

**EFFECTIVENESS OF PARTICIPATORY MONITORING AND EVALUATION IN
ENVIRONMENT MANAGEMENT INTERVENTIONS IN PALABEK REFUGEE
SETTLEMENT, LAMWO**

DEBORAH AKELLO

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF SOCIAL SCIENCES IN PARTIAL
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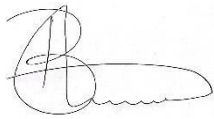


APPROVAL

I confirm that this Dissertation, “the effectiveness of participatory monitoring and evaluation in environment management interventions in Palabek refugee settlement, Lamwo has been developed under my guidance as a supervisor and submitted by Akello Deborah to School of Social Sciences in partial fulfilment of the requirements for the award of Masters in Development Monitoring and Evaluation at Uganda Christian university.

Supervisor: Mr. Liino Linus Bukenya School of Humanities and Social Sciences Uganda Christian University

Signature:

A handwritten signature in black ink, appearing to be 'Liino Bukenya', written over a light blue grid background.

Date:...3rd June, 2026.....

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Abstract

This study evaluated the effectiveness of participatory monitoring and evaluation (PM&E) in environmental management interventions in Palabek Refugee Settlement, Lamwo District, Uganda. The researcher was motivated by the persistent environmental challenges in the settlement, including deforestation, soil degradation, poor waste management, and pollution, despite ongoing interventions by governmental and non-governmental organizations. The study adopted the participatory development theory, which emphasizes community involvement, empowerment, and sustainable development. This theory guided the exploration of how participatory approaches in planning, monitoring, and evaluation could enhance the effectiveness and sustainability of environmental management interventions. Key findings revealed that soil degradation (46.2%) and deforestation (23.1%) were the most pressing environmental challenges. Participatory planning and design significantly improved project implementation, with logistic regression showing that community involvement increased participation odds by 4.23 times ($p = 0.008$). Similarly, participatory monitoring and evaluation demonstrated positive effects, with frequent community engagement ("Often" or "Always") correlating with higher project success rates ($OR = 3.90$, $p = 0.019$). The study also highlighted the critical role of organizations like UNHCR (42.3%) and the Danish Refugee Council (15.4%) in environmental conservation efforts. The study concluded that PM&E enhances the effectiveness and sustainability of environmental management interventions by fostering community ownership, accountability, and responsiveness. Recommendations included strengthening participatory mechanisms, ensuring regular community engagement, and integrating feedback into project cycles. Future research could explore long-term impacts of PM&E and its socio-economic synergies in refugee settings.

Keywords: Participatory monitoring and evaluation, environmental management, refugee settlement, community participation, sustainability, Palabek.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study explored the potential of participatory monitoring and evaluation (PM&E) for environment management programs and projects in Palabek refugee settlement. The independent variable (IV) in the study was participatory Planning and design, monitoring and evaluation and the dependent variable (DV) was environmental management. Participatory monitoring and evaluation was key in leading to effective outcomes in environmental management programs or projects, especially in diverse settings such as refugee settlements. The chapter included the historical, conceptual, contextual and theoretical backgrounds of the study, objectives of the study, research hypothesis, justification, significance, scope and a structured conceptual framework.

1.1 Background of study

1.1.1 Historical Background

The refugee crisis is a situation when a large number of people are displaced from their home (country), forcing them to move and temporarily resettle in a safer location (UNHCR, 2016). The problem of displacement is usually due to a difficult or dangerous situation which can be political, social or environmental. The right to refuge and safe asylum is a fundamental right as all human beings no matter their back ground or status in society, has the right to seek and enjoy asylum in another country as stated by the (Article 14(1) of the Universal declaration of human rights (UDHR 1948) East Africa is host to some of the higher number of displaced persons having a refugee population of over 3.3 Million. Uganda alone is Africa's largest refugee hosting country with a total of 13 settlements across the country, with registered 1.5 Million displaced persons in the OPM (office of the Prime Minister) Biometric identity Management system (BIMS). Uganda generally hosts asylum seekers from South Sudan, Democratic republic of Congo, Ethiopia, Rwanda, Burundi, Somalia, Sudan, Eritrea and Burundi. Palabek settlement started to operate in 2017, following rapid influxes of refugees from South Sudan (Ojok, 2019)

The environment consists of fauna and flora, existing holistically with human settlement. This harmony has however been affected over time as the natural environment has been shifting to accommodate current world situations, both negative and positive. Unfortunately, the refugee crisis is a situation causing negative shifts in the natural environment affecting its sustainability. Organizations and agencies including United Nations High Commissions for refugees (UNHCR) and the office of the Prime minister (OPM) had taken mandate to design and include indicators and objectives specific to protecting the survival of the natural environment in the situation in question. Using these objectives supported by secured funds, organisations have implemented livelihoods and environmental initiatives that have

specific indicators to environmental management for financial, social, economic and environmental sustainability.

Participation in PM&E involves various contexts within the wider field of participatory approaches. It is defined as, “a growing family of approaches, methods, attitudes and behaviours to enhance their knowledge of life and conditions, and to plan, act, monitor, evaluate and reflect.” (Chambers 2008). These evolving approaches are derived from participatory research traditions such as Participatory action research (PAR) and participatory rural appraisal (PRA). Following Robert Chamber’s works on the bottom-up approaches to development, PM&E gained popularity among implementing organisations since the 80s. For this explorative paper, PM&E is defined as the engagement of stakeholders directly or indirectly in the monitoring and evaluation processes of a programme towards the achievement of sustainable outcomes.

1.1.2 Conceptual background

Participatory monitoring and evaluation according to Chambers (2008) are approaches in qualitative monitoring and evaluation through which stakeholders at various levels engage in monitoring and evaluating a particular project, program, or policy sharing control over the content, the process and the results of the monitoring and evaluation activity, and engage in taking corrective actions (World Bank, 2010). As defined by The United Nations High Commissioner for Refugees (UNHCR), Refugee camps are temporary facilities that are built to provide immediate protection and assistance to people who have been forced to flee their homes due to war, persecution or violence.

It is important to note that in Participatory monitoring and evaluation, beneficiaries are not just sources of information but also participants (Rooney and San, 2003). Actively involving the local community in the M&E processes encourages ownership of interventions and increases the likelihood of achieving sustainable outcomes. Rooney and San (2003) in the Voices for Change Participatory Monitoring and evaluation in China, add that; this was because the local communities are in better position to identify their own direct needs, challenges and solutions. Their participation also calls for transparency and accountability in development programmes. The research involved collaboration with the relevant stakeholders, including participants from the host and refugee communities, government agencies, and non-governmental organizations. It made use of relevant technology, such as mobile phones and laptops to facilitate data collection and analysis. (Hapunda, 2018)

Environmental management is referred to as a management strategy guided by well-set guidance laws with a primary objective to regulate the effects of people’s activities, products, and services on the natural environment (Nel and Kotze, 2007). Kotze and Nel (2007) further define environmental management as planning, doing, checking and acting activities of governing agents in relation to both green and brown

environmental elements.

1.1.3 Contextual background

Palabek refugee settlement in Lamwo district in northern Uganda currently hosts over 69,000 refugees. Despite having fled conflict, many remain dependent on humanitarian aid to meet their basic needs. Malnutrition was rife, as was unemployment, as only 21.8% of refugees in the camp have an occupation (UNHCR, 2022). This implies survival on livelihoods interventions.

Action on Poverty Project (2023) highlights that the hosts and the refugees in Palabek settlement rely on either small scale farming or direct food rations. The effects of Climate change in the forms of unpredicted weather conditions had reduced yields, hence starvation risks. In addition, the issues of unsustainable land management and reliance on fuel were accelerating environmental deterioration in the settlement.

The nature of environmental challenges in the settlement include, population influx and increase, limited access to resources including food, water, shelter and energy, and poor waste management, and protection issues over land and resources (Ojok, 2019). These led to environmental degradation worsening the already difficult living conditions of the refugees and their hosts. This is an indication for the need for effective and sustainable solutions in addressing issues of environmental management, access and sustainability, despite the visible efforts made by mitigating organisations settlement.

Initiatives such as Action Against poverty (2023), are implementing interventions such as Building Climate resilience for refugee and host communities in Northern Uganda. The project applies Climate-smart agriculture to improve the livelihoods of 2,400 households from both the refugee and host communities. By enabling locally managed access to drought-tolerant seeds, farmer's yields are fortified against climate shocks. Other applications in the project include solar-drying facilities and energy efficient stoves, organic fertilisers and improved conservation methods.

1.1.4 Theoretical background

The study was underpinned by the participatory development theory that aligns with the theory of change framework with emphasis on empowerment, community involvement and sustainable development. The theory advocates for the active involvement of stakeholders in decision making processes from the planning to the implementation stage of the project or program. This however, is on the implication that the project is reasonably circumscribed (Rooney and San, 2003). This aligns with the study's focus to assess the effectiveness and relevance of Participatory planning, design, monitoring and evaluation of environmental management programs. The theory underscores the role of empowering marginalized communities to influence the situations affecting their lives _ in this case encouraging active participation in environmental management interventions (Giles, 2001). Assessing this impact was support in understanding how these processes can enhance community capacity to achieve effective and sustainable

environmental outcomes. The study incorporates local perspectives from both the refugee and the host communities to explore effectiveness and relevance.

Participatory development theory includes a main goal of sustainable development, highlighting that environmental management interventions that incorporate a participatory approach have the highest chances of achieving sustainable outcomes. In the Response Plan for Refugees and Host communities in Uganda, the ministry of water and sanitation (2019) highlights the theory of change as a comprehensive illustration of why a desired change is expected to happen in the particular context, mapping out the logical sequence of the conditions and interventions that may lead to desired outcomes. The following study of PM&E for environmental management in Palabek refugee settlement, was fostered by this theory.

An assessment conducted on The SAFE programme implemented by FAO in settlements in Kenya, Uganda and South Sudan (2020) using the market-based approaches reported that the distribution of cook stoves in the refugees and host communities contributed to reduced environmental pressure and encouraged energy security. Agencies such as FAO have adopted to these approaches to deal with environmental pressure and recover livelihoods in camps with aims to minimize forest degradation through land and forest management planning.

Environmental management interventions needed to be specifically designed to tackle underlying issues in the natural environment and also involve multiple partners to have stronger impact. Agencies that had succumbed to this idea have involved the Landscape approach. An example was the FAO Forest Landscape Management Plan for Bidi Bidi Refugee settlement is a ‘land suitability assessment through the geospatial analysis. It provided data on the status and changes in tree cover, land use and land cover. (FAO 2020). The approach involved different stakeholders in planning and implementation, monitoring and evaluation phases. It had the assumption that every stakeholder had a common concern about the landscape hence they negotiate with each other for better clarity. (Buyinza et al 2022; Laird et al, 2022). The centre of the definition of PM&E included the stakeholder, who was anyone who may be affected by or can influence the impact of a program or project (Hapunda, 2018). Their involvement in the PM&E process varied depending on their levels of interest and impact, however in PM&E, the aim was to shift the stakeholders from being passive to active participants.

1.2 Problem statement

Palabek Refugee settlement was officially opened in April 2017, following the increasing number of asylum seekers moving into Uganda from South Sudan (Cullis, 2020). Population influx in the settlement had escalated environmental challenges such as deforestation, soil erosion, water pollution, and poor waste management. Despite the diverse interventions made in the settlement by the government of

Uganda and relief response organizations, under the Comprehensive Refugee response Framework (CRRF) which includes advocacy on environmental laws, tree marking, sanitation campaigns, and others, these issues still persist (United Nations High Commissioner for Refugees [UNHCR], 2018; Office of the Prime Minister, 2019). According to Reed (2008), one of the main reasons for this is the failure to sufficiently involve the community in the planning, design, monitoring and evaluation processes, limiting the effectiveness and sustainability of the interventions. This study intended to fill this gap by exploring how participatory planning, design, monitoring and evaluation (PM&E) amplified environmental management in Palabek Refugee settlement. By exploring the existing environmental challenges in the settlement, the researcher intended to present insights into how involving the community in organization monitoring and evaluation processes may lead to effective outcomes. Focus on interventions related to policy implementation, waste management and alternative energy sources were pivoting actionable recommendation for environmental sustainability in Palabek refugee settlement, contributing to goals of sustainable development humanitarian action (Reed, 2008; CARE, 2019; CARE, 2020).

1.3 Objectives of study

1.3.1. Main Objective:

To evaluate the effectiveness of Participatory monitoring and evaluation in environmental management interventions in Palabek refugee settlement.

1.3.2. Specific Objectives

- i) To examine the nature of current environmental challenges in Palabek refugee settlement.
- ii) To assess the effect of participatory planning and design on the implementation of environmental management interventions in Palabek refugee settlement
- iii) To assess the effect of participatory monitoring on environmental interventions in palabek.
- iv) To assess the effect of the participatory evaluation approach in environmental management interventions in Palabek refugee settlement.

1.3.3 Research hypothesis

While examining the impact of PM&E in environmental management in Palabek settlement, it was key to assess the effectiveness of participatory approaches, hence to rigorously evaluate the relationship between PM&E and environment management outcomes, the following null hypothesis is formulated.

- i) There is no significant positive effect of participatory planning and design on the environmental management outcomes in Palabek Refugee settlement
- ii) There is no significant positive effect of participatory monitoring on the environmental management outcomes in Palabek Refugee settlement
- iii) There is no significant positive effect of participatory evaluation on the implementation of environmental management outcomes in Palabek Refugee settlement.

1.4 Justification

Refugee and host communities both face various environmental challenges in Palabek refugee settlement. This had severe impacts on the health, security and general well-being of the residents in the settlement. This hence implied the need for the use of more effective and sustainable environmental management approaches to assist in addressing these challenges when intervening.

Current environmental management approaches in Palabek settlement had limitations and were effective in addressing all the environmental challenges faced by refugees and host communities. There was therefore a need to assess the effectiveness of current interventions, as well as identify the gaps that can be addressed through a more practical approach.

The use of Participatory monitoring and evaluation (PM&E) in development interventions had received wide recognition as an inclusive and effective approach for engaging communities in the monitoring and evaluation processes. However, its potential for addressing environmental challenges in refugee settings had not been extensively explored. Therefore, this study contributed to the knowledge base on the potential of participatory monitoring and evaluation as an approach to address challenges related to environmental management in refugee settings. The findings and recommendations of the research contributed to the development of more effective and sustainable solutions for environmental management in refugee settings in but not limited to Palabek refugee settlement.

1.5 Significance of the study

The research was significant in addressing critical environmental management issues and challenges in Palabek refugee settlement, including deforestation, soil erosion, poor waste management and water pollution. With emphasis on Participatory Monitoring and Evaluation (PM&E), the study demonstrated how involving both the refugees and the host communities in environmental management interventions led to more effective and sustainable interventions. The findings from the study informed policymakers and relief organizations, whilst providing evidence-based recommendations for inclusive and sustainable environmental practices.

In addition, the study contributed to academic knowledge on Participatory approaches and sustainable development whilst encouraging community empowerment and resilience, in refugee settings. It aimed

at enhancing the wellbeing of both the refugees and their hosts by offering practical solutions such as effective waste management systems and alternative energy sources. This research hence supported the broader goals of humanitarian action and sustainable development.

1.6 Scope

1.6.1 Geographical scope

Palabek refugee settlement, Lamwo district, is one of the youngest refugee settlements in Uganda, officially opened in 2017 following escalating conflicts in south Sudan. It covers approximately 50 Square kilometers, situated in a region characterized by the tropical savannah climate. The settlement was opened to primarily host refugees from South Sudan. It is comprised of several zones, carefully designated to accommodate a certain number of refugees each (United Nations High Commissioner for Refugees [UNHCR], 2018; Office of the Prime Minister, 2019).

1.6.2 Time Scope/ Duration of study

The whole dissertation process was intended to be done through a period of 1 year in total from the point of concept development to report submission. This ran from 2024 to the last quarter of 2025 (Timeline may or may not change). Data collection was done in a total period of 10days. Data cleaning in 5, Analysis in 5days and the final report was generated approximately within 2 months after data collection and analysis, then submitted to the department of Development studies, Uganda Christian University.

1.7 Conceptual Framework

The Following Diagram presents the Conceptual Framework for the Study

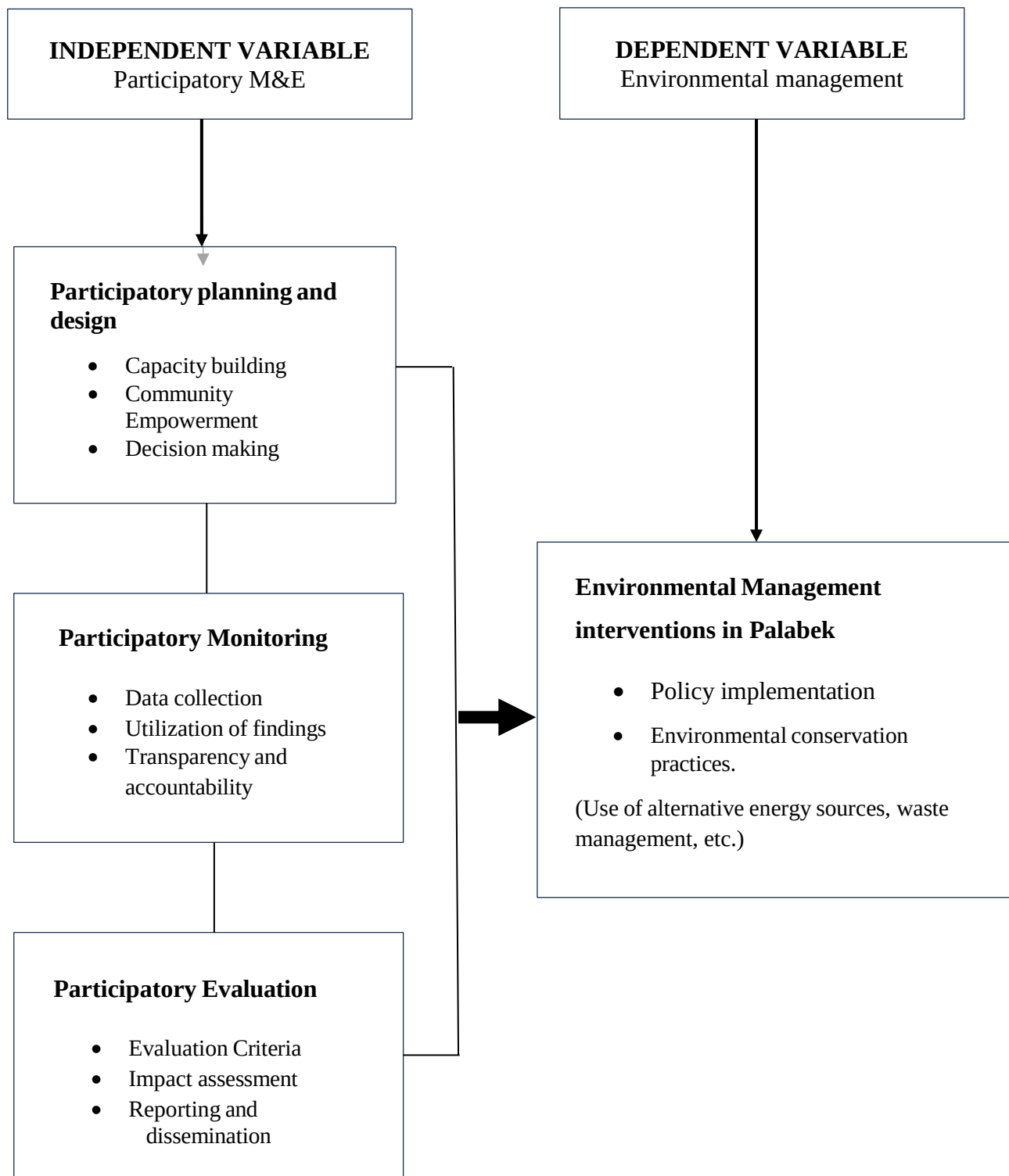


Figure 1: Conceptual Framework

Adapted from, Reed, M. S. (2008). *Stakeholder Participation for Environmental Management: A Literature Review*, with modifications.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Environmental management is a complex issue that requires innovative and sustainable solutions, especially in the case of refugee settings. Challenges like overpopulation poor waste management systems, and limited access to resources in refugee settings lead to environmental degradation further exacerbating the already difficult living conditions for both the refugees and their host community. The dissertation explored effectiveness of the participatory monitoring and evaluation approach used in interventions when addressing the mentioned challenges. This review aimed at providing an overview of the already existing literature on environmental management in refugee settings as well as the documented role of participatory monitoring and evaluation in interventions whose objectives align with addressing environmental challenges. The review included author's perspectives on the theories such as sustainability, environmental justice and Participatory monitoring and evaluation. This literature review was derived from a few sources including journal articles, unpublished grey literature, academic papers and policy documents.

2.1 Environmental challenges in refugee settings

Environmental challenges in refugee settings are numerous and varied, and often closely interlinked, as the relationship between refugees and their hosts, livelihoods and the natural environment is often complex and interwoven. The refugee influx highly depends on the natural environment for survival resources such as firewood, land and fuel wood and in most cases 'exceeding the carrying capacity of the natural environment' (Buyinza et al 2022; Laird and Awono, 2022). With the carrying capacity exceeded, other issues such as degradation, poor waste management, shortage in water and fuelwood may surpass. Evidently, areas close to and around refugee camps are stripped of vegetation cover because wood (for the case of Uganda, even grass) is always needed for temporary sheltering and cooking and lighting fuel. This is common relationship occurrence between the settlers, hosts and the natural environment due to population density reducing the quality of the natural environment. This causes an alteration to the soil and water balance leading to erosion, depletion and especially decreased productivity. (Black, 2014). Environmental degradation due to population density in the refugee settlements and surrounding areas is a big concern. Environmental loss as presented by FAO in Uganda (2017) was estimated at USD 90.7Million for 2016/17, constituting about 28% of the total public cost on Refugee protection and management in Uganda. This calculated loss was contributed to by land degradation, deforestation, loss of vegetation cover, water contamination, excessive use of resources, and others.

When agencies and stakeholders fail to protect 'the Livelihood environment' of the persons of concern,

at best it was more difficult for the refugees and their hosts to find essential commodities, especially if the refugees are in exile for a long period, and at best may contribute to malnutrition, disease, intercommunal conflicts and enhanced poverty. (Black, 2014). Evident observations and studies have indicated that how the environment is used may or may not contribute to human protection risks. (UNHCR 2019). Some of the risks may be specific to gender. Some of these include, Gender based and sexual violence, harmful coping due to shortage of resources, malnutrition, and others.

2.2 Environmental management interventions

With refugees staying in a settlement for long periods, many over 20 years (UNHCR, 2018), It's crucial that the environment is given attention by intervening humanitarian organisations. There have been various interventions aimed at addressing environmental challenges in refugee settings. These interventions have focused on specific areas, including water and sanitation, waste management and renewable energy. An example is the UNHCR Global report 2019, which indicates that over 85% of refugees in settlements burn biomass, including firewood. To approach such issues, projects to support the use of solar energy can be proposed as a sustainable solution to the energy needs of the refugee communities. This was then limiting other problems specific to human rights and protection such as GBV and natural disasters, and to the general long-term survival of the natural resources and its environmental hosts.

Intervening organisations and agencies have seen the need for long term support to the livelihoods for both the refugees and their host communities. Interventions are hence to be designed by agencies in a manner sustainable to the natural environment when meeting the disrupted livelihoods and environmental health of refugees. Introducing their occasional paper for CIFOR on social and environmental transformation, Laird and Awono 2022 highlighted that despite the attempts being made by the intervening agencies, there is challenges in financing the interventions intending to support refugees and their hosts are based on assumptions about local groups need rather than social/cultural scientific evidence affecting the levels of sustainability. (FAO, 2020). Buyinza et al (2022) highlighted that there is a need to address sustainability by enhancing the social, economic and environmental interventions to improve outcomes in refugee- hosting landscapes. Agencies such as UNHCR have developed guidelines that as well include protection objectives, through which they may control the management and use of the natural environment in refugee camps and their surroundings. Some of the protection specific objectives include protecting refugees from sexual and gender-based violence (SGBV), that may occur in the night in unlit areas (latrines, washing zones, playgrounds, workshops) or while refugees search for firewood. Another objective example is to reduce tensions between refugee and local populations over scarce natural resources. (UNHCR 2023)

2.3 Participatory Monitoring and Evaluation

2.3.1 Defining PM&E

Several studies agree to there not being a direct definition of Participatory monitoring and evaluation as it is more holistic in nature, comprising participatory evaluation PE, Participatory monitoring PM, participatory assessment, monitoring and evaluation PAME, participatory impact monitoring PIM, self-evaluation SE, stakeholder- based evaluation and community monitoring CM. (Estrella and Gavinta 1998). In the context of this dissertation, PM&E can be referred to as an approach that adopts to local contexts and involves strengthening the capacities of beneficiaries to take action and promote change in a self-sufficient and sustainable manner. (Estrella and Gavinta 1998; Guijt 2000). PM&E brings together those with more power and less power, as it also requires a look at the ethics of coping with unpredictable outcomes that do not please stakeholder groups with power over others. Local community members are able ‘to develop, select monitor and evaluate indicators that are of importance to them.’ (Narayan 1993). For local communities to ‘sustainably manage resources, they must come to the understanding of how their actions affect the eco system’ (McAllister 1999)

2.3.2 Designing PM&E as an approach in Environmental management

In their review of literature, Estrella and Gaventa (1998) highlight various PM&E approaches involving who was to participate, at what level and who to control what. These include externally led PM&E, internally led PM&E and joint PM&E. Agencies and implementers adapted to the approach most relevant to the project at hand. Internally led PM&E involves the monitoring and evaluation process being controlled by those directly involved including beneficiaries and field staff, externally led PM&E involves the M&E process being controlled by groups and individuals considered to have no direct involvement or interest in the project, and joint led PM&E involves combining the external and internally led approaches to PM&E.

When it comes to monitoring success of a project or intervention, the PM&E approach supported that the community were the sole users and consumers hence were in the better place to evaluate project success and failure. Encouraging the sharing of information causing for interactions among the project stakeholders gives room for better and sustainable success. The use of the PM&E approach in interventions encourages for local self-confidence that calls for greater self-initiated development based on local strengths. (Bandre 1998). Studies conducted in refugee settlements in Kenya and Ethiopia by Kironde and Kisekka (2016), Kibret and Molla (2015) respectively found that involving the refugee community in M&E led to more sustainable approach and encouraged community ownership and participation. Community managed projects involving direct beneficiaries ‘broadens the scope of activity,

to be reflected in the project design.’ (Narayan, 1993). In the world Bank Document tools for managing change in water and sanitation, Narayan (1993) highlights that to best design an environmental or health specific project, it is important to consider merging objectives of capacity building and production as a single yet inclusive objective for example “To achieve sustainable and effective use of water and sanitation facilities through methods that are replicable”. PM&E involving diverse groups of people may stress the importance of ensuring that set indicators meet the different information requirements of the all those involved. For the case of environmental management, the indicators should measure sustainability focusing on both short- and longer-term changes, local and broader scale changes, general development process and the quantitative and qualitative data and tangible and intangible impacts. (Guijt and Arevalo, 1998)

McAllister (1999) in *Understanding Participation: M&E processes, outputs and outcomes* highlights how natural resources at community level are governed by complex social entitlements and traditional norms. She adds that to be more successfully effective for natural resource management, PM&E approach demands for collaboration between the different levels of governance and involvement of stakeholders.

2.3.3 Differences between PM&E and other approaches

Compared to other traditional approaches to monitoring and evaluation, Estrella and Gaventa (1998) highlight four-key underlying principles of the PM&E approach (participation, Learning, negotiation and flexibility) in their review of literature on Participatory monitoring and evaluation. Negotiation of needs, expectations and world views, participation in every stage of the M&E process, learning as people become more conscious of their strengths and weaknesses, social realities, visions and development perspectives, and flexibility as PM&E is ‘continually evolving and adapting according to project specific circumstances and needs.’ (Estrella and Gaventa, 1998; 26)

Conventional approaches to M&E are criticized to be costly and ineffective in terms of measuring and assessing project objectives, to have failed to involve project beneficiaries directly affected by the M&E process, don’t support evaluations to be controlled by outsiders, act as tools to control and manage programs and resources and their emphasis on quantitative measures tends to ignore qualitative data that may help provide deeper understanding of project outcomes, processes and changes. (Estrella and Gaventa, 1998)

PM&E is an innovative approach gradually evolved to respond to the specific limitations of the conventional approaches to M&E. These are designed to make monitoring and evaluation more responsive both to beneficiaries’ needs and real-life contexts. It highlights shifting of focus ‘away from

externally controlled data-seeking programmes towards the recognition of locally-relevant processes for gathering, analysing, and using information' (Abbot and Guijt 1997: 9). Estrella and Gaventa (1998) review and summarize in their review statements from CONCERN 1996; Feuerstein 1986; Rugh 1992 and Sommer 1993 on their arguments supporting approaches such as PM&E. They enhance participation, especially of beneficiaries, increase authenticity of M&E findings locally relevant, improve and encourage sustainability of project activities by identifying strengths and weaknesses, increase local capacity in M&E, strengthen accountability to the donors and are more efficient in resource allocation.

2.4 Gap in the Literature

Despite the extensive literature on environmental challenges and management interventions in refugee settings, there is a lack of comprehensive studies on the effectiveness of participatory monitoring and evaluation in these contexts. This dissertation aims to address this gap by evaluating the PM&E approach in environmental management interventions in Palabek Refugee Settlement.

CHAPTER 3

METHODOLOGY

3.0 Introduction

The purpose of this study was to examine the effectiveness of Participatory monitoring and Evaluation in Palabek refugee settlement. The following chapter presents the adopted research design that was employed in the research process, the study population, area of study, information sources, variables, procedure for data collection, data collection tools and analysis plan. It also further presents the ethical considerations and anticipated constraints that may have affected the research process.

3.1 Research design

The research was non-experimental and descriptive, with no manipulation of variables, allowing for the description of the relationship between participatory monitoring and evaluation (PM&E), and the effective implementation of environmental management interventions in Palabek Refugee Settlement. Given the limited time scope of the research, a cross-sectional survey was conducted, to facilitate rapid data (raw) collection and focus group discussions to enable interaction with individuals who have practical knowledge and experience with organisational monitoring and evaluation, as well as in environmental management (Creswell, 2014).

A mixed methods approach was utilized involving aspects of both qualitative and quantitative approaches, as well as qualitative and quantitative data. Quantitative data was collected using a well drafted survey questionnaire, and qualitative data was collected through in-depth interviews with organisation Monitoring and evaluation experts and focus group discussions to gather information from respondent's perceptions, experiences, and perspectives on the effectiveness of participatory monitoring and evaluation in environmental management interventions. (Patton, 2015). A complementary approach was as well adopted, as the qualitative data was to complement the quantitative data to provide a comprehensive understanding of the research questions (Creswell & Plano Clark, 2017)

3.2 Area of study

The study was conducted in Palabek Refugee Settlement in Ogili sub-county of Lamwo District, in Northern Uganda. The activity was focused specifically in the settlement with influence from the hosting community and implementing organisations. The settlement is directly across the border from South Sudan. It covers about 5000 Hectares (50 Sq. km) in surface area, (UNHCR 2018) and is divided into 7 zones that are as well divided into several blocks.

3.3 Sources of information

Information for the research was collected from primary sources including Survey Data from Community Members, from whom quantitative data was sourced from, I.e. Individuals in both the refugee and host communities within Palabek Settlement. These community members provided valuable insights into their experiences and perceptions of environmental management interventions.

Expert Opinions from Monitoring and Evaluation Managers, i.e. Qualitative insights was obtained from organizational experts specializing in monitoring and evaluation. These M&E managers offered professional perspectives on the effectiveness and challenges of participatory monitoring and evaluation in environmental management.

In-depth group discussions with Key Community Leaders i.e. Information was gathered through focus group discussions involving members of the refugee and host communities who possess knowledge and experience in environmental management. These individuals, who hold positions of power and control within their communities, shared their insights on environmental challenges and the participatory processes in place.

3.4 Population and Sampling techniques

3.4.1 Study population

A study population is a larger group from which a researcher intends to draw his sample for a study, and the selected unit is to have a generalized representation of the study population. The study population for this study were the residents of the settlement including the refugees, host communities and the stakeholders. Palabek settlement has an estimated population of 60,000 refugees from South Sudan, 85% arrivals being women and children. The host population is estimated at 10,200 nationals. (UNHCR, 2023)

3.4.2 Sampling

Sampling was defined as a process of selecting a sample from a given population. These included simple random sampling, cluster sampling, deliberate sampling, systematic sampling, and others. This study used stratified sampling considering the diverse group of stakeholders and Purposive sampling to identify specific key-informants to participate in the study.

3.4.3 Determination of sample size

A research sample is defined as the portion of the study population selected to represent their collective opinions to answer to the research questions. The researcher determined a representative sample size from the refugee and host community. She intended to involve a total of 55 individuals from the settlement, i.e. 52 individuals from the refugees and host community, and 3 intervening agencies. Agencies counted as a whole not human individual. The sample selection was a pragmatic and structured decision, not a purely statistical one. The researcher first decided to include three stakeholder strata.

Then, a manageable number of community respondents (52) and key agencies (3) were chosen to make the study feasible while ensuring the key groups with relevant knowledge were represented. The final selection of individuals within those numbers was done through purposive sampling to target information-rich participants.

3.4.4 Sampling techniques

Sampling techniques are the intended approaches in identifying the sample and key respondents to directly participate in the study including probability and non-probability techniques. The study made use of two sampling techniques including the probability stratified sampling and non-probability purposive sampling to identify a sample to directly participate in the study. These were best to answer to the research questions and objectives.

3.4.5 Stratified Sampling

This is commonly defined as the technique where researchers divide the study subjects into strata based on shared characteristics. The study divided the sample into strata, basing on their joint characteristics i.e., refugees, nationals and intervening agencies. This technique was favorable as the study intends to involve a significantly diverse population including refugees and host members (Creswell, 2014). As divided into hosts, refugees and organisations, the study identified more sub groups for the final data collection that is, from the refugees, zones were identified and then the samples decided from these zones for equal distribution and reduced bias. (Patton, 2015)

3.4.6 Purposive sampling

Purposive sampling is defined as the technique that involves the researcher placing judgment and subjectively selecting their study sample. The technique was employed to deliberately select participants who met specific criteria in relation to the research focus. From the refugees and host stratum, individuals assumed to have better understanding and knowledge on community participation in environmental management, leaders were singled out from the zones, as well as house hold heads. From the agency's strata, agencies with ongoing or past interventions specific to environment management were involved in the study. This favored the available resources, eased communication as it was more direct and also encouraged the collection of specifically rich data and information for the study (Palinkas et al., 2015)

Table 1: Variables definitions and Measurement Levels

VARIABLES	DEFINITION	INDICATORS
DEPENDENT VARIABLE		
Environmental Management Interventions	Implemented programs or projects in Palabek refugee settlement for environmental management	Success of tree planting and marking programs Success of waste management practices and Soil conservation efforts.
INDEPENDENT VARIABLES		
Participatory planning and design	The extent to which the community is involved in planning and designing of interventions	Number of community gatherings held Levels of community involvement in planning sessions
Participatory Monitoring	The degree to which the community is involved in the monitoring of environmental management interventions.	Community member's involvement in monitoring processes.
Participatory Evaluation	The degree to which the community is involved in the evaluation processes.	Feedback from the community members' involvement in evaluation processes and integrating community feedback into interventions.

3.5. Procedure of data collection

This included the process after completion and approval of the study proposal. With a properly designed research plan and data collection techniques, an introductory letter was requested and obtained from the Department of Research, Uganda Christian University. Respondents were identified and an enumerator for assistance, considering the wide scope of study and limitation of resources. The enumerator was to be keenly trained to be able to ethically understand the sensitivity of the study. The data collection tools were thoroughly tested to ensure eligibility, accuracy and functioning. The tools were then employed to collect data for the study through the surveys, FGDs and in-depth interviews.

3.6. Data Collection Methods

3.6.1. Surveys

Quantitatively, individual questionnaires were accumulated using a well drafted tool developed on the

Kobo humanitarian toolbox, which was then employed among the targeted 52 individuals not including the 3 targeted organizations. The survey questionnaire comprised of close ended questions with objective choices. It was specific in capturing demographic information as well as communal understanding of their knowledge of PM&E for environmental management and sustainability.

3.6.2. Focus Group discussions

This is a qualitative approach of data collection that involves a selected group of respondents discussing a given topic facilitated by the researcher guided by a designed FGD guide. The study employed 5 focus group discussions, combining both the refugees and the host members. The focus group discussions involved less than 10 participants in each group. This allowed for the collection of in-depth information surrounding feelings, experiences, and attitudes towards the rate of effectiveness of PM&E for the success of environmental management interventions.

3.6.3 In-depth Interviews

In-depth interviews are a qualitative research technique that involve conducting intensive interviews with key informants. The study involved 3 sessions of individual interviews for the three different selected organizations. 3 individuals were interviewed. Focus was on the Monitoring and Evaluation department of the organizations, hence the MEAL officers or MEAL managers. These were agencies with running or completed programs on environmental management in Palabek Refugee Settlement. This allowed for collection of insightful data and information surrounding organizational experience in using PM&E for program success in environmental management. The interviews with the agencies also involved collecting insights on the processes of the development and implementation of a participatory monitoring and evaluation framework and plan.

3.7. Data collection instruments

C. Kothari (2007) defined data collection tools as instruments used to gather information or data from research respondents. He emphasized that it was important to choose appropriate data collection tools based on the nature of data being collected. As the study was collecting both qualitative and quantitative data, these were the tools employed in the process of data collection.

3.7.1. Questionnaires

These were a structured set of close ended questions designed in a manner to collect standardized information from participants during a survey. For the effectiveness of PM&E, this tool was designed and developed on Kobo Toolbox as it was a mobile tool and was very convenient in the process and resources. The questionnaire was employed individually to participants by a well-trained enumerator, before the start of the Focus group discussions and within the communities. It focused on demographic information of the

refugees and hosts.

3.7.2. Focus Group Discussion Guide

An FGD guide is a qualitative tool that acts as guideline for how the focus group was to be conducted. It includes specific open-ended questions focused on specific topics (objectives of the research). An FGD guide was primarily designed and structured with open ended questions to encourage interactions among the participants and the researcher. It encouraged the process to run in a straight forward kind of discussion and all participants was given open opportunity to express their views and opinions, as they elaborate on their thoughts.

3.7.3. Interview Guide

This is a qualitative data collection tool designed to guide the structure of an interview and its entire process. These were necessary as they were to be designed in a way that one question prepares for the discussion of the next. The guide employed to the Agencies as they were key informants and were particularly informed about PM&E processes and program implementation, as well as processes of community integration in participatory monitoring and evaluation (PM&E).

3.8. Quality Control

The study ensured reliability and validity of collected data, which is key for the credibility of the research. It adhered to quality control measures including training of data enumerators, pretesting of data collection tools, and data cleaning.

Data enumerators, since the study intended to hire a research assistant, was trained to ensure that they were well equipped with the necessary skills and knowledge to act in an ethical manner in the data collection processes. This included a comprehensive training covering data collection methods, ethical considerations and the research objective

Data collection tools underwent a pre-test process by conducting a pilot survey. This was to ensure validity of the data collection tools. The pilot test was on a small scale, outside of the main study. Feedback from the survey was used to make necessary adjustments to the research instruments to ensure their relevance. Data cleaning after data collection was necessary, to ensure accuracy and reliability of the analysis process. Quantitative data was cleaned using a Microsoft excel, and qualitative data was coded and underwent a thematic analysis, hence ensuring accuracy of the data.

3.9. Data processing, Analysis and Reporting

This included how the data, both qualitative and quantitative was intended to be processed and analysed from the point after data collection into the different tools, to how it was presented and reported.

3.9.1. Data Processing and Analysis

Data processing and analysis according to Kothari C. (2007) respectively involves the editing, coding, classification and tabulation of collected data so that they are amendable for analysis. He also defined data analysis as the computation of certain indices or measures along with searching for patterns of relationship that exist among data groups. Qualitative data and quantitative data were analyzed differently from each other as the data collected from the demographic data collected from the quantitative tools was complement the primary qualitative data collected.

3.9.2. Quantitative data analysis

Before analysis, the quantitative data was first cleaned to ensure accuracy, completeness, consistency, and relevance. The data was then coded into Microsoft Excel and imported into SPSS for detailed analysis. Descriptive statistics, such as frequencies, percentages, and means, was used to summarize the survey data, which helped translate the distribution and characteristics of the data. The quantitative data was then presented in graphs and charts for visualization to identify patterns and trends effectively. Using SPSS for quantitative analysis allowed for robust statistical analysis and visualization, aiding in the identification of significant patterns and relationships.

3.9.3. Qualitative data analysis

A systematic approach was employed to code the qualitative data collected from the focus group discussions and in-depth interviews using NVivo. This process involved coding the data by identifying common and recurring themes, which was then be categorized more broadly. For instance, organizing the codes into clusters representing the topics discussed by the participants. For evidence-based reporting, strong quotations were identified from discussions under the key themes or topics. Document reviews were also analyzed, and specific content related to participatory monitoring and evaluation (PM&E) in environmental management was extracted. To ensure consistency, data collected from the FGDs and interviews were triangulated by contrasting the findings with each other. NVivo's powerful qualitative analysis tools enabled in-depth exploration of themes and patterns within textual data, providing comprehensive insights into the participatory processes and their impacts.

3.9.4. Presentation of findings and Reporting

The qualitative and secondary data was contrasted with each other for any similarities or differences. This enabled the collection of richer insights as in case of similarities, the data was converged and in case of differences, it was diverged as different perspectives were identified. A Coherent narrative was developed addressing the research questions to present a comprehensive understanding of the effectiveness of PM&E in environmental management in Palabek Refugee settlement. A full comprehensive draft report was then developed and submitted as required for critical review.

3.10. Ethical considerations

The study adhered to principles and guidelines for research especially involving sensitive environments and interactions with vulnerable people. This included informed consent, confidentiality and protection of participants. Enumerators were trained accordingly to conduct ethical research in humanitarian settings.

- I. Consent must be voluntary, not coerced by aid dependency. In humanitarian settings, participants may fear losing services if they refuse. Reassurance was given that saying no or withdrawing had no negative consequences on their care.
- II. Consent was treated as an ongoing dialogue, not a one-time signature. Willingness to continue was checked repeatedly, especially when interviewing trauma survivors. Interviews were stopped immediately if a participant showed hesitation or distress.
- III. Names were anonymized, and indirect identifiers such as village names or ethnic group were removed. Encrypted devices and offline storage were used, and identifying data were destroyed as soon as possible. Study details were never discussed in shared or public spaces.
- IV. Asking about violence, loss, or displacement can retraumatise participants. Enumerators were trained to recognize signs of distress, pause interviews, and provide immediate referral to mental health or protection services where available.
- V. Participants in vulnerable communities often assume research leads to direct aid. It was clearly explained at the outset that the study might not bring food, money, or services. This prevented disappointment and misplaced trust.
- VI. Clear criteria were used to determine who was included (e.g., only adults) and why. Excluding someone from research never denied them existing services.

3.11. Anticipated constraints

The study was potentially affected by several methodological constraints including the following;

- There were limitations to data access concerning data availability specific to the environmental challenges and PM&E. This was in regard to the understanding levels of the community on the PM&E concepts. This constraint affected the accuracy and in-depth of data. The study intended to involve experts of participatory monitoring and evaluation and environmental management such as community leaders and Monitoring and evaluation officers and managers. These were to provide deep understanding of the problem and reduce the risk of limited data. This was approached by forming a partnership with an existing agency, from which the study was to make use of the already existing structures of data collection such as enumerators from the partner organization, as well as interview space for the study to reduce on the costs.
- Challenges associated with participation by community as there was difficulty in encouraging

participation from refugees and host community. This was due to barriers in language, cultural reasons, lack of interest, or others. The study employed translators to ensure accuracy and the selected enumerators were those with knowledge of the local language spoken in the settlement. Participants were clearly presented with the intentions and purpose of the study so as to have full understanding. They were also given a choice of participation in the study. This hence supported in gaining participant interest in the study.

- Resource limitations as the study required financial and human resources to support in data collection. This was approached by forming a partnership with an existing agency, from which the study made use of the already existing structures of data collection such as enumerators from the partner organization, as well as interview space for the study to reduce on the costs.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

4.0 Introduction

The study evaluated the effectiveness of Participatory monitoring and evaluation in environmental management interventions in Palabek refugee settlement. The findings in this chapter are presented according to the objectives of the study.

Table 2: Demographic Characteristics of respondents

Variable	Category	Frequency	Percent
Gender	Male	26	50.0
	Female	26	50.0
Age	18 – 24	29	55.8
	25 – 34	6	11.5
	35 – 44	7	13.5
	45 – 54	2	3.8
	55 & above	7	13.5
	Other	1	1.9
Education	Primary	31	59.6
	Secondary	4	7.7
	Tertiary	9	17.3
	University	3	5.8
	Others	5	9.6
Origin	Uganda	3	5.8
	South Sudan	14	26.9
	Sudan	16	30.8
	D.R. Congo	13	25.0
	Burundi	1	1.9
	Other	5	9.6
Nationality Status	Uganda	3	5.8
	South Sudan	30	57.5
	D.R. Congo	13	25.0
	Burundi	1	1.9
	Other	5	9.6
Zone	Zone 1	27	51.9
	Zone 2	3	5.8
	Zone 3	5	9.6

	Zone 4	2	3.8
	Zone 5	6	11.5
	Zone 6	3	5.8
	Zone 7	6	11.5
How long have you lived in Palabek Refugee Settlement	Less than 1 Year	7	13.5
	1 – 3 Years	31	59.6
	4 – 6 Years	7	13.5
	7 – 10 Years	5	9.6
	More than 10 Years	2	3.8

Source: Primary Data, 2025

With 26 males (50%) and 26 females (50%), the demographic analysis of the respondents showed an equal gender distribution, indicating that the study's opinions were equally represented by men and women. In order to make sure that the results represented the opinions and experiences of both sexes with relation to environmental management actions, this balance was crucial. With 29 responses (55.8%) between the ages of 18 and 24, the age distribution revealed that young adults made up the majority of responders. Respondents between the ages of 25 and 34 made up 11.5% of the sample, followed by those between the ages of 35 and 44 and 55 and beyond, who each made up 13.5%. Only 3.8% of respondents were between the ages of 45 and 54, and 1.9% were classified as "Other". The predominance of younger respondents indicated that the settlement population was largely youthful, which could have implications for community participation in environmental management initiatives, as younger populations are often more active and receptive to engagement activities.

In terms of educational background, the majority of respondents (31, or 59.6%) had completed primary school, whereas 9 (17.3%) had completed tertiary education, 4 (7.7%) had completed secondary school, 3 (5.8%) had completed university, and 5 (9.6%) had completed other educational categories. The large percentage of respondents with only an elementary education raised the possibility that literacy levels could have an impact on how participatory activities and environmental initiatives were promoted and carried out. Awareness, comprehension, and participation in sustainable practices are greatly influenced by education, and technical or complex environmental projects may encounter difficulties due to lower levels of formal education.

With 30 respondents (57.5%) from South Sudan, 13 respondents (25.0%) from the Democratic Republic of the Congo, 3 respondents (5.8%) from Uganda, 1 respondent (1.9%) from Burundi, and 5 respondents (9.6%) from other nations, the analysis of respondents' countries of origin revealed a diverse population. The multi-national makeup of the refugee settlement was represented in this variety, which also

highlighted the necessity of inclusive and culturally sensitive methods in the planning and execution of environmental projects. Individuals maintained their nationality connections while living in the settlement, as seen by the nationality status distribution, which also reflected the origin statistics. The settlement was largely occupied by Forcefully displaced persons from South Sudan.

Additionally, the respondents were dispersed among the settlement's several zones, with Zone 1 having the most representation (27 respondents, or 51.9%). Zones 5 and 7 (each 11.5%), Zone 3 (9.6%), Zones 2 and 6 (each 5.8%), and Zone 4 (each 3.8%) had lower populations. The respondents' concentration in particular zones raised the possibility that spatial distribution and population density could affect the scope and efficacy of environmental initiatives. Furthermore, there were significant differences in the duration of stay in the Palabek Refugee Settlement. The majority of respondents had lived in the settlement for 1–3 years (31 respondents, 59.6%), followed by those who had stayed less than 1 year (7 respondents, 13.5%) or 4–6 years (7 respondents, 13.5%), 7–10 years (5 respondents, 9.6%), and more than 10 years (2 respondents, 3.8%). This indicated a relatively recent settlement population, which could affect levels of familiarity with the settlement environment, participation in projects, and overall community cohesion.

4.1 Nature of current environmental challenges in Palabek refugee settlement.

Table 3: Which environmental challenges have you seen in your community?

		Frequency	Percent
Valid	Deforestation	12	23.1
	Soil degradation	24	46.2
	Poor Waste management	7	13.5
	Pollution	5	9.6
	Others	4	7.7
	Total	52	100.0

Source: Primary Data, 2025

As shown above, 24 (46.2%) of the sample, soil deterioration was the most cited issue in the study on the nature of environmental difficulties in Palabek Refugee Settlement. Subsequently, 12 (23.1%) respondents reported deforestation, 7 (13.5%) respondents reported poor waste management, 5 (9.6%) respondents reported pollution, and 4 (7.7%) respondents reported other issues such as land encroachment and misuse. These findings demonstrated the situational strains on natural resources brought on by human activity and settlement expansion, showing that soil erosion and deforestation were the settlement's main environmental issues. For instance,, overgrazing, soil erosion, and unsustainable farming methods may be to blame for soil deterioration, but the cutting down of trees for building and fuel was probably the main cause of deforestation.

A representative from the three intervening agencies noted that, “*Environmental challenges in Palabek Refugee*

Settlement are numerous and interconnected, with soil degradation and deforestation being the biggest concerns. These challenges arise from unsustainable farming practices, that you may see around like overgrazing, and desperacy for shelter material, and cooking fuel hence the pressure on the natural environment. Additionally, poor waste management and pollution exacerbate the situation by contaminating soil and water, which poses serious health risks to both refugees and their host neighbors. Environmental policy awareness remains limited with in the communities, which hinders effective compliance and enforcement of more sustainable resource management strategies” (KII01/17/08/2025).

A program officer from the three agencies stated that, “These environmental challenges are currently being addressed through coordinated interventions such as soil conservation, reforestation, controlled grazing, and community awareness campaigns. Waste management systems have been introduced like construction of more accessible pit latrines in the settlement, alongside sanitation education by not just WASH partners but majority of other organizations to reduce contamination of the natural environment. Our organizations complement each other’s efforts to ensure that implementations are comprehensive and specific to the community, promoting both environmental restoration and community engagement in sustainable resource management” (KII02/19/08/2025).

Table 4: Which organizations are currently implementing projects or programs to conserve the environment?

Implementing Organizations		Frequency	Percent
Valid	UNHCR	22	42.3
	OPM	6	11.5
	Save the Children	5	9.6
	CARE	4	7.7
	Danish Refugee Council	8	15.4
	Plan International	3	5.8
	Others (War Child Holland, Finnish Refugee Council)	4	7.7
	Total	52	100.0

Source: Primary Data, 2025

UNHCR was noted as the most active organization among those presently carrying out environmental conservation programs in Palabek, according to the community knowledge, with 22 respondents (42.3%) sharing that it is involved. Other noted organizations included Plan International (5.8%), CARE (7.7%), Save the Children (9.6%), OPM (11.5%), the Danish Refugee Council (15.4%), and others like War Child Holland and Finnish Refugee Council(7.7%). According to these findings, national and international organizations were recognized by the community in the settlement's environmental management, offering initiatives for waste management, pollution reduction, reforestation, and soil protection. The dominance of international non-governmental organizations like UNHCR and CARE in environmental intervention reflected their primary coordination role in the refugee settlement, and their responsibility to provide both humanitarian assistance whilst encouraging sustainable

environmental protection solutions. The diversity of the highlighted organization's indicated that they are contributing to different aspects of environmental conservation and management, consistent with studies showing that multi-stakeholder approaches are crucial for effective environmental management in complex refugee contexts (Slim & Bonwick, 2018; Aall, 2018).

During on of the Focus group discussions, a community member from the hosts highlighted, “*Many organisations tend to incorporate elements of environmental protection in their activities for instance they may encourage people to reduce on littering when having a youth engagement on peacebuilding.*” (P1FGD01/18/08/2025)

4.2 Effect of participatory planning and design on the implementation of environmental management interventions in Palabek refugee settlement

Table 5: Logistic Regression on Community Participation and Implementation

Variable	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Are any members of your community involved in the planning and design of environmental projects?				
No	Reference		Reference	
Yes	4.23 (1.45, 12.32)	0.008	3.47 (1.12, 10.74)	0.031
Not sure	1.73 (0.61, 4.92)	0.000	1.62 (0.55, 4.78)	0.000
If so, do you think the views of your community are implemented in the project?				
No	Reference		Reference	
Yes	3.12 (1.06, 9.17)	0.039	2.87 (1.01, 8.16)	0.048

Source: Primary Data, 2025

The unadjusted odds ratio (UOR = 4.23; 95% CI: 1.45–12.32; $p = 0.008$) showed that respondents who said that community members were involved in planning and designing environmental projects were 4.23 times more likely to take part in such projects than those who admitted to no engagement. With an adjusted odds ratio (AOR) of 3.47 (95% CI: 1.12–10.74; $p = 0.031$), the link was still significant even after controlling for any confounding factors. Communities that actively participated in the project planning processes were significantly more inclined to participate in project activities, according to the findings, which also revealed a positive association between perceived and actual community involvement. The high odds ratios implied that involvement was a critical driver of participation, reinforcing the idea that participatory approaches enhance ownership and accountability in environmental management interventions. (Mansuri & Rao, 2013; Pretty, 2003).

A community liaison officer explained that “*Our organization involves the community in planning and designing*

environmental management interventions through the structured participatory frameworks, for example, We involve them in consultative meetings, focus group discussions, and workshops where community priorities, knowledge, and needs are integrated into project design. Transparency is maintained through regular communication on project objectives, expected impacts, and resource allocations, all done through Refugee Welfare Leaders, Block Chairs and even youth leaders. This approach ensures that community members understand their role, feel empowered, and are motivated to participate actively when invited” (KII02/19/08/2025).

Though the correlation was weaker and less accurate, it is significant that the respondents who were uncertain whether members of their community were involved ("Not sure") also reported higher odds of participation when compared to the reference category of "No" (UOR = 1.73; 95% CI: 0.61–4.92; AOR = 1.62; 95% CI: 0.55–4.78). According to the research, even ambiguous views of community involvement may inspire some level of participation, either as a result of unofficial community conversations or indirect exposure to participatory methods. Wide confidence intervals, on the other hand, showed response variability and emphasized that effective and transparent involvement procedures are essential for maximizing participation. This aligns with prior studies emphasizing that ambiguous or poorly structured participation frameworks can lead to uneven engagement and varying perceptions of community influence (Cornwall, 2008; Arnstein, 1969).

An asylum seeker attending an FGD commented, *“Community attitudes towards involvement in environmental interventions is largely positive. Many community members have shared feelings of ownership and empowerment when their views were formally considered in planning and implementation processes by the organization’s. Feedback mechanisms have played a strong part in reinforcing our trust and motivation. However, some people in my community also shared that occasional delays in communication and their lack of technical understanding may reduce their confidence in influencing these project outcomes, hence the need for continuous engagement and capacity building” (P2/FGD02/18/08/2025).*

A similarly significant correlation emerged after community involvement and inputs shaped environmental projects. Compared to respondents who claimed that community views were disregarded, those who felt that their opinions were taken into account were 3.12 times more likely to indicate that their opinions were implemented (UOR = 3.12; 95% CI: 1.06–9.17; $p = 0.039$). This association persisted even after controlling for covariates (AOR = 2.87; 95% CI: 1.01–8.16; $p = 0.048$), indicating that participants' assessments of project responsiveness had a significant impact on their perceptions of project effectiveness. The positive odds ratios highlighted how important feedback systems are for encouraging community participation and building trust, indicating that community members were more likely to view the projects as responsive and meaningful when they thought their opinions influenced decision-making at outcome communication.

In one of the Focus group discussions, a participant from the refugee community shared, *“I remember when I had just been settled in this camp, someone from DRC (Danish refugee Council) asked me if I and my community were willing to participate in a training on how to set up nursery beds, green houses and transplanting and I said yes.*

Back then I didn't think much of it but I agreed to participate anyway. It wasn't long after that when I was invited for training on greenhouses and irrigation. I saw the importance of this initiative because I now have gardens, I have been able to grow a few vegetables that I received in."(P3/FGD01/17/08/2025)

Table 6: Linear Regression Analysis on participatory planning and design on the implementation of environmental management interventions in Palabek refugee settlement

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785 ^a	.617	.609	1.014
a. Predictors: (Constant), Participatory planning				

Source: Primary Data, 2025

With a correlation coefficient of $R = 0.785$, the model summary revealed a significant positive correlation between the execution of environmental measures and participatory planning ($R = 0.785$). According to the coefficient of determination, $R^2 = 0.617$, participatory planning alone could account for about 61.7% of the Variations in implementation outcomes. The model's reliability was further supported by an adjusted R^2 OF 0.609, accounting for the number of predictors, and a standard error of the estimate 1.014, showing moderate scatter of observed values around the regression line. This hence is an indication that participatory planning is a good indication for a successful environmental implementation.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.811	1.185		2.685	.000
	Participatory planning	.925	.103	.785	8.969	.000
a. Dependent Variable: Environmental Interventions						

Source: Primary Data, 2025

As per the unstandardized coefficient for participatory planning ($B = 0.925$, Std. Error = 0.103), it is indicated that, all parameters held constant, , the implementation of environmental interventions increase by 0.925 units for every unit increase in participatory planning. The standardized coefficient (Beta = 0.785) further supported the significant impact of participatory planning on implementing environmental projects. The link between the predictor and the dependent variable was statistically significant, as evidenced by the t-value for participatory planning ($t = 8.969$, $p < 0.001$). The null hypothesis that participatory planning had no impact on the execution of environmental measures is rejected since the p-value was below the traditional significance level of 0.05. This result indicated compelling proof that the implementation of environmental management projects and programs in the refugee settlement was highly enhanced by participatory planning. When participatory planning was at 0, the expected value of implementing an environmental intervention with successful outcomes was represented by

the constant term ($B = 1.811$, $t = 2.685$, $p < 0.001$). Despite being statistically significant, this was seen mainly as an anchor for the regression line and had less practical significance than the participatory planning coefficient.

An environmental project coordinator reported, “*There are specific examples where participatory planning and design have improved some of our project outcomes, like in reforestation and soil conservation projects where the community members were actively involved in selecting tree species, planting locations, and maintenance schedules as per their home schedules. This engagement led to higher compliance, reduced incidences of tree damage and unnecessary harvesting, as well as improved soil retention. This structured participatory approach enhanced both technical success and social cohesion within the settlement*” (KII02/18/08/2025).

4.3 Effect of participatory monitoring on environmental interventions in Palabek

Table 7: Logistic Regression on Community Monitoring of Environmental Projects

Variable	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Are any members of your community involved in the monitoring of environmental projects?				
No	Reference		Reference	
Yes	3.10 (1.12, 8.56)	0.029	2.87 (1.02, 8.12)	0.045
If yes, how often are you and your community involved in the monitoring of environmental projects?				
Never	Reference		Reference	
Rarely	0.82 (0.21, 3.23)	0.000	0.90 (0.22, 3.64)	0.001
Sometimes	1.45 (0.50, 4.19)	0.000	1.38 (0.46, 4.12)	0.000
Often	2.75 (1.02, 7.44)	0.005	2.60 (0.96, 7.03)	0.008
Always	3.90 (1.25, 12.19)	0.019	3.48 (1.10, 10.98)	0.034
Do you think the opinions of your community are taken into consideration during the monitoring processes?				
No	Reference		Reference	
Yes	4.12 (1.38, 12.33)	0.011	3.75 (1.23, 11.42)	0.020

Source: Primary Data, 2025

A significantly positive relationship was seen between community involvement in environmental project

monitoring and subsequent community participation in monitoring activities. Those who reported being involved were 3.10 times more likely to engage in monitoring than those who reported no involvement as of odds ratio (UOR = 3.10; 95% CI: 1.12–8.56; $p = 0.029$). This association persisted after controlling for potential confounders, as seen by the odds ratio (AOR = 2.87; 95% CI: 1.02–8.12; $p = 0.045$). The findings indicate that formal inclusion in projects significantly increases active community participation in monitoring procedures, demonstrating the significant role inclusion plays in local ownership and accountability. The odds ratios above demonstrated a positive relationship, indicating that community involvement was a strong predictor of participation, consistent with participatory development theories which refer to the idea that inclusion strengthens ownership, accountability, and the sustainability of project outcomes (Mansuri & Rao, 2013; Pretty, 2003).

A senior officer responsible for monitoring explained, *“Both the host and refugee communities are involved in monitoring environmental management interventions through regular participatory sessions, where representatives from both refugees and host communities track progress, report challenges, and provide feedback on project implementation. Activities include field visits, data collection on tree growth and soil quality, and reviewing compliance with project plans. This participation ensures that interventions remain responsive to local needs and promotes sustained engagement which is something we always hope for.”* (KII02/19/08/2025).

The analysis also looked at how often community members participate in monitoring efforts in relation to active engagement. UOR = 2.75 (95% CI: 1.02–7.44; $p = 0.005$) indicated that respondents who reported "Often" participation were 2.75 times more likely to be involved in monitoring than those who reported "Never," and this effect was almost unchanged after adjustment (AOR = 2.60; 95% CI: 0.96–7.03; $p = 0.008$). Similarly, the highest chance of participation was indicated by respondents who said they "always" participated (UOR = 3.90; 95% CI: 1.25–12.19; $p = 0.019$) and AOR = 3.48 (95% CI: 1.10–10.98; $p = 0.034$). The progressively increasing odds ratios across the frequency categories indicated that regular community participation corresponded to much more active engagement. On the other hand, responses indicating infrequent participation (“rarely and sometimes”) yielded much lower probabilities and weaker statistical significance, suggesting that irregular involvement may not promote sustained community engagement, which is as crucial for environmental sustainability and protection as an outcome. In line with previous research conducted that stressed that regular involvement enhances oversight, accountability, and the caliber of project implementation, this conclusion underscored the need of prolonged and consistent participation in project monitoring (Fung & Wright, 2003; Cornwall, 2008).

A community member remarked during a focus group session, *“The benefits of involving the community in monitoring include increased feelings of ownership and timely identification of challenges, because as the community we are always witnessing our surroundings and environment in real time, this allows organizations to implement corrective measures to keep us more interested empowered to encourage active engagement. The challenges usually include the need for continuous capacity building, occasional land conflicts between refugee and host communities, and resource limitations. Nevertheless, the advantages of participatory monitoring in improving project quality and sustainability outweigh these challenges”* (P4/FGD03/19/08/2025).

Respondents who responded that their opinions were considered in a monitoring engagement were 4.12 times more likely to perceive effective monitoring than those who reported that their views were disregarded (UOR = 4.12; 95% CI: 1.38–12.33; $p = 0.011$). After adjustment for covariates, the correlation remained significant, with an AOR of 3.75 (95% CI: 1.23–11.42; $p = 0.020$). These findings emphasize how crucial feedback is in participatory procedures.

A refugee Youth leader reflected “*I remember some of my friends telling me that the only reason they participate in governing water points and resource points as watch men as encouraged by UNHCR and other organizations is because they know that their ideas will be incorporated in projects based on their experiences.*” (P4/FGD01/17/08/2025)

Community members were more encouraged to actively participate in monitoring processes after learning that their opinions mattered and what was reported back to the implementors was always fully taken into consideration, influencing project and program decisions.

The odds ratios above 1 reflected the positive effect of perceived responsiveness on participation, highlighting that engagement is not only determined by structural inclusion but also by the meaningful incorporation of community input, all which aligns with participatory governance frameworks that stress transparency and responsiveness as key drivers of effective engagement (Pretty, 2003; Fung & Wright, 2003).

Table 8: Linear Regression Analysis on participatory monitoring and environmental interventions in Palabek

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.483 ^a	.233	.218	1.434
a. Predictors: (Constant), Participatory Monitoring				

Source: Primary Data, 2025

The model showed a positive but moderate relationship between participatory monitoring and how successful environmental projects and programs were implemented ($R=0.483$). Participatory monitoring alone explained about 23.3% of the variation in implementation outcomes ($R^2 = 0.233$). After adjusting the number of predictors, the model held up reasonably well, with an adjusted R^2 of 0.218 with a standard error (1.434) indicated there was still a fair amount around the regression line.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.446	1.532		3.556	.001
	Participatory Monitoring	.510	.131	.483	3.898	.000

a. Dependent Variable: Environmental Interventions

Source: Primary Data, 2025

Holding all the other variables constant, each unit increase in participatory monitoring was associated with a 0.510 unit increase in environmental interventions implementations ($B = 0.510$, Std. Error = 0.131). The standardized coefficient (Beta = 0.483) confirmed that the variable participatory monitoring was a meaningful predictor of implementation success towards environmental project outcomes. The t-value of 3.898 and a p-value under 0.001, the relationship was statistically significant, hence rejecting the null hypothesis that participatory monitoring had no effect on achieving implementation outcomes.

The finding offered strong evidence that community involvement in monitoring activities significantly improved implementation of environmental projects, supporting the notion that supervision and accountability systems contribute to better project outcomes (Fung & Wright, 2003; Pretty, 2003). The constant ($B = 5.445$, $t = 3.556$, $p = 0.001$) represented the expected level of implementation when participatory monitoring was at 0. Although significant, the constant mainly acted as an anchor for the regression line and was less meaningful than the participatory monitoring coefficients.

4.4 Effect of the participatory evaluation approach in environmental management interventions in Palabek refugee settlement.

Table 9: Logistic Regression on Community Evaluation of Environmental Projects

Variable	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Are any members of your community involved in the evaluation of environmental management projects?				
No	Reference		Reference	
Yes	3.45 (1.25, 9.55)	0.017	3.12 (1.08, 9.01)	0.036
If yes, how often are you and your community involved in the evaluation of environmental projects?				
Never	Reference		Reference	
Rarely	0.75 (0.22, 2.53)	0.024	0.82 (0.23, 2.92)	0.007
Sometimes	1.60 (0.56, 4.55)	0.019	1.52 (0.53, 4.36)	0.000
Often	2.85 (1.05, 7.73)	0.039	2.70 (0.98, 7.47)	0.018

Always	4.25 (1.38, 13.12)	0.012	3.95 (1.22, 12.75)	0.021
Do you think the opinions of your community are taken into consideration during the evaluation processes?				
No	Reference		Reference	
Yes	4.50 (1.52, 13.30)	0.007	4.12 (1.38, 12.29)	0.011

Source: Primary Data, 2025

As shown on the table above, respondents who reported that their fellow community was actively included in project evaluation processes were 3.45 times more likely to take part in evaluation activities than those who reported no such involvement that is (UOR = 3.45; 95% CI: 1.25–9.55; $p = 0.017$). This relationship remained significant after accounting for potential confounding factors indicated by (AOR = 3.12; 95% CI: 1.08–9.01; $p = 0.036$). According to the results, chances of active community engagement was considerably higher when community members were formally invited in reviewing processes, evidenced by the odds ratio greater than 1.

A Program officer remarked that, *“Evaluations are conducted using a participatory approach, where community members collaborate with our agencies to assess project effectiveness, outcomes, and sustainability. We conduct interviews, focus group discussions, and data collection and reviews while incorporating community feedback into our evaluation reports. As I have witnessed from the implementing point, this approach ensures transparency, contextual relevance, and alignment with local priorities, making evaluations more accurate and actionable”* (KII03/19/08/2025).

Participation was also impacted by how frequently the community was involved in evaluation efforts. Following adjustment, the AOR was 2.70 (95% CI: 0.98–7.47; $p = 0.018$), and those who indicated "Often" participation were 2.85 times more likely to be active in evaluation processes than those who responded to "Never" (UOR = 2.85; 95% CI: 1.05–7.73; $p = 0.039$). The possibility of participation was highest among those who said they always participated (UOR = 4.25; 95% CI: 1.38–13.12; $p = 0.012$) and AOR = 3.95 (95% CI: 1.22–12.75; $p = 0.021$). These pointed to a dose-response relationship: the more likely active participation is increased with the frequency of evaluation activities in communities. On the other hand, those who reported "rarely" or "occasionally" being involved had reduced probabilities, suggesting that infrequent participation might not be enough to foster engagement.

A program officer reflected, *“Participatory evaluation has influenced our strategies by highlighting areas for improvement. For example, feedback collected from evaluations led to modifications in tree planting techniques, the establishment of community-led waste management committees, and better alignment of project activities related to the sustainable protection of the natural environment and its resources. These adaptations have evidently increased the effectiveness, sustainability, and acceptability of interventions by the benefiting communities, demonstrating the value of integrating community perspectives into evaluation processes”*

(KII01/17/08/2025).

A refugee Welfare Coommitttee member reflected that, *“Sometimes I am interviewed by people from some organizations about how my community is coping or issues that I feel need attention. I tend to try and encourage my fellow community members to engage in these interviews if they have the chance because their voices and personal opinions tailor most of the projects NGOs bring.”* (P5/FGD02/19/08/2025).

Engagement was also substantially correlated with perceptions of whether or not community views were considered during the evaluation process. Effective participation was 4.50 times more likely to be reported by those who felt their thoughts had been taken into consideration than by those who felt their views were disregarded (UOR = 4.50; 95% CI: 1.52–13.30; $p = 0.007$). After correction, this was still significant (AOR = 4.12; 95% CI: 1.38–12.29; $p = 0.011$).

An elderly woman who had spent 1 year in the settlement shared, *“Sometimes when we participate with these organizations, we even go as far as taking our opinions to them in the office. Even suggestion boxes are around that we use. We just feel like sometimes what we say is not taken into consideration.”* (P6/FGD02/19/08/2025)

Communities were more engaged and satisfied when they felt that their opinions affected project decisions. The odds ratio presented a clear story. That when community members believed their views were being considered important, they showed higher interest in participation. This is an indication that meaningful involvement is essential for keeping engagement levels high. Hence ensuring evaluation processes are a success. (Pretty, 2003; Mansuri & Rao, 2013).

A community engagement coordinator noted, *“To ensure effective participation from both refugees and host communities, we conduct inclusive feedback sessions, employ local facilitators, provide capacity-building sessions, and even establish clear feedback mechanisms. Rotational leadership roles within community committees also ensure equitable representation in decision-making. Awareness campaigns and workshops that we organize and conduct strengthen understanding of environmental policies, promote compliance, and foster shared responsibility for sustainable resource management”* (KII03/19/08/2025).

Table 10: Linear Regression Analysis on participatory evaluation approach and environmental management interventions in Palabek refugee settlement.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.708 ^a	.501	.491	1.157
a. Predictors: (Constant), Participatory Evaluation				

Source: Primary Data, 2025

As shown above, the model proved a strong positive relationship between participatory evaluation and implementation of environmental projects and programs. This is as per the correlation coefficient of $R = 0.708$,

revealing a strong linear association. Just participatory evaluation alone explained half (50.1%) of the variation on implementation outcomes ($R^2 = 0.501$). The adjusted R^2 value of 0.491 came in at 0.491 after accounting for the number of predictors. This suggested that the model held well. The standard error estimate of 1.157 revealed a moderate amount of scatter around the regression line. But nothing out of the ordinary.

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.291	1.011		4.244	.000
	Participatory Evaluation	.642	.091	.708	7.087	.000
a. Dependent Variable: Environmental Interventions						

Source: Primary Data, 2025

All other variables held constant, each unit increase in participatory evaluation was associated with a 0.642-unit increase in the implementation of environmental interventions ($B = 0.642$, Std. Error = 0.091). The standardized coefficient ($Beta = 0.708$) indicated significant impact as compared to the dependent variable's variability ie implementation outcomes. This is an indication that when communities were/are involved, in evaluation processes, implementation and effectiveness of environmental programs improved significantly. Inclusive evaluations methods strengthen accountability, transparency and sustainability. (Pretty, 2003; Mansuri & Rao, 2013)

The constant ($B = 4.291$, $t = 4.244$, $p < 0.001$) indicated an expected level of implementation when participatory evaluation was at 0 Although significant, the value mainly served as an anchor for the regression line carrying less practical meaning than participatory evaluation coefficient.

A respondent from UNHCR noted that deforestation had indeed become a major concern, as most households relied heavily on firewood and charcoal for cooking and construction. This reliance had resulted in a significant reduction of tree cover, leading to soil erosion and increased vulnerability to flooding during the rainy season. Similarly, a participant from World Vision highlighted that poor waste management had also compounded environmental problems, with plastics and non-biodegradable materials scattered across the settlement, contributing to unsanitary conditions despite having trash sorting bins well labelled. Water scarcity was also a critical issue raised by a number of refugees FGD participants who engaged with OPM programs, as the existing boreholes and streams were often insufficient or vandalized or damaged to function and meet the needs of the increasing refugee population, particularly during dry periods. Land degradation due to overcrowding and over-cultivation was also frequently mentioned, as it had adversely affected agricultural productivity and limited the availability of arable land.

Community members during the focus group discussions reported that they had undertaken several roles to conserve the environment, often in collaboration with humanitarian agencies. One refugee participant from South

Sudan explained that they had been actively involved in tree planting campaigns, which were organized to restore deforested areas and improve the green cover within the settlement. Another respondent from UNHCR described participation in community clean-up exercises, where community members together with organizational staff collected waste from public spaces with the intention to enhance sanitation and reduce pollution. Refugees also reported using energy-saving stoves provided by NGOs, which reduced firewood consumption and helped mitigate deforestation. In addition, some households adopted soil conservation techniques such as mulching in order to protect their small acre farms. Several respondents also emphasized that they had also engaged in sensitization campaigns, educating fellow refugees on sustainable practices, such as proper waste disposal, productive and sustainable farming methods, alternative safe energy and responsible use of natural resources. These activities illustrated the willingness of community members to contribute to environmental management and protection, despite resource constraints.

Regarding community engagement in decision-making, it was noted that community meetings were occasionally organized to have discussions on emerging, as well as existing environmental challenges and brainstorm effective solutions. These interactive spaces allowed refugees to voice concerns. In addition, they had the chance to actively participate in planning activities, such as tree planting and waste management initiatives. However, some participants nevertheless observed that participation was inconsistent and often influenced by the agendas and schedules of implementing agencies. A participant from UNHCR mentioned that some meetings were dominated by organizational priorities, leaving limited space for community-led discussions. Despite these limitations, these gatherings were considered important platforms for dialogue and knowledge sharing.

Perceptions about the effectiveness of participatory input varied. One participant from DRC indicated that when refugees proposed practical solutions, such as organizing clean-up campaigns or protecting newly planted trees, their suggestions were often implemented. Conversely, a respondent from OPM expressed frustration that recommendations requiring larger monetary resources, such as the introduction of solar energy or biogas systems, were rarely adopted. Several participants also expressed how exhausted they felt when their contributions were reported repeatedly, which yielded limited tangible outcomes, henceforth reducing motivation to participate.

The discussions revealed that several organizations, including UNHCR, World Vision, DRC, and the Office of the Prime Minister, had engaged refugees in decision-making processes related to environmental management. One respondent from UNHCR highlighted that they had been consulted prior to the launch of tree nursery projects and energy-efficient stove programs. Despite these efforts, participants acknowledged that the ultimate decisions often remained with the agencies, reflecting a top-down approach in some cases. Nevertheless, these engagements demonstrated attempts to integrate community perspectives into program design and implementation.

Participants also defined their roles as a community of beneficiaries in implementation processes of environment related projects. A participant from described how refugees were included in local monitoring committees in form of peers and community watchmen, where selected community members acted as focal persons to ensure adherence to project guidelines. These roles involved monitoring the protection of newly planted trees, reporting

misuse of energy-saving stoves, and providing updates to implementing agencies. This fueled accountability and the sense of ownership. Participants also emphasized that they held limited power, because final decisions always remained with the organizations.

Successes and challenges of participatory monitoring were as well discussed. It was noted that tree planting projects increased awareness about sustainably protecting the natural environment and its resources. This was evident by the participants who confessed to have adopted to using renewable energy sources other than depleting the natural environment for firewood and charcoal. Challenges were also highlighted. These included low technical capacity to evaluate interventions and understand complex project objectives, weak follow-up mechanisms, and limited feedback from NGOs. A respondent from UNHCR explained that despite reporting issues and recommendations, responses were often slow, leaving communities feeling undervalued. The effectiveness of participatory monitoring is often affected by limited resources and population pressure as well as cultural traditions.

Participation in evaluation was another key variable. Participants from both the refugee and host communities described their involvement in administering surveys, focus group discussions, and end-of-project reviews conducted by implementing agencies. One participant from World Vision explained that they had provided feedback on the relevance and efficiency of environmental interventions, highlighting successes and challenges. Nevertheless, several participants reported that evaluations were sometimes extractive, as their input did not always influence final decisions, and evaluation reports were rarely shared with the community.

There were, however, instances where feedback led to evident improvements. A program manager shared that after repeated complaints about poor waste disposal across the settlement, designated waste pits and collection points were installed in accessible points across the zones in the settlement. Another expressed that after feedback on distributed fragile stove types, organisations distributed more durable energy-saving stoves. These proved that when community feedback was taken seriously, measurable improvements were evident in environmental management.

Participants offered several suggestions to enhance their participation as a community. One participant recommended regular, structured engagement spaces to allow continuous dialogue. The community preferred less, simple consultations from which no learning is gathered. Capacity-building programs were highlighted as essential to enable community members to meaningfully participate in monitoring and evaluation. Transparency and feedback mechanisms were also emphasized.

4.5. Summary of Findings per Objective

4.5.1 The nature of current environmental challenges in Palabek refugee settlement.

According to the analysis, the complex interplay between refugees, host communities, livelihoods, and the natural environment is reflected in the many, diverse, and interconnected environmental concerns in the settlement. It was highlighted that the main environmental degradation seen in the community included deforestation and poor

farming methods leading to barren spots and reduced soil quality. Since refugees majorly rely on the environment for emergency resources including fuel for cooking, land space for gardens, construction material and firewood. The study found that overgrazing, unsustainable farming practices, and the constant harvesting of vegetation for cooking and shelter were the main drivers behind the loss of tree cover and declining soil quality. These activities threw off the soil and water balance, leading to erosion, nutrient depletion, and reduced land productivity. These findings echo earlier research showing that the high demand for wood and grass to meet basic human needs often strips the areas around refugee settlements of vegetation, worsening environmental degradation and putting the long-term sustainability of natural resources at risk (Black, 2014).

It was also determined that the settlement's major problems were poor waste management and pollution occurring from activities like poor waste management and poor excrete disposal, which reflect the pressure on environmental management, governance and sanitation systems. Besides risks involving physical protection and violence, it is also key to take into consideration that both the host and refugee communities are at risk of health problems as a result of the contamination of land and water resources. These findings were consistent with previous research highlighting the complexity of environmental degradation in refugee settings, which includes not just the loss of soil and vegetation but also water contamination, overuse and misuse of scarce resources, and disturbance of ecosystems (FAO, 2017; UNHCR, 2019). According to this research, risks related to the natural environment grow when the carrying capacity is surpassed. This may result in increased poverty levels, disease, and starvation, especially in settlements where refugees stay for extended periods of time (Black, 2014).

The research found that a number of national and international non-governmental organizations were essential in tackling environmental issues in Palabek refugee settlement. While other actors like OPM, Save the Children, CARE, and Plan International contributed to some complementing measures, it was noticeable that organizations like UNHCR and the Danish Refugee Council were the most engaged in carrying out conservation programs (UNHCR, 2019). These groups were seen to have full focus on interventions such as pollution control, waste management, reforestation, and soil protection. It was determined that these groups' existence and operations were essential to controlling environmental deterioration and, instead promoting sustainable resource management.

4.5.2. Effect of participatory planning and design on the implementation of environmental management interventions in Palabek refugee settlement

The study found that implementing environment management and sustainability in palabek settlement was significantly impacted by the processes taken by implementors in participatory planning and design. Through logistic regression analysis, I determined that respondents who shared that their community was engaged in design and planning processes for environmental projects were significantly more likely to continue taking part in those projects compared to those who had said that they were never involved. In particular, the uncorrected odds ratio was an indication that respondents who were involved in planning were more than four times more likely to take part in continued project activities participating to ensure successful outcomes come to play. this relationship held true even after controlling for any confounding variables. As per the results above, the way community members

perceived community involvement highly influenced their decisions on whether they would take part in project activities and support projects to success.

This also suggested that informal interactions among community members or indirect exposure to participatory processes could also promote engagement, underscoring the significance of well defined and organized participation frameworks to optimize involvement (Cornwall, 2008; Arnstein, 1969).

In addition to the above, a similar outcome was found when the way community members response about the implementation of their ideas input in planning processes for environmental projects. Only those who felt that their inputs were accepted and put into action were far more likely to experience project outcomes. This relationship remained constant even after controlling other variables. These findings showed that listening to community feedback and acting on given feedback strengthened engagement, trust, and ownership, indicating that participatory decision-making and feedback systems were essential in raising the perceived efficacy of environmental interventions (Mansuri & Rao, 2013; Pretty, 2003).

These results were backed by linear regression results. The results showed a strong positive relationship between participatory planning and how well environmental project outcomes were achieved. Participatory planning accounted for more than 60% of the variation in implementation, hence an indication that it was a significant factor in determining environmental projects outcome success.

4.5.3. Effect of participatory monitoring on environmental interventions in Palabek

Environmental management actions in Palabek Refugee settlement according to the study were significantly impacted by participatory monitoring. By using logistics regression analysis, it was determined that respondents who stated that there was active community involvement in environmental project monitoring were significantly more likely to engage in such activities than those who did not. There was a positive and significant correlation between the unadjusted and adjusted odds ratios, indicating that formal inclusion in monitoring procedures improved local oversight and engagement. The results revealed the importance of participatory monitoring in improving accountability and the sustainability of interventions. This proof indicated that community members were more likely to take ownership of environmental programs when they were participating in monitoring processes, aligning to participatory development theories, that emphasize that active inclusion promotes project ownership, reinforces local governance, and improves the long-term effectiveness of interventions (Mansuri & Rao, 2013; Pretty, 2003).

A pattern was revealed when community engagement was closely observed. Those who participated frequently ("Often" or "Always") were more likely to participate in monitoring activities than those who said they never did or have any knowledge of others. Meaningful engagement was more likely when monitoring was done consistently and over an extended period. On the other hand, respondents who responded to "rarely" or "sometimes," had lower probabilities and were less significant, indicating that it might not be enough to promote robust accountability and community monitoring. These results emphasized how valuable ongoing involvement is in monitoring procedures, as shown in previous studies that highlight the importance of consistent participation for

efficient project management increases chance for the success of environmental programs. (Fung & Wright, 2003; Cornwall, 2008).

The importance of participatory approaches was further supported by assessing community opinions on whether their ideas were taken into account. Effective monitoring was significantly more likely to be reported by respondents who believed their opinions were taken into consideration when making decisions for the project. As in the study, perceived responsiveness to community feedback increased commitment to project activities, trust, and ownership. The significant favorable odds ratios showed that improving project outcomes required more than just structural inclusion but also the meaningful integration of local opinions into monitoring procedures.

4.5.4. Effect of the participatory evaluation approach in environmental management interventions in Palabek refugee settlement.

Just as in the previous variable, the study revealed that participatory evaluation had a significant influence on the implementation of environmental projects. In comparison to those who indicated little community involvement, the analysis revealed that those who reported active community involvement in the evaluation processes of environmental projects were more likely to take part in assessment activities. Formal inclusion of community members in review processes encouraged their participation and a sense of ownership over project outcomes, as evidenced by the positive association between the unadjusted and adjusted odds ratios. These results may go hand in hand with past research conducted on participatory development, which highlighted that evaluation processes become more efficient and programs become more sustainable if beneficiaries are involved in evaluating project execution and results (Mansuri & Rao, 2013; Pretty, 2003).

When analyzing how often community members are involved in evaluation processes, a distinct pattern was observed. Those who responded to have participated “often and always” had higher odds of continued active engagement, as compared to those who responded to have never been involved. This pattern was also noticed in the previous variables. According to this dose-response relationship, regular and structured participation increased beneficiary involvement and promoted accountability, but irregular involvement of beneficiaries such as “Rarely and Sometimes” did not encourage engagement. As a result, it was determined that frequent, Structured evaluation meetings encouraged ongoing community supervision and improved the perceived validity and efficacy of environmental protection and sustainability.

In regard to being responsive to environmental project outcomes, it was revealed that respondents were more likely to report successful participation if they thought their ideas and opinions were taken into account during evaluation than if they felt their perspectives were considered useless rather disregarded. Hence, meaningfully incorporating community input improved participation and the perceived efficacy of project results, also emphasizing the importance and relevance of community feedback mechanisms. The robust positive odds ratios demonstrated that responsiveness was crucial for participation as well as for the relevance and sustainability of environmental management programs hence backing the generalized idea that stakeholder perspectives must be actively incorporated into evaluation processes in order to enhance results (Pretty, 2003; Mansuri & Rao, 2013).

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses conclusions and recommendations in relation to the study findings and study objectives that, evaluated the effectiveness of Participatory monitoring and evaluation in environmental management interventions in Palabek refugee settlement.

5.1 Conclusions

It was determined that the most urgent issues were soil deterioration and deforestation, which were mostly caused by overgrazing, unsustainable farming, and massive vegetation removal for fuel, shelter, and cooking. As shared in previous studies concerning environmental degradation in refugee settlements, these findings demonstrated how the high demand for resources such as land, firewood, and others put heavy pressure on the natural environment, resulting in erosion, nutrient depletion, and decreased land productivity and misuse, going even as far as arising conflicts over land ownership especially between the hosts and the refugees.

Both host communities and refugees were at danger for health problems because of the contamination and depletion rates of the natural resources such as land and water, caused by poor disposal of solid and liquid waste and poor management of the natural environment without sustainability thoughts and considerations. The study showed that these hazards increased when the local environment's carrying capacity was exceeded, potentially making poverty, illness, physical conflict and starvation worse

According to findings from the study, it was determined that to solve environmental issues and promote/encourage sustainable resource management, national and international organizations' involvement must always be complemented by project beneficiaries, that is the refugee and host communities, as those who have constant and direct involvement with the natural environment. While other actors contributed to complementing efforts in trash management, pollution control, reforestation, and soil protection, agencies like the Danish Refugee Council and the UNHCR were especially active in encouraging this communal involvement. Compared to respondents who reported little involvement, individuals whose communities were actively involved in planning were significantly willing to take part in project activities towards successful outcomes. The importance of well-structured and clearly communicated participation frameworks in encouraging active community involvement was highlighted by the strong and positive odds ratios from logistic regression, which showed that perceived community involvement was a significant predictor of actual engagement (Cornwall, 2008; Arnstein, 1969).

As the analysis highlighted that feedback systems increased trust, ownership, and engagement levels, respondents who felt that their opinions were taken into consideration from project planning, monitoring and evaluation processes that is, ideas shared during monitoring processes and feedback from evaluation processes were more likely to participate in continued monitoring and evaluation activities towards meeting successful outcomes. According to these findings, increasing the legitimacy and efficacy of environmental interventions requires the incorporation of community perspectives and participatory decision-making involving all stakeholders. (Mansuri & Rao, 2013; Pretty, 2003).

Based on linear regression analysis, participatory planning, monitoring and evaluation were key factors in influencing project success. The models revealed high positive correlations for example, under participatory planning, the correlation accounted for 60% of the variance in project implementation. Involving communities in not just the design and planning for a project but also in the monitoring and evaluation stages of a project is essential for attaining significant environmental project outcomes and guaranteeing not just the project sustainability but also the long term safety of the natural environment through proper and effective management. This is as the coefficients showed that increases in participatory planning, monitoring and evaluation resulted to evident improvement in implementing environmental projects.

In comparison to those who reported no involvement, individuals whose communities actively participated in environmental project monitoring and evaluation processes were significantly more likely to continue doing so towards meeting project outcomes. Formal participation and indirect participation through interacting with those involved in monitoring and evaluation procedures improved general local engagement, accountability, and fostered a sense ownership of environmental management projects in palabek refugee settlement, all according to the positive and significant odds ratios presented in the study. (Mansuri & Rao, 2013; Pretty, 2003).

5.2. Recommendations

Given the fact that unsustainable practices are a major cause of environmental challenges, as proven that unsustainable community practices are a major driver towards environmental degradation, there is a dire need to develop strategies that reduce refugee and host community reliance on natural resources to reduce the negative pressures. Sustainable livelihoods approach like conservational agricultural, better and sustainable farming methods, tree re-planting, introduction to energy saving alternative fuel like energy stoves and solar powered devices, implementing better and safer waste disposal options, to as far as encouraging electronic vehicle use over mechanical vehicles. This will minimize issues like deforestation, air, water and land pollution, over-exploitation of natural resources for shelter and fuel,

reduced illness and sicknesses and even abundance in nutritious food options.

As highlighted above, to address soil and water degradation, reduce health risks among refugees and host communities, and attend to the negative consequences of exceeding the local environment's carrying capacity, including malnutrition, disease outbreaks, and increased poverty, it is key that priority should be given to establishing comprehensive waste management systems. These systems should include proper disposal mechanisms for both liquid and solid waste. In addition, hygiene and sanitation campaigns, alongside environmental contamination monitoring, should complement these suggested solutions. This is to go hand in hand with regular capacity building sessions.

Cooperation or consortium like efforts involving and taking all stakeholders, especially beneficiaries as key contributors, to the success of a project in refugee settings. Preserving the environment and encouraging sustainability should be through the national and international organizations collaboration through multi-stakeholder approaches, centering beneficiaries in areas such as soil conservation, reforestation, waste management, and pollution reduction and control. Local communities should as much as possible be encouraged to participate in these even through co-creation initiatives.

Project implementers should endeavour to establish well-structured mechanisms to actively involve community members rather beneficiaries in planning and design phases of a project, this should be with the intention of ensuring that the community participant's perspectives shape project objectives and strategies. Participation processes should be transparent, clearly communicated, and accessible to all community members from the earliest stages of implementation to maximize engagement and sustained involvement towards evident outcomes.

Project implementers should actively consider and integrate community opinions throughout project execution. When community feedback is visibly and evidently considered, engagement and perceived project effectiveness increase significantly, as the analysis report. Projects should therefore maximize the use of existing feedback structures and incorporate community views into decision-making, as well as respond with tangible feedback. This could include reporting back through community leaders or other available channels clearly on how community input has influenced project developments and changes, hence building trust, enhancing perceived legitimacy, and strengthening motivation towards local community participation.

Community members and beneficiaries should be formally involved in project monitoring processes. Structured frameworks like committees and working groups should be established to ensure that community involvement is systematic rather than ad hoc. The research indicated that the frequency of community participation in monitoring has a significant effect on achieving outcomes through consistent

participation. Programs should therefore encourage consistent and ongoing community involvement, as intermittent or infrequent participation proved less effective towards project success. This should also be done by scheduling regular monitoring activities by clearly defining roles and responsibilities to help in sustaining engagement and ensuring effective oversight of environmental protection and management interventions.

Similarly, when community members were actively included in the evaluation of environmental management initiatives, participation, engagement, and a sense of ownership over project outcomes greatly increased. Formal structures like committees, focus groups, youth groups, refugee and community led organisations should be supported or put in place to engage community members in assessment processes of environmental protection initiatives, ensuring consistent engagement and fostering a shared sense of ownership over results.

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ANNEXES

Appendix (i): SURVEY TOOL

Survey Tool (Fully Quantitative)

Hello, My name is Deborah Akello, I am a Graduate student in Uganda Christian University, currently conducting a study on the effectiveness of participatory monitoring and evaluation in environmental management in Palabek Refugee Settlement

1. Do you consent to participate in this survey?

- ☐ Yes
- ☐ No

2. Can you share your name?

3. What is Your Gender?

- ☐ Female
- ☐ Male

4. What is your age?

- ☐ 18 - 24
- ☐ 25 - 34
- ☐ 35 - 44
- ☐ 45 - 54
- ☐ 55 - above

5. What's your level of education?

- ☐ Primary
- ☐ Secondary
- ☐ Tertiary
- ☐ University
- ☐ Other

6. What is your Country of Origin?

- ☐ Uganda
- ☐ South Sudan
- ☐ Sudan
- ☐ D.R. Congo
- ☐ Rwanda
- ☐ Burundi
- ☐ Other

7. What zone do you live in?

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7

8. How long have you lived in Palabek Refugee Settlement?

- Less than 1 Year
- 1 - 3 Years
- 4 - 6 Years
- 7 - 10 Years
- More than 10 Years

Environmental Challenges are the problems and activities that harm the natural environment.

9. Which environmental challenges have you seen in your community?

- Deforestation
- Soil degradation
- Poor Waste management
- Pollution
- Other

Environmental interventions are actions taken to protect nature and use resources wisely.

10. Which organizations are currently implementing projects or programs to conserve the environment?

- UNHCR
- OPM
- Save the Children
- CARE
- Danish Refugee Council
- Plan International
- Other

11. Which environmental conservation or protection projects are you aware of?

Participatory planning and design is when you as beneficiaries, are involved in the planning and design of a project.

12. Are any members of your community involved in the planning and design of environmental projects?

- ☐ Yes
- ☐ No
- ☐ Not sure

13. If so, do you think the views of your community are implemented in the project?

- ☐ Yes
- ☐ No

Participatory Monitoring is when you, as beneficiaries are involved in assessing the progress of a project.

14. Are any members of your community involved in the monitoring of environmental projects?

- ☐ Yes
- ☐ No

15. If yes, how often are you and your community involved in the monitoring of environmental projects?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

16. Do you think the opinions of your community are taken into consideration during the monitoring processes?

- ☐ Yes
- ☐ No

Participatory evaluation is when you, as beneficiaries are involved in assessing the effectiveness and outcomes of a project.

17. Are any members of your community involved in the evaluation of environmental management projects?

- ☐ Yes
- ☐ No

18. If yes, how often are you and your community involved in the evaluation of environmental projects?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

19. Do you think the opinions of your community are taken into consideration during the evaluation processes?

- ☐ Yes
- ☐ No

20. What do you think can be done to improve your participation on environmental monitoring, evaluation and Planning and design?

Thank you for your participation in this survey.

Appendix (ii): FOCUS GROUP DISCUSSION GUIDE

Focus Group Discussion Guide

Hello, My name is Deborah Akello, I am a graduate student in Uganda Christian University, currently conducting a study on the effectiveness of participatory monitoring and evaluation in environmental management in Palabek refugee settlement.

This guide has been designed to facilitate a comprehensive discussion among the beneficiaries.

1. What are the major environmental challenges you experience in the Palabek refugee settlement?
2. What roles do you play in your community to ensure your environment is conserved?
3. Have you been engaged in meetings to discuss how to improve your environment?
4. Do you feel that your input in these meetings are taken seriously and implemented?
5. Are there any organizations in the settlement that have engaged you in making decisions regarding conserving your environment?
6. How have you been engaged to oversee the implementation of environmental interventions in your community?
7. What are some of the successes and challenges you have observed from participatory monitoring?
8. How do you participate in the evaluation of environmental management interventions?
9. Can you share any instances where your feedback in evaluations led to changes or improvements?
10. What suggestions do you have for improving community participation in environmental management in the Palabek refugee settlement?

Appendix (iii): INTERVIEW GUIDE

Interview Guide

Hello, My name is Deborah Akello, I am a graduate student in Uganda Christian University, currently conducting a study on the effectiveness of participatory monitoring and evaluation in environmental management Palabek refugee Settlement.

1. Can you describe the main environmental challenges faced in the Palabek refugee settlement including those on environmental policy awareness?
2. How are these challenges being currently addressed?
3. How does your organization involve the community in the planning and design of environmental management interventions?
4. What are the perceptions of the community on their involvement in environmental interventions?
5. Can you share any specific examples where participatory planning and design have significantly impacted the success of your interventions?
6. How is the community involved in monitoring the progress of environmental management interventions?
7. What are the key benefits and challenges of involving the community in the monitoring process?
8. How does your organization conduct evaluations of environmental management interventions?
9. Can you provide examples of how participatory evaluation has influenced your organization's strategies and outcomes in environmental management?
10. What strategies do you use to ensure effective participation from both refugees and host community members in environmental management?