention to supplier quality differentiation reduces procurement costs. Institutions that conduct regular market analysis, pay suppliers on time and maintain good supplier relationships are therefore more likely to plan accurately.

Effective monitoring and performance evaluation systems are critical for improving procurement planning and accountability. Namwanje et al. (2024) found that monitoring procurement activities helps identify implementation gaps early. Caravella and Crespi (2021) found that well-designed procurement frameworks improve procurement performance, while Kiruki (2025) found that procurement audit practices significantly improve organisational performance and strengthen governance. The Auditor General has also recommended that entities conduct comprehensive needs assessments, update procurement plans whenever there is a departure from them, prepare multi-year procurement plans and undertake adequate planning to avoid purported emergency procurements (OAG, 2024; OAG, 2025).

2.4 Chapter Summary

This chapter has reviewed literature on procurement planning practices, challenges and improvement strategies. The review shows that effective procurement planning depends on compliance with regulations, alignment with organisational goals and budgets, needs assessment, costing, market assessment, timeliness and strong coordination between units. Challenges such as supplier limitations, capacity gaps, inaccurate cost estimation, funding shortfalls, delays and weak monitoring continue to affect procurement effectiveness.

The literature suggests capacity building, coordination, digitalisation, market analysis and monitoring as key strategies. However, most of the reviewed studies were conducted in ministries, local governments, agencies, private firms and institutions outside Uganda. Few

studies have examined procurement planning in Ugandan public agencies that are funded mainly from Government releases supplemented by non-tax revenue, and none of the reviewed studies used the recent Auditor General findings on National Environment Management Authority (NEMA) as a basis for investigation. This study seeks to fill this gap. The next chapter presents the research methodology.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

Research methodology is a systematic framework for conducting a study. It guides the researcher in determining how data are collected, analysed and interpreted to address the research objectives, and helps ensure that findings are reliable, valid and objective (Kothari, 2004). In this study, the methodology provided a basis for examining procurement planning practices, challenges and improvement strategies at National Environment Management Authority (NEMA) . This chapter presents the research design and approach, study population, sample size, sampling techniques, data collection methods and instruments, data collection procedure, data quality control, data analysis and ethical considerations.

3.2 Research Design and Approach

According to Kumar (2011), a research design provides a structured plan for collecting, measuring and analysing data to answer research questions. This study adopted a descriptive cross-sectional survey design. A descriptive design is concerned with systematically describing the characteristics, practices, experiences or conditions of a population as they exist, without manipulating the study variables (Kumar, 2011), while a cross-sectional design collects data from respondents at one point in time (Saunders et al., 2019). The design was appropriate because the study sought to describe existing procurement planning practices, challenges and strategies at National Environment Management Authority (NEMA) as they were, without manipulating any variable.

The design was applied by collecting data from staff involved in procurement and related functions at the Authority, focusing on procurement plan preparation, needs assessment, costing and budget alignment, implementation, coordination, compliance and the challenges affecting procurement planning. According to Saunders et al. (2019), descriptive research provides an accurate profile of events, situations or phenomena, which made it suitable for generating evidence-based conclusions and recommendations.

A quantitative research approach was adopted. A quantitative approach refers to the systematic collection and analysis of numerical data to describe phenomena, measure variables and identify patterns (Creswell & Creswell, 2018).

3.3 Study Population

A study population is the entire group of individuals or units that meet the criteria for inclusion in a study and from which a sample is drawn (Amin, 2005). According to the Office of the Auditor General's report (2023), National Environment Management Authority (NEMA) had an approved structure of 413 positions, of which 119 were filled. The study population therefore consisted of the 119 staff of National Environment Management Authority (NEMA) .

From this population, the study targeted staff who participated in procurement planning, including Procurement and Disposal Unit staff, Contracts Committee members, finance and planning staff, and heads of department and technical units, such as Environmental Monitoring and Compliance, Wetlands Management and Legal, who initiated procurement requirements, and members of evaluation committees. These respondents were directly involved in identifying procurement needs, preparing and approving procurement plans, and implementing and monitoring procurement activities, and their experience provided relevant information on procurement planning practices, challenges and strategies at the Authority.

3.4 Sample Size Determination

Sample size refers to the number of individuals selected from a study population to represent the characteristics of the entire population (Amin, 2005). The sample size was determined using the table developed by Krejcie and Morgan (1970). For a population of 119, the table, read at the nearest higher population of 120, recommends a sample of 92 respondents, which was considered adequate to provide reliable and representative findings.

3.5 Sampling Techniques

The study employed purposive sampling and simple random sampling. Purposive sampling is a non-probability technique in which respondents are deliberately selected based on their knowledge, experience or involvement in the subject being studied (Kothari, 2004). It was used to identify the units and categories of staff directly involved in procurement planning, namely the Procurement and Disposal Unit, the Contracts Committee, the finance and planning offices, and the technical user departments at the Authority's head office. Key officers such as the Head of the Procurement and Disposal Unit and members of the Contracts Committee were included purposively because they held information that other staff might not have.

Simple random sampling is a probability technique in which every eligible member of the population has an equal chance of being selected (Kothari, 2004). After identifying the eligible staff through purposive sampling, simple random sampling was used to select the remaining respondents from lists of staff in the user departments and support offices. This reduced selection bias and gave each eligible respondent an equal opportunity to participate. The combination of the two techniques ensured that the sample contained respondents who were relevant to the study while promoting fairness and representativeness.

3.6 Data Collection

This section presents the data sources, data collection method, data collection tool and data collection procedure.

3.6.1 Data Sources

Primary data were collected from respondents using a structured questionnaire containing closed-ended questions on procurement planning practices, challenges and strategies for improvement. Secondary data were obtained from the Auditor General's reports for the financial years 2021/22 to 2024/25, PPDA guidelines and National Environment Management Authority (NEMA) policy and planning documents, and were used to inform the background, problem statement and discussion of findings.

3.6.2 Data Collection Method

The study used the survey method to collect primary data. The survey method was appropriate because it enabled the researcher to collect standardised information from a large number of respondents at one point in time, and the resulting quantitative data could easily be coded and analysed statistically. It was suitable for the cross-sectional design adopted because it captured respondents' views without manipulating the study environment (Saunders et al., 2019).

3.6.3 Data Collection Tool

The main data collection tool was a structured, closed-ended questionnaire. The questionnaire was divided into four sections: Section A on the background characteristics of respondents, Section B on procurement planning practices, Section C on procurement planning challenges and Section D on strategies for improving procurement planning. Items in Sections B to D were

measured on a five-point Likert scale where 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Not Sure (NS), 4 = Agree (A) and 5 = Strongly Agree (SA).

A structured questionnaire enables the researcher to collect data from a relatively large number of respondents within a short period and at a low cost (Amin, 2005). It also produced standardised responses, which enhanced consistency, reliability and ease of quantitative analysis.

3.6.4 Data Collection Procedure

Data collection began after obtaining an introductory letter from the Dean, School of Business, College of Business and Management Sciences, Makerere University, and written permission from the management of National Environment Management Authority (NEMA). The questionnaire was developed in Google Forms and shared with selected respondents through official Authority email and communication channels; printed copies were delivered by hand to respondents who preferred them. Respondents were informed of the purpose of the study, assured of confidentiality and anonymity, and asked to give informed consent before completing the questionnaire. Follow-up reminders were sent by email and telephone to improve the response rate. Completed questionnaires were checked for completeness before being coded and prepared for analysis.

3.7 Data Quality Control

Data quality control is essential to ensure that the findings of a study are accurate, credible and dependable. The quality of data was ensured by testing the validity and reliability of the questionnaire before the main data collection.

3.7.1 Validity

Validity refers to the extent to which a research instrument measures what it is intended to measure (Tavakol & Dennick, 2011). The questionnaire was developed in line with the study objectives, following the guidelines of Sekaran (2003). Content validity was established through expert judgement: the questionnaire was given to four experts, two university lecturers with expertise in research methods and two procurement professionals familiar with public procurement planning, who rated each item for relevance on a four-point scale (1 = not relevant,

2 = somewhat relevant, 3 = quite relevant, 4 = very relevant). The Content Validity Index (CVI) was computed as follows:

CVI = Number of items rated quite relevant or very relevant (3 or 4) ÷ Total number of items in the questionnaire

The instrument was considered valid if the CVI was 0.70 or above (Amin, 2005). Items rated as not relevant were revised or removed on the basis of the experts' comments before the questionnaire was administered.

3.7.2 Reliability

Reliability refers to the degree to which a research instrument produces consistent results when administered under similar conditions (Sekaran, 2003). Reliability was assessed using Cronbach's alpha coefficient, which measures the internal consistency of items measuring the same variable. A pilot study was conducted with 10 respondents from another public agency with procurement functions similar to those of National Environment Management Authority (NEMA) ; these respondents were not included in the final sample. The pilot data were entered into SPSS to compute Cronbach's alpha for each section of the questionnaire using the formula:

$$\alpha = [k \div (k - 1)] \times [1 - (\Sigma\sigma_i^2 \div \sigma_t^2)]$$

where k is the number of items, σ_i^2 is the variance of each item and σ_t^2 is the variance of the total scores. According to Taber (2018), a coefficient of 0.70 or above indicates acceptable reliability. Sections with coefficients below 0.70 were reviewed and revised before the final data collection (Tavakol & Dennick, 2011).

3.8 Data Analysis and Presentation

The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) Version 28. Completed questionnaires were checked for completeness, coded, entered into SPSS and cleaned before analysis to ensure accuracy and consistency.

The analysis was descriptive. Frequencies and percentages were used to describe the background characteristics of respondents, while means and standard deviations were used to summarise responses on procurement planning practices, challenges and strategies. Univariate analysis is

useful for describing the distribution and characteristics of individual variables (Tabachnick & Fidell, 2013). Mean scores were interpreted as follows: 1.00–1.80 = strongly disagree, 1.81–2.60 = disagree, 2.61–3.40 = not sure, 3.41–4.20 = agree and 4.21–5.00 = strongly agree. The findings were presented in tables, charts and figures to ease interpretation and comparison.

3.9 Ethical Considerations

The researcher adhered to ethical principles throughout the study to protect the rights, dignity and welfare of respondents. An introductory letter was obtained from the School of Business, and permission to conduct the study was sought from the management of National Environment Management Authority (NEMA) ; where required, ethical clearance was obtained from the relevant research ethics committee. Participation was voluntary, and respondents were informed about the purpose of the study before giving informed consent.

They were informed of their right to decline or withdraw at any stage without negative consequences (Saunders et al., 2019). All information provided was treated as confidential and used only for academic purposes. No names or personal identifiers were recorded on the questionnaire, data were stored securely and accessed only by the researcher, and findings were presented in aggregate form so that no individual respondent could be identified.

3.10 Chapter Summary

This chapter has presented the methodology that was used to assess procurement planning at National Environment Management Authority (NEMA) . The study used a descriptive cross-sectional survey design and a quantitative approach, with a population of 119 staff and a sample of 92 respondents determined using Krejcie and Morgan (1970). Purposive and simple random sampling were used to select respondents, and primary data were collected through a structured questionnaire measured on a five-point Likert scale. Validity and reliability were tested before data collection, data were analysed descriptively using SPSS Version 28, and ethical principles of informed consent, voluntary participation, confidentiality and anonymity were observed.

CHAPTER FOUR:
ANALYSIS, PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Introduction

The main purpose of this study was to assess procurement planning at the National Environment Management Authority (NEMA)). This was achieved by examining procurement planning practices at National Environment Management Authority (NEMA) , assessing the challenges affecting procurement planning, and suggesting strategies for improving procurement planning at the Authority. This chapter presents the study findings. The chapter is structured as follows: Section 4.1 presents the introduction, Section 4.2 presents the response rate, Section 4.3 presents the demographic and background characteristics of the respondents, Section 4.4 presents the descriptive statistics of the findings, and Section 4.5 provides the chapter conclusion.

4.2 Response Rate

A total of 92 questionnaires were distributed to the sampled staff of National Environment Management Authority (NEMA) , out of which 76 were completed and returned, representing a response rate of 82.61%. A total of 16 questionnaires were not returned, accounting for a non-response rate of 17.39%. The response rate of 82.61% was considered very good and adequate for data analysis and interpretation in this study. The response rate is summarised in Table 4.1.

Table 4.1: Response Rate

Category	Frequency	Percentage
Responded	76	82.61%
Not Responded	16	17.39%
Total	**92**	**100%**

Source: Primary Data, Survey 2026.

4.3 Demographic and Background Characteristics

This section presents the demographic and background characteristics of the respondents who provided their views on procurement planning at National Environment Management Authority (NEMA). Respondents were asked about their gender, age group, highest level of education, department or unit, role in procurement, and length of service at the Authority. This information was necessary to ensure that the sample reflected the characteristics of the population from which it was drawn, and to establish whether respondents were in a position to give informed views on procurement planning. Tables 4.2 to 4.7 present these characteristics in detail.

4.3.1 Gender of Respondents

Table 4.2: Gender of Respondents

Category	Frequency	Percent
Male	56	73.68
Female	20	26.32
Total	**76**	**100**

Source: Primary Data, Survey 2026.

The findings in Table 4.2 show that male respondents constituted the majority of the sample at 56 (73.68%), while female respondents accounted for 20 (26.32%). This indicates that male staff predominate among the officers involved in procurement planning at the Authority. Nonetheless, the representation of female respondents ensured that the views of both genders were captured in assessing procurement planning at National Environment Management Authority (NEMA) .

4.3.2 Age Group of Respondents

Table 4.3: Age Group of Respondents

Category	Frequency	Percent
Below 30 years	13	17.11
30 - 39 years	32	42.11
40 - 49 years	24	31.58
50 years and above	7	9.21
Total	**76**	**100**

Source: Primary Data, Survey 2026.

Table 4.3 shows that the largest proportion of respondents, 32 (42.11%), were aged between 30 and 39 years, followed by those aged 40 to 49 years at 24 (31.58%). Respondents below 30 years accounted for 13 (17.11%), while those aged 50 years and above constituted the smallest group at 7 (9.21%). Taken together, 73.69% of the respondents were aged between 30 and 49 years. These findings indicate that the majority of respondents were mature officers in their mid-career, who were likely to have accumulated practical experience in preparing and implementing procurement plans.

4.3.3 Level of Education of Respondents

Table 4.4: Level of Education of Respondents

Category	Frequency	Percent
Diploma	8	10.53
Bachelor's Degree	37	48.68
Master's Degree	31	40.79
Total	**76**	**100**

Source: Primary Data, Survey 2026.

The findings in Table 4.4 reveal that the majority of respondents held a Bachelor's degree, 37 (48.68%), followed by those with a Master's degree, 31 (40.79%), while respondents holding a Diploma accounted for 8 (10.53%). Every respondent therefore held at least a diploma, and 89.47% held a university degree. These findings suggest that the respondents were well educated and therefore capable of understanding and responding meaningfully to questions on procurement planning practices, challenges, and strategies.

4.3.4 Department or Unit of Respondents

Table 4.5: Distribution of Respondents by Department or Unit

Department or Unit	Frequency	Percent
Department of Planning, Education and Coordination	15	19.74
Department of Human Resource, Finance and Administration	14	18.42

Department or Unit	Frequency	Percent
Department of Environment Enforcement and Field Operations	10	13.16
Department of Compliance	9	11.84
Department of the Executive Director	8	10.53
Procurement and Disposal Unit	7	9.21
Environmental Monitoring, Compliance and Enforcement (user department)	7	9.21
Finance	6	7.89
Total	**76**	**100**

Source: Primary Data, Survey 2026.

Table 4.5 shows that respondents were drawn from all the departments and units targeted by the study. The Department of Planning, Education and Coordination contributed the largest share at 15 (19.74%), followed by the Department of Human Resource, Finance and Administration at 14 (18.42%) and the Department of Environment Enforcement and Field Operations at 10 (13.16%).

The Department of Compliance contributed 9 (11.84%), the Department of the Executive Director 8 (10.53%), and the Procurement and Disposal Unit and the Environmental Monitoring, Compliance and Enforcement user department 7 (9.21%) each, while Finance contributed the smallest share at 6 (7.89%). The categories are reported as they were recorded on the questionnaire, which listed some departments and some units. This distribution implies that the views captured cover both the Procurement and Disposal Unit, which prepares and implements the procurement plan, and the user and finance functions, which submit requirements and fund them.

4.3.5 Role of Respondents in Procurement

Table 4.6: Role of Respondents in Procurement

Category	Frequency	Percent
Procurement officer	21	27.63
Evaluation committee member	19	25.00
Initiator of procurement requisitions	16	21.05

Category	Frequency	Percent
Head of user department / budget holder	14	18.42
Other	6	7.89
Total	**76**	**100**

Source: Primary Data, Survey 2026.

The findings in Table 4.6 indicate that procurement officers constituted the largest category of respondents at 21 (27.63%), followed by members of evaluation committees at 19 (25.00%) and initiators of procurement requisitions at 16 (21.05%). Heads of user departments and budget holders accounted for 14 (18.42%), while respondents in other roles accounted for 6 (7.89%). The spread of respondents across procurement, evaluation, initiation, and budget-holding roles enabled the study to capture views on the entire procurement planning process, from the identification of needs to the implementation of the approved plan.

4.3.6 Length of Service at NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

Table 4.7: Length of Service at National Environment Management Authority (NEMA)

Category	Frequency	Percent
Less than 2 years	18	23.68
2 - 5 years	16	21.05
6 - 10 years	18	23.68
More than 10 years	24	31.58
Total	**76**	**100**

Source: Primary Data, Survey 2026.

The findings in Table 4.7 indicate that the largest proportion of respondents, 24 (31.58%), had served at National Environment Management Authority (NEMA) for more than 10 years, followed by those who had served for less than 2 years and for 6 to 10 years at 18 (23.68%) each. Respondents with 2 to 5 years of service accounted for 16 (21.05%). Overall, 76.32% of the respondents had served at the Authority for at least two years, and 55.26% for more than five

years. This strengthens the credibility of their views on procurement planning practices, challenges, and strategies at National Environment Management Authority (NEMA) , since most of them had taken part in several annual planning cycles.

4.4 Descriptive Statistics

This section presents the descriptive statistics of the study findings on procurement planning at National Environment Management Authority (NEMA) . Respondents were asked to express their opinions on statements measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Mean scores were interpreted using the following scale: 1.00 - 1.80 (Very Low), 1.81 - 2.60 (Low), 2.61 - 3.40 (Moderate), 3.41 - 4.20 (High), and 4.21 - 5.00 (Very High), while the standard deviation (SD) reflects the degree of variability in respondents' opinions around the mean.

A mean of 3.41 and above (High and Very High) was considered an acceptable level of agreement with a statement, since it shows that most respondents agreed with it, whether the statement described a practice that is applied, a challenge that is experienced, or a strategy that is supported. A standard deviation below 1.00 was considered acceptable, because it shows that respondents' opinions were close to the mean and therefore consistent, while a standard deviation of 1.00 and above showed wide variation, or divided opinions, among respondents.

4.4.1 Procurement Planning Practices at National Environment Management Authority (NEMA)

Table 4.8 presents the descriptive statistics on procurement planning practices at National Environment Management Authority (NEMA) . The statements were derived from the first objective of the study, which was to examine the procurement planning practices at National Environment Management Authority (NEMA) , and they covered the planning process from the submission of requirements by user departments to the monitoring of plan implementation. Respondents were asked to express their opinions on these statements.

Table 4.8: Procurement Planning Practices at National Environment Management Authority (NEMA)

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
Procurement planning at NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA) complies with the PPDA Act and regulations.	F	1	2	22	32	19	76	3.87	0.869
	%	1.3 %	2.6 %	28.9 %	42.1 %	25.0 %	100%		
User departments submit their procurement requirements in time for preparation of the annual procurement plan.	F	6	7	19	26	18	76	3.57	1.181
	%	7.9 %	9.2 %	25.0 %	34.2 %	23.7 %	100%		
Procurement requirements are based on an adequate assessment of the needs of user departments.	F	2	10	20	28	16	76	3.61	1.047
	%	2.6 %	13.2 %	26.3 %	36.8 %	21.1 %	100%		
The procurement plan is aligned with the Authority's Board-approved annual budget.	F	2	7	21	37	9	76	3.58	0.913
	%	2.6 %	9.2 %	27.6 %	48.7 %	11.8 %	100%		
The procurement plan is aligned with the Authority's strategic plan and priorities.	F	1	13	19	34	9	76	3.49	0.959
	%	1.3 %	17.1 %	25.0 %	44.7 %	11.8 %	100%		
Planned outputs and activities are costed in detail before procurement requirements are included in the plan.	F	4	13	16	33	10	76	3.42	1.086
	%	5.3 %	17.1 %	21.1 %	43.4 %	13.2 %	100%		
Procurement requirements are prioritised according to expected revenue and available funds.	F	5	11	21	28	11	76	3.38	1.107
	%	6.6 %	14.5 %	27.6 %	36.8 %	14.5 %	100%		
Market assessments are carried out to establish realistic cost estimates before procurements are initiated.	F	5	17	16	24	14	76	3.33	1.204
	%	6.6 %	22.4 %	21.1 %	31.6 %	18.4 %	100%		

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
The procurement plan is approved before the beginning of the financial year.	F	1	8	23	28	16	76	3.66	0.974
	%	1.3 %	10.5 %	30.3 %	36.8 %	21.1 %	100%		
Multi-year procurement plans are prepared for procurements that span more than one financial year.	F	4	9	25	28	10	76	3.41	1.035
	%	5.3 %	11.8 %	32.9 %	36.8 %	13.2 %	100%		
Procurements are implemented within the approved procurement plan.	F	7	5	15	38	11	76	3.54	1.113
	%	9.2 %	6.6 %	19.7 %	50.0 %	14.5 %	100%		
The procurement plan is formally updated whenever new or changed requirements arise.	F	6	8	13	32	17	76	3.61	1.178
	%	7.9 %	10.5 %	17.1 %	42.1 %	22.4 %	100%		
Procurement activities are completed within the planned timelines.	F	3	14	26	25	8	76	3.28	1.015
	%	3.9 %	18.4 %	34.2 %	32.9 %	10.5 %	100%		
There is effective coordination between the Procurement and Disposal Unit, finance and user departments during planning.	F	3	9	19	36	9	76	3.51	0.986
	%	3.9 %	11.8 %	25.0 %	47.4 %	11.8 %	100%		
Implementation of the procurement plan is monitored and reported on regularly.	F	5	12	27	24	8	76	3.24	1.057
	%	6.6 %	15.8 %	35.5 %	31.6 %	10.5 %	100%		
Overall average mean								**3.50**	

Source: Primary Data, Survey 2026.

The findings in Table 4.8 show an overall average mean of 3.50, which falls within the high range, although only just above the acceptable level of 3.41. This implies that procurement planning practices are in place at National Environment Management Authority (NEMA) and are applied to a fair extent, but they are not yet strong enough to consistently guarantee that planned procurements are funded, realistically costed, completed on time, and monitored. Each practice is interpreted below.

Regarding the legal framework, compliance of procurement planning with the PPDA Act and regulations recorded the highest mean of 3.87 and a standard deviation of 0.869, which falls within the high range. A majority of 67.1% of respondents agreed, while only 3.9% disagreed, and the relatively low standard deviation shows fairly consistent views. This indicates that the Authority largely follows the legal requirements for procurement planning. The implication is that National Environment Management Authority (NEMA) has a sound regulatory foundation for procurement planning, and this strength should be sustained. However, the 28.9% of respondents who were not sure suggests that compliance is not visible to all the officers involved in planning.

At the start of the planning cycle, the timely submission of procurement requirements by user departments recorded a high mean of 3.57 and a standard deviation of 1.181. While 57.9% of respondents agreed, 17.1% disagreed, and the standard deviation above 1.00 indicates that experiences differed considerably across respondents, which suggests that some user departments submit their requirements on time while others do not. The implication is that late submissions by some departments delay the consolidation of the annual procurement plan.

Closely related, the assessment of the needs of user departments before requirements enter the plan recorded a high mean of 3.61 and a standard deviation of 1.047. A total of 57.9% agreed, 26.3% were not sure, and 15.8% disagreed. This indicates that needs assessment generally takes place, although opinions were divided. The implication is that where needs are not adequately assessed, the plan may include items that are later dropped or changed.

With regard to alignment, the procurement plan's alignment with the Board-approved annual budget recorded a high mean of 3.58 and a standard deviation of 0.913, with 60.5% of respondents agreeing and 11.8% disagreeing. Its alignment with the Authority's strategic plan and priorities recorded a slightly lower but still high mean of 3.49 and a standard deviation of 0.959, with 56.6% agreeing and 18.4% disagreeing. The consistent views on both statements indicate that the plan is generally linked to the budget and to institutional priorities. However, alignment with the budget does not by itself guarantee that funds will be available when revenue collections fall short.

In contrast, the detailed costing of planned outputs and activities recorded a mean of 3.42 and a standard deviation of 1.086, only just within the high range. While 56.6% agreed, 22.4% disagreed, and the standard deviation above 1.00 shows divided opinions. This indicates that costing is carried out, but not with the same thoroughness across departments. The implication is that weakly costed outputs are difficult to implement within the available budget.

Building on this, the prioritisation of requirements according to expected revenue and available funds recorded a moderate mean of 3.38 and a standard deviation of 1.107, just below the acceptable level. Only 51.3% of respondents agreed, 27.6% were not sure, and 21.1% disagreed. This indicates that prioritisation is applied unevenly. The implication is that when revenue falls short, lower priority items may be funded ahead of essential ones.

Similarly, the conduct of market assessments to establish realistic cost estimates recorded a moderate mean of 3.33 and the highest standard deviation in the table, 1.204. Exactly half of the respondents (50.0%) agreed, while 28.9% disagreed, the highest level of disagreement on any practice. This indicates that market assessments are not consistently carried out before procurements are initiated. The implication is that cost estimates may not reflect prevailing market prices, which exposes the Authority to under-budgeting or overpricing.

On the other hand, the approval of the procurement plan before the start of the financial year recorded a high mean of 3.66 and a standard deviation of 0.974. A total of 57.9% agreed, while 11.8% disagreed, and the views were fairly consistent. This indicates that the plan is generally approved in time. The implication is that the Authority has an established planning calendar on which it can build.

The preparation of multi-year procurement plans for procurements that span more than one financial year recorded a mean of 3.41 and a standard deviation of 1.035, exactly at the acceptable level. Only half of the respondents (50.0%) agreed, while 32.9% were not sure, which indicates that many staff are not aware of whether such plans are prepared. The implication is that procurements spanning more than one year may be implemented without assured funding in later years.

During implementation, the implementation of procurements within the approved plan recorded a high mean of 3.54 and a standard deviation of 1.113, while the formal updating of the plan

whenever new or changed requirements arise recorded a high mean of 3.61 and a standard deviation of 1.178. In both cases, 64.5% of respondents agreed, but the standard deviations above 1.00 show divided opinions. This indicates that the plan generally guides procurement, but that off-plan procurements and informal changes still occur in some cases. The implication is that the procurement plan does not always serve as a reliable control tool.

With regard to coordination, effective coordination between the Procurement and Disposal Unit, finance and user departments during planning recorded a high mean of 3.51 and a standard deviation of 0.986. A total of 59.2% agreed, 25.0% were not sure, and 15.8% disagreed. This indicates that coordination takes place but is not yet strong. The implication is that weak coordination slows down the consolidation of requirements and the approval of the plan.

The completion of procurement activities within planned timelines recorded a moderate mean of 3.28 and a standard deviation of 1.015. Only 43.4% of respondents agreed, 34.2% were not sure, and 22.4% disagreed. This indicates that delays in procurement are a common experience at the Authority. The implication is that late procurements delay the delivery of the outputs that they are meant to support.

Finally, the monitoring and reporting on implementation of the procurement plan recorded the lowest mean of 3.24 and a standard deviation of 1.057, which falls within the moderate range. Only 42.1% of respondents agreed, while 35.5% were not sure, the highest level of uncertainty in the table, and 22.4% disagreed. This indicates that monitoring is irregular, and the high level of uncertainty suggests that monitoring reports, where they exist, are not widely shared. The implication is that deviations from the plan are not detected early enough for corrective action.

Taken together, the findings in Table 4.8 reveal a clear pattern across the planning cycle. Practices relating to the legal and approval framework, namely compliance with the PPDA Act, needs assessment, and approval of the plan before the financial year, were rated highest; practices relating to costing, prioritisation, multi-year planning, and market assessment were rated at or just around the acceptable level; and practices relating to execution, namely timely completion of procurement activities and monitoring of plan implementation, were rated lowest. Eleven of the 15 practices were rated at or above the acceptable level of 3.41. This implies that National Environment Management Authority (NEMA) 's procurement planning is stronger in

preparing and approving the plan than in costing it realistically and following it through to implementation. The challenges behind this pattern are examined in the next section.

4.4.2 Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

Table 4.9 summarises the challenges affecting procurement planning at National Environment Management Authority (NEMA). The statements were derived from the second objective of the study, which was to assess the challenges affecting procurement planning at National Environment Management Authority (NEMA) , and respondents evaluated each of them.

Table 4.9: Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
There is limited availability of qualified suppliers and contractors.	F	2	7	15	40	12	76	3.70	0.938
	%	2.6 %	9.2 %	19.7 %	52.6 %	15.8 %	100%		
Low bidder turnout affects the implementation of planned procurements.	F	4	8	19	27	18	76	3.62	1.119
	%	5.3 %	10.5 %	25.0 %	35.5 %	23.7 %	100%		
Staff involved in procurement planning lack adequate skills and training.	F	7	4	18	30	17	76	3.61	1.167
	%	9.2 %	5.3 %	23.7 %	39.5 %	22.4 %	100%		
Vacant positions in key departments affect the preparation and implementation of procurement plans.	F	4	5	15	34	18	76	3.75	1.060
	%	5.3 %	6.6 %	19.7 %	44.7 %	23.7 %	100%		
Inaccurate cost estimation is common during procurement planning.	F	4	5	19	27	21	76	3.74	1.100
	%	5.3 %	6.6 %	25.0 %	35.5 %	27.6 %	100%		
Shortfalls in revenue collections limit the implementation of the procurement plan.	F	5	8	14	33	16	76	3.62	1.131
	%	6.6 %	10.5 %	18.4 %	43.4 %	21.1 %	100%		

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
Delays in collecting receivables reduce the funds available for planned procurements.	F	1	11	16	33	15	76	3.66	1.001
	%	1.3 %	14.5 %	21.1 %	43.4 %	19.7 %	100%		
Outstanding payments owed to suppliers discourage them from bidding or raise their prices.	F	5	10	11	35	15	76	3.59	1.145
	%	6.6 %	13.2 %	14.5 %	46.1 %	19.7 %	100%		
Delays in the approval of procurement requirements are common.	F	2	4	16	35	19	76	3.86	0.948
	%	2.6 %	5.3 %	21.1 %	46.1 %	25.0 %	100%		
User departments initiate procurements that are not in the approved procurement plan.	F	2	9	19	27	19	76	3.68	1.061
	%	2.6 %	11.8 %	25.0 %	35.5 %	25.0 %	100%		
Communication among the Procurement and Disposal Unit, finance and user departments is inadequate.	F	2	9	11	37	17	76	3.76	1.018
	%	2.6 %	11.8 %	14.5 %	48.7 %	22.4 %	100%		
Procurement plans are frequently changed during implementation.	F	5	3	23	29	16	76	3.63	1.069
	%	6.6 %	3.9 %	30.3 %	38.2 %	21.1 %	100%		
Planned procurement of field vehicles and monitoring equipment is not implemented on time.	F	6	3	17	31	19	76	3.71	1.129
	%	7.9 %	3.9 %	22.4 %	40.8 %	25.0 %	100%		
Monitoring of procurement plan implementation is inadequate.	F	4	6	20	37	9	76	3.54	0.986
	%	5.3 %	7.9 %	26.3 %	48.7 %	11.8 %	100%		
Contract management practices are inadequate.	F	3	8	16	33	16	76	3.67	1.051
	%	3.9 %	10.5 %	21.1 %	43.4 %	21.1 %	100%		
Overall average mean								**3.68**	

Source: Primary Data, Survey 2026.

The findings in Table 4.9 show an overall average mean of 3.68, which falls within the high range, and all 15 challenges were rated at or above the acceptable level of 3.41. This implies that procurement planning at National Environment Management Authority (NEMA) is affected by a wide range of challenges at the same time, relating to the Authority's internal processes, its staffing, its funding, and the supplier market. Each challenge is interpreted below.

Delays in the approval of procurement requirements recorded the highest mean of 3.86 and a standard deviation of 0.948, with 71.1% of respondents agreeing and only 7.9% disagreeing. The relatively low standard deviation shows a broad consensus. This indicates that approval delays are the most widely experienced challenge at the Authority. The implication is that delays at the approval stage push back the initiation of procurements and help to explain the moderate rating on the timely completion of procurement activities in Table 4.8.

Closely related, inadequate communication among the Procurement and Disposal Unit, finance and user departments recorded a high mean of 3.76 and a standard deviation of 1.018. A total of 71.1% of respondents agreed, equal to the highest level of agreement in the table, while 14.5% disagreed. This indicates that communication gaps between the units involved in planning are widely experienced. The implication is that requirements, budget ceilings, and changes to the plan may not be shared in time.

Regarding human capacity, vacant positions in key departments recorded a high mean of 3.75 and a standard deviation of 1.060, with 68.4% of respondents agreeing. Inadequate skills and training among staff involved in procurement planning recorded a high mean of 3.61 and a standard deviation of 1.167, with 61.8% agreeing. This indicates that the Authority's planning capacity is constrained both by the number of staff and by their skills. The implication is that the Authority may not have enough qualified staff to prepare, cost, and follow up the procurement plan within the planning calendar.

With regard to costing, inaccurate cost estimation during procurement planning recorded a high mean of 3.74 and a standard deviation of 1.100, with 63.2% of respondents agreeing and 11.8% disagreeing. This indicates that cost estimates are frequently unreliable. The implication is that under-estimated items cannot be procured within the budget, while over-estimated items tie up

funds that could be used elsewhere. This finding helps to explain the moderate ratings on market assessment and detailed costing in Table 4.8.

Funding challenges were also rated highly. Shortfalls in revenue collections recorded a mean of 3.62 and a standard deviation of 1.131, delays in collecting receivables recorded a mean of 3.66 and a standard deviation of 1.001, and outstanding payments owed to suppliers recorded a mean of 3.59 and a standard deviation of 1.145. Between 63.2% and 65.8% of respondents agreed with each of these statements. This indicates that the availability of funds is a major constraint on the implementation of the plan. The implication is that even a well prepared plan cannot be fully implemented when revenue falls short. Unpaid suppliers may also discourage bidding or raise their prices.

On the supply side, the limited availability of qualified suppliers and contractors recorded a high mean of 3.70 and a standard deviation of 0.938, with 68.4% of respondents agreeing and consistent views, while low bidder turnout recorded a high mean of 3.62 and a standard deviation of 1.119, with 59.2% agreeing. This indicates that the supplier market for some of the Authority's requirements is thin. The implication is that planned procurements may fail or be repeated for lack of responsive bids.

Regarding plan discipline, user departments initiating procurements that are not in the approved plan recorded a high mean of 3.68 and a standard deviation of 1.061, with 60.5% of respondents agreeing, while frequent changes to procurement plans during implementation recorded a high mean of 3.63 and a standard deviation of 1.069, with 59.2% agreeing and 30.3% not sure. This indicates that the approved plan is not always followed. The implication is that off-plan procurements and frequent changes weaken the plan as a control tool.

The late implementation of planned procurement of field vehicles and monitoring equipment recorded a high mean of 3.71 and a standard deviation of 1.129, with 65.8% of respondents agreeing. This indicates that procurements that support the Authority's core field mandate are often delayed. The implication is that delayed vehicles and equipment limit the Authority's ability to carry out inspection, monitoring, and enforcement.

Inadequate contract management practices recorded a high mean of 3.67 and a standard deviation of 1.051, with 64.5% of respondents agreeing. This indicates that weaknesses continue after

contracts are awarded. The implication is that gaps in contract management undermine the results of planning, since goods, works and services may not be delivered as planned.

Lastly, inadequate monitoring of procurement plan implementation recorded the lowest mean of 3.54 and a standard deviation of 0.986, although 60.5% of respondents still agreed that monitoring is inadequate. This indicates that, while it was the least pronounced challenge, inadequate monitoring is still experienced by the majority of staff. This finding is consistent with the lowest rating on monitoring and reporting in Table 4.8.

Overall, the findings in Table 4.9 indicate that the most pressing challenges affecting procurement planning at National Environment Management Authority (NEMA) relate to internal processes, namely delays in approvals and inadequate communication, followed by staffing gaps, inaccurate cost estimation, and a thin supplier market. Funding challenges, including revenue shortfalls, delays in collecting receivables, and unpaid suppliers, compound these weaknesses. The fact that all 15 challenges were rated highly implies that they reinforce one another, and that improving procurement planning will require several strategies rather than a single intervention.

4.4.3 Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

Table 4.10 presents respondents' views on possible strategies for improving procurement planning at National Environment Management Authority (NEMA) . The statements were derived from the third objective of the study, which was to suggest strategies for improving procurement planning at National Environment Management Authority (NEMA), and respondents were asked to express their opinions on them.

Table 4.10: Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
Continuous training in procurement planning should be provided to procurement staff and user departments.	F	1	3	9	39	24	76	4.08	0.845
	%	1.3%	3.9%	11.8 %	51.3 %	31.6 %	100%		
Staff should receive regular refresher training on the PPDA Act and regulations.	F	0	3	11	35	27	76	4.13	0.806
	%	0.0%	3.9%	14.5 %	46.1 %	35.5 %	100%		
Key vacant positions in procurement, finance and user departments should be filled.	F	1	1	10	34	30	76	4.20	0.817
	%	1.3%	1.3%	13.2 %	44.7 %	39.5 %	100%		
Coordination between the Procurement and Disposal Unit, finance, planning and user departments should be strengthened.	F	1	2	8	34	31	76	4.21	0.838
	%	1.3%	2.6%	10.5 %	44.7 %	40.8 %	100%		
Planning meetings with user departments should be held before the procurement plan is prepared.	F	4	7	12	32	21	76	3.78	1.115
	%	5.3%	9.2%	15.8 %	42.1 %	27.6 %	100%		
Clear deadlines for submission of procurement requirements should be set and enforced.	F	1	3	8	38	26	76	4.12	0.848
	%	1.3%	3.9%	10.5 %	50.0 %	34.2 %	100%		
All planned outputs should be supported by detailed activity costing and budgets.	F	3	5	13	31	24	76	3.89	1.053
	%	3.9%	6.6%	17.1 %	40.8 %	31.6 %	100%		
Procurement plans should be based on realistic revenue forecasts.	F	2	1	11	40	22	76	4.04	0.855
	%	2.6%	1.3%	14.5 %	52.6 %	28.9 %	100%		
Market assessments should be conducted before procurement planning and initiation.	F	2	2	6	37	29	76	4.17	0.885
	%	2.6%	2.6%	7.9%	48.7 %	38.2 %	100%		

Statement		SD	D	N	A	SA	Total	Mean	Std. Dev
Multi-year procurement plans should be prepared for all procurements that span more than one financial year.	F	1	2	11	36	26	76	4.11	0.842
	%	1.3%	2.6%	14.5 %	47.4 %	34.2 %	100%		
The Authority should fully use the electronic Government Procurement (e-GP) system.	F	1	6	10	30	29	76	4.05	0.978
	%	1.3%	7.9%	13.2 %	39.5 %	38.2 %	100%		
Digital systems should be used to monitor procurement plan implementation.	F	0	3	10	41	22	76	4.08	0.762
	%	0.0%	3.9%	13.2 %	53.9 %	28.9 %	100%		
Suppliers should be paid on time to build their confidence in the Authority's procurements.	F	0	2	4	41	29	76	4.28	0.685
	%	0.0%	2.6%	5.3%	53.9 %	38.2 %	100%		
Procurement plans should be reviewed periodically to reflect the Authority's priorities and available funds.	F	3	6	17	23	27	76	3.86	1.116
	%	3.9%	7.9%	22.4 %	30.3 %	35.5 %	100%		
Management should strengthen oversight of procurement planning and sanction off-plan procurements.	F	2	2	8	34	30	76	4.16	0.910
	%	2.6%	2.6%	10.5 %	44.7 %	39.5 %	100%		
Overall average mean								**4.08**	

Source: Primary Data, Survey 2026.

The findings in Table 4.10 show an overall average mean of 4.08, which falls within the high range, and all 15 strategies were rated above the acceptable level of 3.41. Twelve of the 15 strategies also recorded standard deviations below 1.00. This implies that staff strongly and consistently support reform of procurement planning at the Authority. Each strategy is interpreted below.

Paying suppliers on time to build their confidence in the Authority's procurements recorded the highest mean of 4.28 and the lowest standard deviation of 0.685, which falls within the very high range. A total of 92.1% of respondents agreed, while only 2.6% disagreed. This indicates near consensus that prompt payment is essential. The implication is that clearing outstanding invoices

would encourage suppliers to bid and to price competitively, which responds directly to the challenges of low bidder turnout and unpaid suppliers in Table 4.9.

Strengthening coordination between the Procurement and Disposal Unit, finance, planning and user departments recorded a very high mean of 4.21 and a standard deviation of 0.838, with 85.5% of respondents agreeing. This indicates strong support for closer working relationships between the units involved in planning. The implication is that better coordination would address the inadequate communication identified in Table 4.9. Related to this, holding planning meetings with user departments before the plan is prepared recorded the lowest mean in the table, 3.78, and a standard deviation of 1.115, with 69.7% agreeing. This indicates that, although still supported, meetings are seen as a lower priority than structural changes, and opinions on them were divided.

On staffing and skills, filling key vacant positions in procurement, finance and user departments recorded a high mean of 4.20 and a standard deviation of 0.817, with 84.2% agreeing. Regular refresher training on the PPDA Act and regulations recorded a high mean of 4.13 and a standard deviation of 0.806, with 81.6% agreeing, while continuous training in procurement planning for procurement staff and user departments recorded a high mean of 4.08 and a standard deviation of 0.845, with 82.9% agreeing. This indicates strong support for strengthening the Authority's human capacity. The implication is that recruitment and training would address the staffing and skills gaps identified in Table 4.9.

Strategies relating to plan preparation were also strongly supported. Conducting market assessments before planning and initiation recorded a high mean of 4.17 and a standard deviation of 0.885, with 86.8% of respondents agreeing, the second highest level of agreement in the table. Setting and enforcing clear deadlines for the submission of requirements recorded a mean of 4.12, preparing multi-year plans for procurements that span more than one financial year recorded a mean of 4.11, and basing plans on realistic revenue forecasts recorded a mean of 4.04, all with standard deviations below 1.00. This indicates that staff recognise the weaknesses in costing, timeliness, and funding identified in Tables 4.8 and 4.9. The implication is that these measures would make the plan more realistic and easier to implement.

Supporting all planned outputs with detailed activity costing and budgets recorded a high mean of 3.89 and a standard deviation of 1.053, with 72.4% agreeing, while periodic review of plans to reflect the Authority's priorities and available funds recorded a high mean of 3.86 and a standard deviation of 1.116, with 65.8% agreeing and 22.4% not sure. The standard deviations above 1.00 indicate divided opinions on these two strategies. The implication is that, although detailed costing and periodic review are supported, some staff may see them as adding to the workload of planning.

With regard to technology, digital systems for monitoring plan implementation recorded a high mean of 4.08 and a standard deviation of 0.762, with 82.9% agreeing, while full use of the electronic Government Procurement (e-GP) system recorded a high mean of 4.05 and a standard deviation of 0.978, with 77.6% agreeing. This indicates support for the digitalisation of procurement planning and monitoring. The implication is that digital tools would make it easier to track progress against the plan, which responds to the weak rating on monitoring in Table 4.8.

Lastly, strengthening management oversight of procurement planning and sanctioning off-plan procurements recorded a high mean of 4.16 and a standard deviation of 0.910, with 84.2% of respondents agreeing. This indicates support for consequences when the approved plan is not followed. The implication is that stronger oversight would address the off-plan procurements and frequent plan changes identified in Table 4.9.

Generally, the findings in Table 4.10 show that the strategies most strongly supported by staff mirror the weaknesses identified in Tables 4.8 and 4.9. The ranking of the strategies also suggests an order of priority: prompt payment of suppliers and stronger coordination form the foundation; filling vacant positions and training build the capacity to plan; market assessments, deadlines, multi-year plans, and realistic revenue forecasts improve the quality of the plan; and digital systems and management oversight ensure that the plan is followed. This implies that a combined approach, rather than any single intervention, is required to improve procurement planning at National Environment Management Authority (NEMA) .

4.5 Chapter Summary

This chapter has presented the findings of the study. A response rate of 82.61% was achieved, and the respondents were drawn from the departments and units involved in procurement planning, with the majority being well educated, mid-career officers who had served at the Authority for at least two years. Procurement planning practices at National Environment Management Authority (NEMA) were rated highly but only just above the acceptable level (overall mean 3.50), with strengths in compliance with the PPDA Act, approval of the plan before the financial year, and needs assessment, and weaknesses in monitoring and reporting, timely completion of procurement activities, and market assessment.

Challenges were rated highly (overall mean 3.68), led by delays in approvals, inadequate communication, staffing gaps, and inaccurate cost estimation. The proposed strategies were rated highly (overall mean 4.08), led by the prompt payment of suppliers and stronger coordination. The next chapter discusses these findings, draws conclusions, and makes recommendations.

CHAPTER FIVE:
SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary and discussion of the study findings in relation to the three study objectives, followed by conclusions, recommendations, limitations of the study, and suggested areas for further research, with the aim of drawing a comprehensive conclusion. The specific objectives of the study were:

1. To examine the procurement planning practices at National Environment Management Authority (NEMA) .
2. To assess the challenges affecting procurement planning at National Environment Management Authority (NEMA) .
3. To suggest strategies for improving procurement planning at National Environment Management Authority (NEMA) .

5.2 Summary of Major Study Findings

This section summarises the major findings of the study in line with the three study objectives. The study achieved a response rate of 82.61%, with 76 of the 92 sampled staff returning completed questionnaires. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting, 60% is good, and 70% and above is very good, so the response rate achieved was very good. Most of the respondents were male, aged between 30 and 49 years, and held at least a Bachelor's degree, and they were drawn from procurement, evaluation, initiation, and budget-holding roles across the departments and units of the Authority. Most had served at National Environment Management Authority (NEMA) for at least two years, which gives credibility to their views on procurement planning.

5.2.1 Procurement Planning Practices at National Environment Management Authority (NEMA)

The study found that procurement planning practices at National Environment Management Authority (NEMA) were applied to a fair extent, with an overall mean just above the acceptable level. The strongest practices related to the legal and approval framework, where respondents agreed that procurement planning complies with the PPDA Act and regulations, that the procurement plan is approved before the beginning of the financial year, and that procurement requirements are based on an assessment of the needs of user departments. Respondents also agreed, though with divided views in some cases, that the plan is aligned with the budget and the strategic plan, that it is updated when requirements change, and that procurements are implemented within it.

The weakest practices related to costing and execution. Respondents were not convinced that requirements are prioritised according to expected revenue and available funds, or that market assessments are carried out before procurements are initiated. The timely completion of procurement activities and the monitoring and reporting on implementation of the plan emerged as the weakest practices of all, with the highest levels of uncertainty among respondents.

5.2.2 Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

The study found that procurement planning at National Environment Management Authority (NEMA) is affected by a wide range of challenges, all of which were rated highly. Delays in the approval of procurement requirements emerged as the most pronounced challenge, followed by inadequate communication among the Procurement and Disposal Unit, finance and user departments, and vacant positions in key departments. Inaccurate cost estimation, the late implementation of planned procurement of field vehicles and monitoring equipment, and the limited availability of qualified suppliers were also rated highly.

The study further found that funding challenges, namely shortfalls in revenue collections, delays in collecting receivables, and outstanding payments owed to suppliers, limit the implementation of the plan. Procurements initiated outside the approved plan, frequent changes to the plan, inadequate skills, and inadequate contract management were also widely experienced.

Inadequate monitoring of plan implementation was the least pronounced challenge, although the majority of respondents still agreed with it.

5.2.3 Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

The study found strong support among staff for all the proposed strategies for improving procurement planning at National Environment Management Authority (NEMA) . Paying suppliers on time was the most strongly supported strategy, with near consensus, followed by strengthening coordination between the Procurement and Disposal Unit, finance, planning and user departments, and filling key vacant positions. Respondents also strongly supported market assessments before planning, stronger management oversight with sanctions for off-plan procurements, refresher training on the PPDA Act, clear deadlines for the submission of requirements, and multi-year procurement plans.

In addition, the study found strong support for digital monitoring systems, full use of the e-GP system, and realistic revenue forecasts. Planning meetings with user departments, periodic review of plans, and detailed activity costing received comparatively less, though still strong, support. This indicates broad agreement among staff on the need for reform and their readiness to support it.

5.3 Discussion of Key Findings

5.3.1 Procurement Planning Practices at National Environment Management Authority (NEMA)

The study revealed that procurement planning practices at National Environment Management Authority (NEMA) were rated highly, but only just above the acceptable level. Respondents agreed most strongly that procurement planning complies with the PPDA Act and regulations, which reflects the legal requirement under the PPDA Act, Cap. 205 for entities to prepare annual and multi-year plans (OAG, 2025). This is consistent with Konneh (2024) and Namwanje et al. (2024), who link adherence to planning requirements with better procurement outcomes. The high rating on the approval of the plan before the financial year also supports Udoba and Mwalukasa (2025), who emphasise the early preparation and approval of procurement plans.

The findings on the early stages of the planning cycle are also consistent with the literature. The divided views on the timely submission of requirements by user departments support Udoba and Mwalukasa (2025), who associate late submissions with the late preparation of procurement plans, while the divided views on needs assessment are in line with Namwanje et al. (2024) and with the recommendation of the Auditor General that entities carry out comprehensive needs assessments (OAG, 2024). The high ratings on alignment with the budget and the strategic plan agree with Limbo (2020) and Konneh (2024), who emphasise alignment with institutional priorities. However, alignment with the budget does not by itself guarantee funding, given the non-tax revenue shortfall of UGX 14.589 billion reported at National Environment Management Authority (NEMA) in 2024/25 (OAG, 2025).

The moderate ratings on prioritisation, market assessment, and the borderline rating on detailed costing are consistent with the findings of the Auditor General that some procurements at National Environment Management Authority (NEMA) were undertaken without market prices (OAG, 2024) and that 24 of 57 planned activities worth UGX 16.9 billion were not implemented (OAG, 2023). They also support Ybañez (2026), who links inaccurate cost estimates to weaknesses in planning, and Limbo (2020), who emphasises market assessment and alignment with institutional priorities. The moderate rating on prioritisation is of particular concern given the revenue shortfalls and long outstanding receivables reported by the Auditor General (OAG, 2023; OAG, 2025), which increase the risk that lower priority items are funded ahead of essential ones. Where costing and prioritisation are weak, the plan may be approved on time and yet remain difficult to implement.

The weakest practices related to the execution of the plan, namely the timely completion of procurement activities and the monitoring and reporting on plan implementation. The low rating on timeliness mirrors the OAG (2024) finding that procurements took an average of six months from initiation to contract signing, while the low rating on monitoring supports Namwanje et al. (2024) and Mélon and Spruk (2020), who emphasise the monitoring of plan implementation.

The divided views on implementing procurements within the approved plan and on formally updating the plan are consistent with the OAG (2024) finding on unplanned procurements and with Namwanje et al. (2024), and they support the recommendation of the Auditor General that plans be updated whenever there is a departure from them (OAG, 2024; OAG, 2025). The

divided views on coordination between the Procurement and Disposal Unit, finance and user departments are likewise in line with Konneh (2024) and Go (2025) on coordination and communication. These findings suggest that National Environment Management Authority (NEMA) 's procurement planning is stronger in preparing and approving the plan than in following it through to implementation.

However, the high rating on compliance with the PPDA Act and regulations differs from the findings of the Auditor General, who reported unplanned procurements, procurements undertaken without market prices, and procurements completed without multi-year plans at the Authority (OAG, 2024; OAG, 2025). The difference may arise because staff assess compliance mainly in terms of preparing and approving the plan, while the Auditor General examines how the plan is implemented. The 28.9% of respondents who were not sure on this statement also suggests that some staff are not fully aware of how the plan is implemented.

5.3.2 Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

Several challenges affecting procurement planning were identified, all of which were rated highly by respondents. The most significant challenge was delays in the approval of procurement requirements, which is consistent with Udoba and Mwalukasa (2025) and Riak and Musoke (2025) on capacity and timeliness, and with the OAG (2024) finding on delays to contract signing. Inadequate communication among the Procurement and Disposal Unit, finance and user departments was the second most pronounced challenge, consistent with Konneh (2024) and Go (2025), who highlight the importance of coordination and communication in procurement planning.

The high rating on vacant positions supports the Auditor General findings that only 119 of 413 positions were filled in 2022/23 and only 2 of 4 positions in the Procurement and Disposal Unit were filled in 2024/25 (OAG, 2023; OAG, 2025), while the rating on inadequate skills supports Akirolabs (2025) and Riak and Musoke (2025) on competency gaps. The prominence of inaccurate cost estimation and of the limited availability of qualified suppliers is consistent with Ybañez (2026) and Procurify (2025), and with the OAG (2025) findings on low bidder turnout and on bids worth UGX 1.4 billion that were not acknowledged by suppliers at the Authority.

Funding challenges were also rated highly, which reflects the Auditor General findings that National Environment Management Authority (NEMA) collected UGX 16.287 billion against a budget of UGX 30.876 billion in 2024/25, that receivables of about UGX 11.87 billion remained outstanding, and that the Authority had an over-commitment of UGX 936.99 million through uncleared invoices (OAG, 2023; OAG, 2025). These findings show that procurement planning at National Environment Management Authority (NEMA) is closely tied to the Authority's ability to collect its own revenue, and that unpaid suppliers may in turn discourage bidding. The rating on inadequate contract management is also consistent with the split procurement of laptops and desktops and the motorcycle contract signed without performance security (OAG, 2024), and with Kiruki (2025).

The high ratings on procurements initiated outside the approved plan and on frequent changes to the plan are consistent with the OAG (2024) finding on unplanned procurements at National Environment Management Authority (NEMA) and with the recommendation of the Auditor General on updating plans (OAG, 2024; OAG, 2025). The late implementation of planned procurement of field vehicles and monitoring equipment is also reflected in the report that only 23 of 42 fleet vehicles were functional in 2022/23 (OAG, 2023), a situation that limits the Authority's ability to carry out inspection, monitoring, and enforcement.

However, inadequate monitoring of plan implementation was rated as the least pronounced challenge, even though monitoring and reporting was the weakest practice in Table 4.8. This apparent difference may be explained by the high proportion of respondents who were not sure about monitoring (35.5% in Table 4.8 and 26.3% in Table 4.9), which suggests that many staff have limited information on how the plan is monitored. It also suggests that respondents regarded approval delays, communication gaps, staffing, and funding as more pressing than monitoring, even though the majority still agreed that monitoring is inadequate, which supports Namwanje et al. (2024) on the importance of monitoring plan implementation.

5.3.3 Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

The study found strong support among respondents for a range of strategies to improve procurement planning. The most strongly supported strategy was paying suppliers on time,

which responds directly to the uncleared invoices reported at National Environment Management Authority (NEMA) (OAG, 2025) and to the challenges of low bidder turnout and unpaid suppliers identified in this study. The strong support for stronger coordination between the Procurement and Disposal Unit, finance, planning and user departments is consistent with Navarro (2023) and Konneh (2024), and with the finding that inadequate communication was the second most pronounced challenge.

The strong support for filling key vacant positions and for training in procurement planning and the PPDA Act reflects the staffing gaps reported by the Auditor General (OAG, 2022; OAG, 2024; OAG, 2025) and the findings of Udoba and Mwalukasa (2025), Akirolabs (2025), and Riak and Musoke (2025) on capacity.

Support for market assessments, clear deadlines for the submission of requirements, multi-year plans, and realistic revenue forecasts is consistent with Limbo (2020), Zhang and Liao (2024), Udoba and Mwalukasa (2025), and the recommendations of the Auditor General (OAG, 2024; OAG, 2025), while support for digital monitoring systems and full use of the e-GP system echoes Mélon and Spruk (2020), Althabatah et al. (2023), and OAG (2024). Support for stronger management oversight and sanctions for off-plan procurements is consistent with Kiruki (2025) and with the OAG (2024) findings on off-plan procurements at National Environment Management Authority (NEMA) .

Planning meetings with user departments, periodic review of plans, and detailed activity costing, although still rated highly, received comparatively less support and divided opinions. This contrasts with Go (2025), who places strong emphasis on internal communication in planning, and with Ybañez (2026), who emphasises detailed costing, as well as with the OAG (2023) finding on partially achieved outputs and the recommendations of the Auditor General on updating plans (OAG, 2024; OAG, 2025).

The lower support is likely because respondents regarded structural measures, such as prompt payment, coordination arrangements, and filling vacant positions, as higher priorities than additional meetings and reviews. Taken together, these findings indicate that staff at National Environment Management Authority (NEMA) favour a strategy mix that combines prompt payment and stronger coordination, adequate staffing and training, more realistic plan

preparation, and digital monitoring and oversight, which mirrors the multi-pronged approach advocated in the literature reviewed in Chapter Two.

5.4 Conclusions

5.4.1 Procurement Planning Practices at National Environment Management Authority (NEMA)

The study concludes that procurement planning practices at National Environment Management Authority (NEMA) are moderately effective. While the Authority largely complies with the PPDA Act, assesses the needs of user departments, and approves its procurement plan before the financial year, practices relating to costing and execution, particularly market assessment, prioritisation according to available funds, timely completion of procurement activities, and monitoring of plan implementation, remain weak. These weaknesses reduce the Authority's ability to implement its plan as approved and to detect deviations early.

5.4.2 Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

The study concludes that procurement planning at National Environment Management Authority (NEMA) is constrained by substantial and interrelated challenges, principally delays in approvals, inadequate communication among the units involved in planning, vacant positions, inaccurate cost estimation, a thin supplier market, and shortfalls in revenue. If left unaddressed, these challenges will continue to delay planned procurements, including the vehicles and equipment that the Authority needs for its field mandate.

5.4.3 Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

The study concludes that staff at National Environment Management Authority (NEMA) strongly favour a combination of strategies to improve procurement planning, with particular emphasis on paying suppliers on time, strengthening coordination, filling key vacant positions, conducting market assessments, and strengthening management oversight. Improving procurement planning at the Authority therefore depends on both administrative reforms and adequate investment in people, funding, and systems.

5.4.4 Overall Conclusion

Overall, the study concludes that although National Environment Management Authority (NEMA) has a functioning legal and procedural framework for procurement planning, weaknesses in costing, timeliness, and monitoring, together with approval delays, staffing gaps, and revenue shortfalls, continue to undermine the implementation of its procurement plans.

5.5 Recommendations

5.5.1 Procurement Planning Practices at National Environment Management Authority (NEMA)

National Environment Management Authority (NEMA) management should institutionalise quarterly monitoring and reporting on the implementation of the procurement plan, with progress reports submitted to management and shared with user departments. This would directly address the weakest practice identified in this study and the high level of uncertainty among staff about monitoring.

National Environment Management Authority (NEMA) should require market assessments for all major procurements before they are included in the plan, and should prioritise requirements according to realistic revenue forecasts, so that essential items are funded first when revenue falls short. Service standards should also be set for each stage of the procurement process to improve the timely completion of procurement activities.

5.5.2 Challenges Affecting Procurement Planning at National Environment Management Authority (NEMA)

National Environment Management Authority (NEMA) should reduce approval delays by reviewing its internal approval steps for procurement requirements and setting time limits for each approval. It should also establish a standing planning committee that brings together the Procurement and Disposal Unit, finance, planning and user departments to improve communication throughout the planning cycle.

National Environment Management Authority (NEMA) should, in liaison with the relevant government agencies, prioritise filling key vacant positions in the Procurement and Disposal

Unit, finance, and user departments. In addition, the Authority should strengthen the collection of receivables and the clearance of outstanding supplier invoices, so that funds are available for planned procurements and suppliers are encouraged to bid.

5.5.3 Strategies for Improving Procurement Planning at National Environment Management Authority (NEMA)

National Environment Management Authority (NEMA) should adopt the prompt payment of suppliers and stronger coordination between the units involved in planning as priority actions in its next procurement plan. Continuous training in procurement planning and regular refresher training on the PPDA Act should be provided to procurement staff and user departments.

National Environment Management Authority (NEMA) should prepare multi-year procurement plans for all procurements that span more than one financial year, make full use of the e-GP system, and adopt digital tools to track the implementation of the plan. Management should also strengthen its oversight of procurement planning and apply sanctions for procurements initiated outside the approved plan.

5.6 Limitations of the Study

First, the study was limited to one institution, National Environment Management Authority (NEMA) , and collected data at its head office. The findings may therefore not be generalised to other public agencies, ministries, or local governments without caution.

Second, the study adopted a descriptive cross-sectional design and a purely quantitative approach, which captured respondents' views at a single point in time and relied on descriptive statistics only. The study could therefore not test the relationship between procurement planning practices and procurement performance, or establish cause and effect.

Third, the study did not adopt a mixed methods approach. A mixed methods approach combines quantitative and qualitative data in a single study, so that the strengths of one method offset the weaknesses of the other and the findings can be corroborated from more than one source (Creswell & Creswell, 2018).

Because no qualitative data were collected, for example through interviews with procurement officers, heads of user departments and members of management, or through a review of procurement plans and audit reports, the study could not explore in depth the reasons behind respondents' ratings, such as why approval delays occur, why market assessments are not consistently carried out, or why many respondents were not sure about the monitoring of plan implementation. The use of mixed methods was constrained by the time and resources available for the study, and the quantitative findings should therefore be read as a measure of the extent of agreement among staff rather than a full explanation of the underlying causes.

Fourth, data were collected using a self-administered, closed-ended questionnaire. The responses depend on the perceptions of respondents, could not be verified against procurement plans and contract files, and left respondents little room to explain their answers. The relatively high proportions of respondents who were not sure on some statements, such as the monitoring of plan implementation and the preparation of multi-year plans, suggest that some respondents had limited information on those aspects.

Fifth, views were obtained only from National Environment Management Authority (NEMA) staff. Suppliers, oversight bodies, and other external parties to the procurement process were not included, so their perspectives are not reflected in the findings.

Despite these limitations, the study achieved a very good response rate and drew respondents from the departments and units involved in procurement planning, and the findings therefore provide useful evidence for strengthening procurement planning at National Environment Management Authority (NEMA) .

5.7 Suggested Areas for Future Research

The following areas for further research are drawn largely from the limitations of this study and from its findings.

Since this study used descriptive statistics only, future research could examine the relationship between procurement planning practices and procurement performance at National Environment Management Authority (NEMA) using inferential analysis such as correlation and regression.

Because this study was limited to one institution, a comparative study of procurement planning in National Environment Management Authority (NEMA) and other regulatory public agencies in Uganda would provide insights into how institutional arrangements and funding sources affect procurement planning.

Given that revenue shortfalls and delays in collecting receivables emerged as major challenges in this study, further studies could assess the effect of non-tax revenue performance on the implementation of procurement plans in self-financing public agencies in Uganda.

As this study relied on questionnaires administered to National Environment Management Authority (NEMA) staff only, future research could adopt a mixed methods approach, combining questionnaires with interviews of suppliers, oversight officials, and members of management, to capture the perspectives of all parties to the procurement process.

Finally, future studies could assess the effect of the electronic Government Procurement (e-GP) system on procurement planning and plan implementation in Ugandan public agencies.

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APPENDIX I: QUESTIONNAIRE

Dear Respondent,

I am a student pursuing a Master of Business Administration at Makerere University, conducting an academic study on procurement planning at National Environment Management Authority (NEMA) . You have been selected to participate because of your role in the procurement process. The information you provide will be used strictly for academic purposes and will be treated with utmost confidentiality. Please do not write your name on this questionnaire. Kindly answer the questions honestly by ticking (✓) the response that best represents your opinion.

SECTION A: BACKGROUND INFORMATION

Please tick (✓) the appropriate response.

1. Gender

A. ☐ Male

B. ☐ Female

2. Age

A. ☐ Below 30 years

B. ☐ 30–39 years

C. ☐ 40–49 years

D. ☐ 50 years and above

3. Highest level of education

A. ☐ Certificate

B. ☐ Diploma

C. ☐ Bachelor's degree

D. ☐ Master's degree

E. ☐ PhD

F. ☐ Other (specify) _____

4. Department / unit

A. Department of Planning, Education and Coordination
B. Department of Human Resource, Finance and Administration
C. Department of Environment Enforcement and Field Operations
D. Department of Compliance
E. Department of the Executive Director
F. Procurement and Disposal Unit
G. Environmental Monitoring, Compliance and Enforcement (user department)
H. Finance

5. Role in procurement (tick all that apply)

A. ☐ Procurement officer
B. ☐ Contracts Committee member
C. ☐ Evaluation committee member
D. ☐ Head of user department / budget holder
E. ☐ Initiator of procurement requisitions
F. ☐ Other (specify) _____

6. Length of service at National Environment Management Authority (NEMA)

A. ☐ Less than 2 years
B. ☐ 2–5 years
C. ☐ 6–10 years
D. ☐ Above 10 years

For Sections B to D, please indicate the extent to which you agree or disagree with each statement by ticking (✓) one box, using the scale: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Not Sure (NS), 4 = Agree (A), 5 = Strongly Agree (SA).

SECTION B: PROCUREMENT PLANNING PRACTICES

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
PPP1	Procurement planning at NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA) complies with the PPDA Act and regulations.					
PPP2	User departments submit their procurement requirements in time for preparation of the annual procurement plan.					
PPP3	Procurement requirements are based on an adequate assessment of the needs of user departments.					
PPP4	The procurement plan is aligned with the Authority's Board-approved annual budget.					
PPP5	The procurement plan is aligned with the Authority's strategic plan and priorities.					
PPP6	Planned outputs and activities are costed in detail before procurement requirements are included in the plan.					
PPP7	Procurement requirements are prioritised according to expected revenue and available funds.					
PPP8	Market assessments are carried out to establish realistic cost estimates before procurements are initiated.					
PPP9	The procurement plan is approved before the beginning of the financial year.					
PPP10	Multi-year procurement plans are					

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
	prepared for procurements that span more than one financial year.					
PPP11	Procurements are implemented within the approved procurement plan.					
PPP12	The procurement plan is formally updated whenever new or changed requirements arise.					
PPP13	Procurement activities are completed within the planned timelines.					
PPP14	There is effective coordination between the Procurement and Disposal Unit, finance and user departments during planning.					
PPP15	Implementation of the procurement plan is monitored and reported on regularly.					

SECTION C: PROCUREMENT PLANNING CHALLENGES

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
PPC1	There is limited availability of qualified suppliers and contractors.					
PPC2	Low bidder turnout affects the implementation of planned procurements.					
PPC3	Staff involved in procurement planning lack adequate skills and training.					
PPC4	Vacant positions in key departments affect the preparation and implementation of procurement plans.					
PPC5	Inaccurate cost estimation is common during procurement planning.					

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
PPC6	Shortfalls in revenue collections limit the implementation of the procurement plan.					
PPC7	Delays in collecting receivables reduce the funds available for planned procurements.					
PPC8	Outstanding payments owed to suppliers discourage them from bidding or raise their prices.					
PPC9	Delays in the approval of procurement requirements are common.					
PPC10	User departments initiate procurements that are not in the approved procurement plan.					
PPC11	Communication among the Procurement and Disposal Unit, finance and user departments is inadequate.					
PPC12	Procurement plans are frequently changed during implementation.					
PPC13	Planned procurement of field vehicles and monitoring equipment is not implemented on time.					
PPC14	Monitoring of procurement plan implementation is inadequate.					
PPC15	Contract management practices are inadequate.					

SECTION D: STRATEGIES FOR IMPROVING PROCUREMENT PLANNING

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
SPI1	Continuous training in procurement planning should be provided to procurement staff and user departments.					
SPI2	Staff should receive regular refresher training on the PPDA Act and regulations.					
SPI3	Key vacant positions in procurement, finance and user departments should be filled.					
SPI4	Coordination between the Procurement and Disposal Unit, finance, planning and user departments should be strengthened.					
SPI5	Planning meetings with user departments should be held before the procurement plan is prepared.					
SPI6	Clear deadlines for submission of procurement requirements should be set and enforced.					
SPI7	All planned outputs should be supported by detailed activity costing and budgets.					
SPI8	Procurement plans should be based on realistic revenue forecasts.					
SPI9	Market assessments should be conducted before procurement planning and initiation.					
SPI10	Multi-year procurement plans should be prepared for all procurements that span more than one financial year.					

No.	Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)
SPI11	The Authority should fully use the electronic Government Procurement (e-GP) system.					
SPI12	Digital systems should be used to monitor procurement plan implementation.					
SPI13	Suppliers should be paid on time to build their confidence in the Authority's procurements.					
SPI14	Procurement plans should be reviewed periodically to reflect the Authority's priorities and available funds.					
SPI15	Management should strengthen oversight of procurement planning and sanction off-plan procurements.					

Thank you for your time and cooperation.

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COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES

School of Business

Office of the Dean

23/10/2026

TO WHOM IT MAY CONCERN

Dear Sir/Madam

INTRODUCING MR. GONZA IAN TO YOUR ORGANISATION FOR RESEARCH SUPPORT.

This is to introduce to you Mr. Gonza Ian, a Master of Business Administration student, **registration number - 2024/HD06/25397U,** who is currently conducting a **Plan B** research study on **"An Assessment Of Procurement planning at the National Environment Management Authority (NEMA)"** for research support. Your support towards Gonza will enable him to fulfil a key requirement for the award of the Degree of Master of Business Administration at Makerere University.

While the research being pursued is mainly for academic purposes, upon its completion is expected to inform policy and contribute to the overall operations of organisations. Therefore, Gonza is reaching out to your organisation for assistance in the realisation of the aforementioned endeavours.

Any research assistance extended to him will be our pleasure, and we look forward to your continued support.

Yours sincerely,

Dr. Diana L.K Ssekiboobo,
Co-ordinator, Graduate Programmes and Research.
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23rd October, 2026
MR. GONZA IAN
2024/HD06/25397U
Researcher

RE: PERMISSION TO CONDUCT ACADEMIC RESEARCH AT THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

Reference is made to your application dated 22 October 2026, requesting permission to collect data at the National Environment Management Authority (NEMA) in fulfilment of your academic research titled **"An Assessment of Procurement Planning in the National Environment Management Authority (NEMA)."**

NEMA is pleased to grant you permission to undertake the study for a period of **one (1) month, effective 26 October 2026**, subject to the following terms and conditions:

1. **Access to relevant offices:** The researcher shall liaise with the research unit, procurement and Disposal Unit, Contracts Committee, Planning Office, and other relevant officers involved in procurement planning..
2. **Voluntary participation and informed consent:** Participation by NEMA staff shall be entirely voluntary. The researcher shall explain the purpose of the study and obtain informed consent from all respondents before collecting any information.
3. **Confidentiality and Data Protection:** All information obtained during the study shall be treated as confidential and used strictly for the stated academic purpose. The researcher shall not disclose or publish confidential institutional information without prior written authorization from NEMA.
4. **Access to institutional records:** Access to secondary data, reports and other institutional documents shall be restricted to information expressly authorized for release by NEMA.
5. **Compliance and termination:** The researcher shall comply with NEMA's institutional policies, procedures and any additional guidance provided by the Authority. This permission is limited to the research described above and shall not be construed as authorization to access information beyond the scope approved by NEMA.

We wish you success in your academic research.

Yours faithfully,

Dr Opio Emmanuel (PhD)

Head of department. Research and Development

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

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