The Politicisation of Environmental Degradation

A study on the probable reasons why politicians have failed to protect wetlands in Kampala, Uganda.

SEMPAGALA ALEX

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Swedish University of Agricultural Sciences, SLU
Faculty of Landscape Architecture, Horticulture and Crop Production Science (LTV)
Department of Biosystems and Technology
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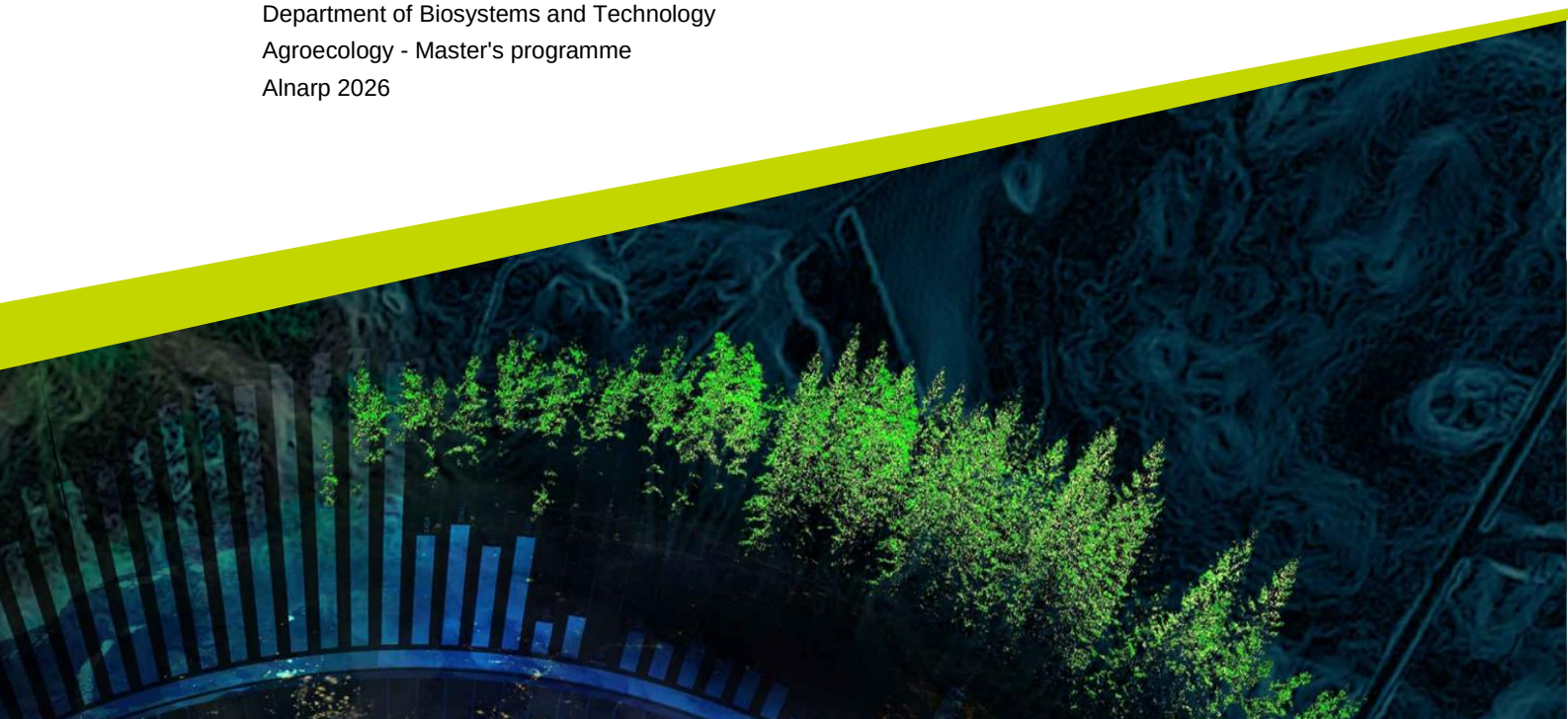

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Sempagala Alex

Supervisor:	Jenny Höckert, Department of People and Society, Swedish University of Agricultural Sciences
Examiner:	Georg Carlsson Professor Biosystem and Technology, Swedish University of Agricultural Sciences
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Abstract

Wetlands in Uganda play a critical role in maintaining ecological balance, supporting food systems, and sustaining community livelihoods. Despite their importance, these ecosystems continue to experience extensive degradation, particularly in urban areas such as Kampala. This study examines the politicisation of environmental degradation by analysing the reasons why politicians have inadequately safeguarded wetlands, using the Lubigi wetland as a case study. Guided by Value theory, the study explores how political actors prioritise short-term economic and electoral interests over long-term ecological sustainability. A qualitative case study design was employed, incorporating key informant interviews and in-depth interviews with policymakers, environmental activists, agriculturalists, and community members residing near the wetland. Participation in the study was voluntary, with respondents assured of confidentiality and the freedom to withdraw at any stage should they feel uncomfortable or believe their rights were compromised. The findings reveal that wetland degradation is driven by a combination of political interference, weak enforcement of environmental laws, corruption, and competing land-use interests such as settlement, agriculture, and industrial expansion. Activities including sand mining, brick making, waste disposal, wetland farming, and infrastructure development were found to undermine wetland functionality, resulting in biodiversity loss, flooding, declining water quality, and threats to food system sustainability. The study further demonstrates that although regulatory frameworks for wetland protection exist in Uganda, their implementation is constrained by political reluctance to confront encroachers, many of whom are voters or economically influential actors. Wetlands are predominantly valued for their exchange value rather than their ecological and social use value, contributing to continued environmental degradation. The study concludes that effective wetland protection requires political accountability, community participation, decentralised enforcement, and governance approaches that recognise wetlands as essential ecological assets. By highlighting the political dimensions of wetland degradation, this research contributes to discussions on environmental governance, agroecology, and sustainable food systems in rapidly urbanising contexts

Preface

A deep desire to understand environmental governance and its challenges led me to investigate the inaction of political players in Kampala, Uganda, regarding wetland conservation. Initially, I expected to uncover structural and governance issues, as well as conflicting political and economic interests that constrain effective environmental management. My engagement with wetland conservation has been both intellectually and personally enriching. It revealed how governmental decisions directly affect ecosystems and communities, often exposing them to

severe challenges. This study has underscored the importance of robust policy frameworks and inclusive stakeholder perspectives as foundations for sustainable conservation.

By combining agroecology and environmental governance, this thesis adopts a multidisciplinary approach to explore the socio-political dynamics of wetland protection. It demonstrates the relevance of integrating diverse knowledge systems to solve global environmental challenges. The process has strengthened my academic and personal commitment to inclusive governance that promotes sustainability, community resilience, and ecological health.
The findings not only contribute to scholarship in environmental politics but also provide practical insights for wetland conservation policy and advocacy. I hope this work inspires students, policymakers, and activists to strengthen sustainable practices and address pressing ecological issues.

Keywords: *Ecosystems, Food systems, Food sustainability, Environmental destruction, Agroecological theory, Anthropogenic activities, Aquatic spaces.*

Innehåll

Acronyms

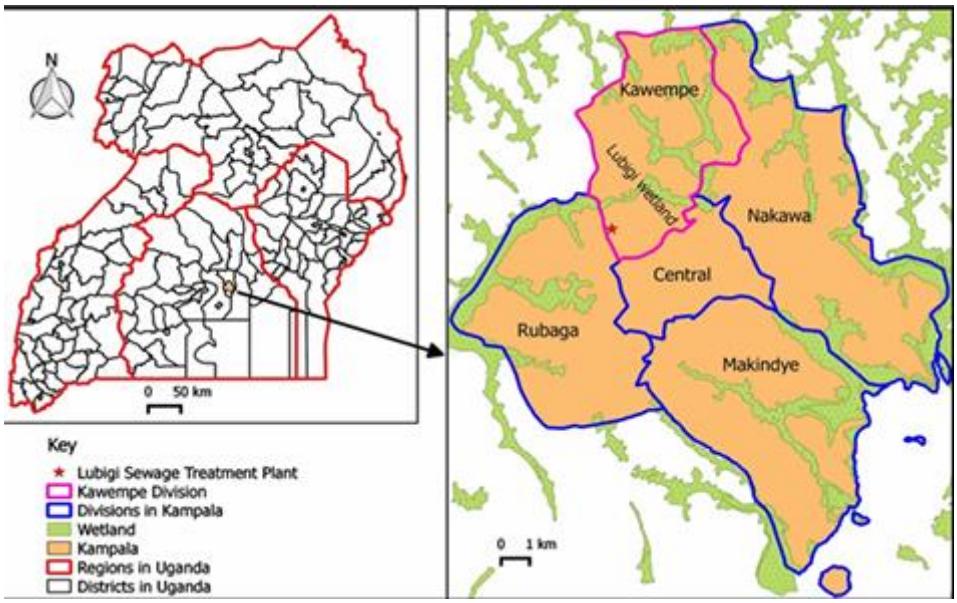
SLU	Swedish University of Agricultural Sciences
NEMA	National Environment Management Authority
LC	Local Council

1. Chapter 1

1.1.1 Introduction

Uganda faces significant environmental challenges, many of which are politically driven. Issues such as deforestation, soil erosion, acidification, lake eutrophication, and climate change have been widely documented (Bradley, 2009). Political interests, patronage, and corruption have often hindered the enforcement of land-use regulations, leading to unplanned changes and degradation of fragile ecosystems, particularly wetlands (Wandera, 2014). Historically, traditional resource management institutions were weakened, facilitating wetland reclamation for agriculture and settlement, resulting in the drainage of approximately 16.2 km² of wetlands (Nelson et al., 2017). Population pressure, urbanisation, and industrial development further exacerbate wetland degradation, while climate variability creates hazards that disproportionately affect vulnerable communities (Isunju et al., 2016). Indeed, land and natural resource degradation accounts for over 80% of the annual costs of environmental losses in Uganda (Rwakakamba, 2009). These conditions underscore the lack of political will to protect ecosystems through agroecological and sustainable approaches. This study examines the politicisation of environmental degradation by analysing the role of political actors in wetland governance in Uganda. Using the Lubigi wetland as a case study, the research explores how political inaction, corruption, and competing land-use interests contribute to continued wetland encroachment. By situating wetland degradation within a political and value-based framework, the study moves beyond purely technical explanations and highlights the governance dynamics that shape environmental outcomes. 1.1 About Kampala: A Presentation of the Study Region The study focused on the Lubigi wetland, situated in the northwestern part of Kampala. Lubigi is part of a larger hydrological system that drains into Lake Kyoga and is among the largest remaining wetlands near Kampala. It receives inflows from the Nsoba wetland and feeds the Mayanja-Kato system. Located within Rubaga and Kawempe divisions, about 7.5 km west of the city centre, Lubigi has become increasingly encroached due to rapid urbanisation. Field investigations for this study were carried out between February and March 2022 in Bwaise, a suburb of Kawempe Division. Bwaise has grown into a densely populated commercial, residential, and industrial area with poor infrastructure, 8 largely due to unplanned development. Encroachment on wetlands, construction of informal housing, and inadequate drainage have made the area highly prone to flooding and waterborne diseases.The study focused specifically on wetlands because of their ecological and socio-economic importance, particularly their role in supporting food systems, regulating water flows, and sustaining livelihoods in urban and peri-urban areas.

Figure 1 Location of Lubigi Wetland, Kampala



Similar to trends observed in South Africa (Foxcroft et al., 2023), natural vegetation around Lubigi has been cleared for agriculture, construction, and road development. These activities are often carried out with political complicity, reflecting failures in wetland governance.

1.1.2 Theoretical Framework: Value Theory

This study applies the concept of Value as its theoretical lens, drawing particularly from the notion of 'use value' and 'exchange value' in relation to natural resources (Lanka et al., 2017; Ballantyne & Varey, 2006). Wetlands provide both direct use values (such as food, water, and habitat for species) and exchange values through ecological services that support broader socio-economic systems. Politicians' actions or inactions toward wetland protection can be understood in terms of how they perceive and assign value to these 9 resources. Van der Ploeg et al. (2019) further emphasise the agroecological dimension of value through the concept of Value Added (VA), which relates agricultural production to ecological sustainability. By interpreting results through this lens, the study highlights the reciprocal relationship between political governance and the sustainability of food and ecological systems.

1.1.3 Research Problem

Wetlands in Kampala face multiple threats from agriculture, brick-making, sand mining, informal settlements, and industrial expansion. These anthropogenic activities cause biodiversity loss, flooding, pollution, and declining agricultural productivity (Barasa & Wanyama, 2020). Weak enforcement of environmental policies, population pressure, and political interference exacerbate degradation (Omagor, 2018). The study therefore seeks to understand the lack of political commitment to protect wetlands and to assess the effectiveness of existing environmental policies in Uganda.

1.1.4 Research Objectives and Questions

The study aimed to examine political inaction in protecting wetlands and to analyse its consequences for environmental sustainability and food systems. The specific objectives were:

1. To investigate measures taken by politicians to protect wetlands from human-induced degradation.
2. To examine the failures of politicians in safeguarding wetlands and their consequences for food system sustainability.

From these objectives, the following research questions were formulated:

1. What have politicians done to protect the environment, especially wetlands?
2. How have politicians failed to protect and preserve wetlands from human destruction?

2. Chapter 2: Literature Review

2.1.1 Introduction

This chapter reviews relevant literature on political roles in environmental protection, with a particular focus on wetlands. The review covers both global perspectives and specific studies in Uganda. It draws on academic journals, policy reports, and empirical studies to assess what politicians have done to protect the environment and how they have failed to preserve wetlands from destructive human activities.

2.1.2 How Politicians Failed to Protect and Preserve Wetlands

Wetlands provide critical ecosystem services, including water purification, flood control, and habitats for aquatic biodiversity (Kansiime et al., 2007). Despite Uganda's Wetlands Sector Strategic Plan (2001–2010), degradation remains rampant, accounting for over 80% of annual environmental losses (Rwakakamba, 2009). Scholars have pointed to erosion, deforestation, wetland conversion, and water pollution as persistent problems (Aggrey et al., 2010). Anthropogenic activities in Kampala, such as sand mining, brick-making, agriculture, and settlement expansion, are among the leading drivers of wetland destruction (Gideon & Bernard, 2018). The consequences of these activities include flooding, loss of aquatic life, and destruction of farmlands (Barasa & Wanyama, 2020). Wetlands are integral to drainage systems, and their encroachment undermines hydrological stability (Mafabi, 2003). Addressing these threats requires political will and reforms in governance structures (Gumm, 2011). Hartter and Ryan (2010) observed that even at the local governance level, significant gaps exist. For instance, among Local Council 1s (LC1s), only four out of several surveyed councils reported authority to regulate wetlands, indicating an information and enforcement gap. Without stronger leadership, wetlands and the food systems they support remain at risk. Population pressure, weak enforcement, and political interference continue to drive encroachment (Gideon & Bernard, 2018). 11 Moyini et al. (2002) emphasised that protecting Uganda's natural capital requires mobilising additional financial resources to maintain ecosystems such as wetlands, forests, and water bodies. Effective protection, however, demands inclusive political engagement and multi-stakeholder collaboration.

2.1.3 What Politicians Have Done to Protect Wetlands

Political engagement in environmental protection has produced mixed results. Some leaders argue that poverty and underdevelopment compel unsustainable

resource use, linking environmental degradation to socio-economic pressures (Junk, 2002). Effective policy implementation requires stronger scientific communication and public awareness of biodiversity and ecosystem services (Kingsford et al., 2016). Uganda has set both legal and institutional structures at the policy level to help protect wetlands. The National Environment Act protects wetlands by making it illegal to drain, reclaim, or build on them without first obtaining permission from the appropriate environmental authorities. The Act views wetlands as important public natural resources necessary for environmental stability and the well-being of the people. This legal structure shows that politicians care about protecting wetlands on paper, but it doesn't work very well in practice since enforcement and political responsibility are not always reliable. Finlayson et al. (2019) highlight the role of grassroots movements, scientists, and the media in pressuring governments to uphold conservation as a moral imperative. Where civil society has been organised, politicians have been compelled to act in favour of wetlands and ecosystems. For example, in Brazil, environmental legislation has been used to regulate land use and protect unique wetland ecosystems such as Vereda and Murundu (Rosolen et al., 2015). In Uganda, some political actors have supported the development of ordinances and regulatory frameworks to protect wetlands. However, these efforts have been undermined by inconsistent enforcement, corruption, and prioritisation of short-term economic benefits over long-term ecological sustainability.

3. Chapter 3: Research Methodology

3.1.1 Research Design

This study employed a qualitative case study design, which is widely recognised as an appropriate method for investigating complex social and ecological issues (Creswell et al., 2007; Cleland et al., 2021). Case study research provides an in-depth understanding of a bounded system by using multiple data sources, including interviews and observations, to capture the dynamics within a real-world context. The approach was particularly suitable for exploring wetland encroachment and the role of politicians in Kampala.

3.1.2 Data Collection Methods and Procedures

The study adopted a phenomenological qualitative approach to understand the shared experiences of respondents regarding political involvement in wetland protection. Phenomenology is concerned with describing common lived experiences (Chegini et al., 2021; Bartholomew et al., 2021). This method enabled the collection of rich, first-hand insights into how political actors, community members, and experts perceive and engage with wetland management. Key Informant Interviews (KIIs) and In-Depth Interviews (IDIs) were the primary data collection tools. These allowed participants to articulate their experiences, perceptions, and recommendations. Interviewees included political leaders, environmental activists, community members, agriculturalists, policy framers, and sand miners. Interviews were guided by open-ended questions designed to elicit detailed narratives. The guides were written in English but administered in both English and local languages to ensure clarity. Ethical approval was obtained from the Uganda National Council for Science and Technology and the Research Ethics Committee at Makerere University. Respondents provided informed consent, either verbally or in writing. Confidentiality and anonymity were ensured throughout the study through several deliberate measures. Although participants were known to the researcher during data 13 collection, identifying information was removed at the analysis and reporting stages. To protect participants' identities, informants were assigned English first names that were not linked to their real identities, ethnic backgrounds, positions, or locations. No surnames, job titles, institutional affiliations, or specific geographical identifiers were used in the thesis. Interview responses were reported in a way that prevented individual participants from being traced, particularly given the politically sensitive nature of the topic. These measures ensured that participants could not be identified directly or indirectly, thereby safeguarding confidentiality and anonymity in line with ethical research standards.

3.2 Methods of Gathering Data

3.2.1 Interviewing Method

Interviews were chosen as the main data collection method because they provide in-depth, nuanced perspectives on complex phenomena (Harrell & Bradley, 2009; DiCicco-Bloom & Crabtree, 2006). The researcher conducted one-on-one sessions with respondents in public spaces to ensure safety and neutrality. All interviews were audio-recorded, transcribed verbatim, and supplemented with field notes.

3.2.2 Key Informant Interviews (KIIs)

Key Informant Interviews involved respondents with specialised knowledge of environmental management, policy, and ecological systems. These included environmental activists, agricultural experts, and policymakers. KIIs allowed the collection of expert opinions on governance failures, corruption, and the challenges of enforcement. The interviewees were purposely selected based on their knowledge, experience, and involvement in wetland-related activities, including environmental management, agriculture, policy implementation, and community engagement. Initial contact with key informants was established through professional networks, referrals, and direct outreach via phone calls and in-person visits. While several individuals were willing to participate, others were difficult to reach due to time constraints or institutional responsibilities, and some declined to take part in the study. In cases where potential 14 informants were unavailable or unwilling to participate, alternative respondents with similar expertise and relevance to the study objectives were contacted. This process continued until sufficient and relevant data were obtained to address the research questions.

3.2.3 In-Depth Interviews (IDIs)

In-Depth Interviews (IDIs) were conducted with community members living near the Lubigi wetland. These individuals were selected because of their direct experiences with wetland encroachment and its social, environmental, and livelihood-related consequences. Initial contact with potential participants was established through community entry points, including local leaders, informal referrals, and direct engagement within the study area. While many community members were willing to participate and share their experiences, some were hesitant or declined due to time constraints, fear of potential repercussions, or lack of interest. In such cases, alternative participants with similar lived experiences were approached. Interviews continued until data saturation was reached, meaning that

no new themes emerged from subsequent interviews (Braun & Clarke, 2021; Hennink & Kaiser, 2021).

3.2.4 Sample Selection

Purposive and convenience sampling strategies were used. Sixteen respondents participated: seven key informants and nine community members. The sample size was informed by the principle of data saturation, where redundancy in responses indicated sufficient coverage of themes (Marshall et al., 2013).

Table 1 Population Selected for the Study

No.	Interviewee	Gender	Role Represented
1.	Anna	Female	Key Informant
2.	Aphra	Male	Key Informant
3.	Brian	Male	Key Informant
4.	Denis	Male	Key Informant
5.	Edith	Female	Community Member
6.	Enock	Male	Agriculturalist (KII)
7.	Jennifer	Female	Community Member
8.	Linient	Female	Community Member
9.	Molly	Female	Community Member
10.	Mumbere	Male	Community Member
11.	Patience	Female	Policy Maker (KII)
12.	Raymond	Male	Environmental Activist (KII)
13.	Sarah	Female	Environmental Activist (KII)
14.	Stella	Female	Community Member
15.	Mubbala	Female	Community Member
16.	Claire	Female	Community Member

Table 2 Determination of the Sample Size

Target Group	Sampling Frame	Sampling Technique	Sample Size
Key Informants	Phenomenology	Purposive Sampling	7 (2 Female, 5 Male)
In-Depth Interviewees	Phenomenology	Convenience Sampling	9 (7 Female, 2 Male)

3.2.5 Data Analysis

Data analysis followed the framework of Miles, Huberman, and Saldaña (2014), which involves three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification. Interview transcripts were coded thematically using an inductive approach to identify emerging patterns. Codes were organised into themes aligned with the study's objectives and research questions.All insights presented in this study were generated through a systematic process of data cleaning and thematic analysis. Interview transcripts were reviewed, organised, and analysed to identify patterns and themes that directly informed the primary research question and the study objectives. In addition to interview data, the analysis drew on a review of official policy and legal documents related to wetland management in Uganda. These included national environmental laws, wetland policies, and institutional guidelines governing wetland use and protection. The purpose of reviewing these documents was not to conduct a policy analysis in isolation, but to contextualise interview findings and assess the extent to which existing policies align with, or diverge from, on-the-ground practices described by respondents. Insights from this document review informed the interpretation of findings, particularly in relation to policy implementation, enforcement, and political accountability.

3.2.6 Qualitative Analysis

Thematic analysis was the primary method applied (Braun & Clarke, 2021). This approach allowed the identification and interpretation of recurring themes in participants' narratives. Data were examined iteratively, with attention to both convergence and divergence in perspectives across respondents. NVivo-style

coding principles were 17 followed manually to structure themes and ensure analytical transparency (O'Kane et al., 2021).

4. CHAPTER FOUR

4.1.1 Presentation of Study Findings

This chapter outlines the findings of the study. The results were derived from the study's objectives, which were categorised into subthemes to develop research questions. The topics examined include the severity of environmental degradation in Uganda, the impact of wetland activities on aquatic species, the widespread encroachment of wetlands by local populations, the typical crops cultivated in wetland areas, the consequences of wetland destruction for agroecological food systems, and the implications of wetland encroachment for the sustainability of food systems. The findings informed the response to the inquiry that examined the measures taken by politicians to preserve wetlands, acknowledging both the scale of the problem and the presence or absence of effective interventions, as supported by empirical data. The themes generated from the findings contributed directly to addressing the second research question, which sought to explore the shortcomings of politicians in safeguarding wetlands from human impact. This included an assessment of the factors contributing to their inability to protect these vital ecosystems in Uganda, as well as an evaluation of the effectiveness of existing environmental policies related to wetland protection. These policies encompassed a range of strategies aimed at environmental safeguarding at both individual and community levels, alongside agro-economic measures intended to support wetland survival. This study adopted a qualitative research design to explore political and community perspectives on wetland governance and degradation. The focus was placed on wetlands due to their ecological and socio-economic significance, particularly in relation to food systems, water regulation, and livelihoods in urban and peri-urban settings. Data were collected through semi-structured interviews using an interview guide designed to elicit in-depth insights from respondents. A total of sixteen participants were purposely selected, with elements of convenience sampling applied to facilitate access to individuals with relevant knowledge and experience. Following data collection, interview transcripts were 19 systematically reviewed and analysed through thematic categorisation. The resulting themes formed the basis for the presentation of findings in the subsequent chapter.

4.1.2 The extent of the threat of environmental degradation in Uganda.

The study identified various activities occurring in aquatic environments, including mining, fishing, disposal of waste into sewage systems and water bodies, pottery, construction of houses, and washing bays, among others. A KII agriculturalist, Enock, stated,

"There is a lack of adequate disposal facilities. Recently, the issue has come to light; however, before this, there were no designated disposal sites, resulting in individuals discarding waste in water bodies. The disposal of a polythene bag into a water body can result in serious negative outcomes; for example, if a fish ingests the bag, the consequences can be dire. Even for individuals who use soap, especially in washing bays, it has a harmful impact on fish populations."

This evidence revealed that the objective of understanding the extent of environmental degradation was answered and achieved. Moreover, the first objective was addressed in greater depth as the respondents revealed that a variety of activities were occurring within aquatic environments. These activities included cultivation efforts such as flower growing and roadside enterprises, the harvesting of herbs from papyrus by traditional medicine practitioners, the crafting of mats, housing construction, waste disposal, animal husbandry, fishing, brick production, sand extraction, the establishment of taxi stations, and the advancement of road infrastructure. The recorded endeavours related to wetlands have revealed considerable obstacles to climate equilibrium and the persistence of both human and animal populations. A participant articulated her comprehension of a specific wetland situated in Kampala. She expressed her thoughts on the nature of the activities occurring in these wetlands, stating,

"Lubigi wetland in Kampala has many informal settlements and slums. Latrines and toilets are unsuitable in wetland areas due to high groundwater tables and cross pollution. To filter sewage from Northern and Western Kampala, the wetland is used. Flooding and garage and shelter construction have destabilised it. Luckily, Luigi doesn't drain into Lake Victoria (KII-F-Sarah)".

Thus, a revelation that objective one was elucidated by these particular findings of the study. In another qualification of the extent of environmental degradation in Lubigi, Raymond reported that wetlands are destroyed through human activities.

I quote, "The main activities in the wetland include nurseries for tree planting, washing bays for vehicles, motorcycles, and make-shift markets for selling common foods and low-income earners (KII-M-Raymond)".

I furthermore, discovered that wetlands contain constructed processing plants, which have contributed to unpleasant odours in Busega and Lake Victoria, as well as discolouration in waste near the lake. This suggests nutrient nitrification, where excess nutrients result in algae blooms that hinder sunlight penetration, potentially leading to the death of living organisms. Consequently, fish often perish due to the high levels of nutrients in the water bodies. This provides a clearer understanding of the damage to the wetland in Lubigi specifically as required by the first objective of this study. A respondent informed me that:

"I often smell fish when crossing Busega on my route to the roundabout. There may be a fish processing factory nearby. Lake Victoria turns green where trash is poured directly into it. Nitrification occurs when nutrients reach the lake without marsh filtration, causing that green colour. Still, too many nutrients generate green algal blooms that block sunlight and kill aquatic species that need light. Algae growth increases water circulation, which causes nutrient buildup and fish death (IDI-F-Jennifer)".

Conclusively, the study revealed overwhelming evidence that environmental degradation in the form of wetlands destruction including mining, fishing, throwing rubbish into sewerage systems and water bodies, pottery construction of houses, and washing bays, among others, takes place in Uganda. A respondent Is quoted as saying,

"Should I claim we lack adequate dumping sites? They've been brought up recently, but we didn't have disposal locations, so people dumped trash in waterways." If a fish consumes a polythene bag you drop into a water body, it can be disastrous. Even individuals who use soap, especially those with washing bays, harm the fish" (KII-M-Aphra).

Thus, I was successful in answering the research questions and objective one which required me to find out the extent of the problem.

4.1.3 The available Species Found in Water Bodies.

The investigation aimed to comprehend the species present in the wetlands of Uganda, particularly emphasising Lubigi. This theme highlights that the aquatic species include frogs, reptiles like snakes, and specific fish types, such as the mudfish, which are at risk of extinction due to habitat encroachment. The study also identified catfish, known locally as 'emmamba,' and crocodiles as members of this vulnerable group.

4.1.4 The nature of the threat of Wetland Destruction on the environment .

The second objective aimed to ascertain the extent to which respondents could articulate the characteristics of wetland destruction in Uganda. Consequently, I was apprised by the respondents that the nature of the threat is escalating daily, dependent on the various settlements neighbouring specific wetlands and the degradation of rural wetlands generally attributed to agricultural practices. In metropolitan regions, the emphasis is predominantly on development initiatives or undertakings. One Jennifer illustrated the significant damage to wetlands caused by farming saying;

"…If the city wetlands and town wetlands are excluded, the majority of wetlands outside urban centres are adversely affected by agricultural practices employed by farmers. In the Kabale district, wetlands are primarily utilised for the cultivation of vegetables and Irish potatoes. Farmers significantly contribute to wetland destruction in rural areas, 22 while in urban areas, the primary factors are development, road infrastructure, and building construction (IDI-F-Jennifer)".

4.1.5 The Effects of Wetland Activities On their Survival.

In the pursuit of comprehending the ramifications of human activities on the survival of wetlands, I discovered that these actions impact natural habitats, including those occupied by crocodiles, fish, snails, and occasionally snakes. This encompasses the pollution of air and water bodies, the destruction of habitats for these aquatic creatures, and the overexploitation of fish populations, ultimately resulting in a reduction of these resources available for human consumption. As a result, a female respondent, for instance, contended that

> *"The pot-making process involves the extraction of sand soil from underwater environments inhabited by various aquatic organisms. Consequently, the destruction of these areas will adversely affect the livelihoods of the animals (IDI-F-Claire)".*

Another respondent highlighted the issue of food insecurity by stating,

"...you know, when you overfish, you diminish the population of fish, leading to a scarcity of food"... consider an endeavour such as housing; if an individual erects a structure in wetlands, it results in the displacement of fish and local habitats, which consequently leads to a lack of food for the community."(IDI-F-Mubbala)".

Another female interviewee added that poor quality fish resulted from wetland destruction. She said,

"First of all, if wetlands are encroached on, they start producing species of poor quality; for example, the fish can be tiny without the nutrients they are supposed to have (IDI-F-Jennifer)". As if that was not enough, respondents indicated that development on wetlands leads to the intrusion of harmful animals or reptiles into human habitats, thereby compromising human security. Human activities substantially contribute to the degradation of wetlands and environmental harm. The respondents agreed that the destruction of these wetlands results in subsequent climate changes over time. So, for example, one male respondent affirmed that said, *"It is possible to determine that the rainy season occurs from July to August, while the period may remain predominantly dry. Currently, it is evident that with the depletion of water sources, rainfall is inconsistent; instead, there are periods of sunshine interspersed (KII-M-Aphra)".*

According to several responders, the study's findings show that human activity has a major negative impact on aquatic ecosystems. Among the main problems noted is habitat deprivation, which occurs when human-caused obstructions in the water supply cause aquatic creatures to perish because their native homes are being lost. The second is land use, where the conversion of arid terrain for farming or habitation is causing flooding and standing water, serving as mosquito breeding grounds, and escalating human-wildlife confrontations, especially with deadly species like crocodiles. The encroachment on wetlands is contributing to climate change by decreasing vegetation cover, which alters rainfall patterns and lowers rainfall. A respondent articulated the implications of this phenomenon on microorganisms and the sustainability of food, stating,

"Yes, they do influence one; when the water has encroached on, it loses its natural usefulness, hence influencing the environment (Salutes a police officer); ...Then there are these other micro-organisms… some individuals fished their fish that were also gone from the ecosystem; on the social side of feeding people, the water lost its natural cleansing function (IDI-Jenifer)".

Another respondent added weight to the effects of activities on wetlands survival including invasion of spaces initially meant for aquatic life, saying,

"Human activities affect wetland functionality, which is optimal in nature. Wetlands are essential to water quality, reptile, amphibian, and small mammal habitats. Lubigi wetland land use changes have major consequences. In Kampala, mud, faeces, and motor oils have replaced frog habitats. Flood-prone areas have been developed with homes. The wetland's original functions are substantially damaged by these activities (KII-F-Sarah)".

Diversion of water was reported to cause serious human accidents to not only aquatic animals but also to humans. Patience narrated this consequence when she reported that,

"Like the other side, I was trying to tell you where they try to divert water flow that will affect the catchment area, and whenever it rains, there are always accidents; you find that recent accident around because of their encroachment. When it rains, the running water kills kids, and the water bodies always end up in Lubigi, Nansana, Nabweru, and these people who toss in the trash have changed its aroma. The stench suggests a corpse (KII-F-Patience)".

Continually, the use of chemicals during farming was also mentioned as affecting the survival of wetlands. For example, a one Linient informed me that,

"The agricultural practices adjacent to wetlands often involve the application of fertilisers and other farming methods, which can adversely impact the ecosystem. Wetland flora are adapted to natural conditions devoid of chemical supplements; thus, the introduction of these substances may disrupt their growth. Additionally, such pollution can deplete oxygen levels, threatening aquatic species such as frogs

and fish. Consequently, this may result in the decline of species unable to tolerate the altered, polluted environments (IDI-F-Linient)". Similarly, the introduction of hazardous materials into the wetlands is perceived as a significant catastrophe, as noted by another respondent. She said,

"…recently, we encountered a situation in Kigezi where a developer was discharging iron ore directly into the river. This individual, who possesses the capability to properly treat such water, was prioritising profit over environmental responsibility by contaminating a water source heavily utilised by households and livestock. It raises concerns about their short-sightedness and lack of consideration for future generations (IDI-F-Jennifer)".

Activities such as grass cutting, soil covering of wetlands, and the establishment of temporary businesses, including restaurants, were reported to significantly impact wetland survival. An illustrative example is Brian's. *He said,*

"They exert an influence; thus, individuals who occupy land on one side obstruct the waterways at one terminus, potentially resulting in the redirection of water." Those who harvest spear grass for sale to cattle feeders eliminate the grass's thickness, which aids in purifying the water that traverses the marsh. Small enterprises, such as restaurants, dispose of bottles in the marsh, resulting in increased harm to the ecosystem (KII-M-Brian)". To further answer the question on the effects of activities on wetlands survival, I agree that indeed those activities are one of the greatest reasons, wetlands are disappearing from the face of Uganda's ecosystem. Take an example of what Aphra added to the voices preceding, referring to wetlands as kidneys. He said

"Eeeh!" (Exclaims). Neighbourhood floods and encroachment have had a major influence on the community. Homes are often flooded with heavy rainfall, causing significant loss of life. Degradation has affected many wetland functions, known as "kidneys." Kind of like kidneys. Wetlands absorb and discharge surplus floodwaters, prolonging flooding without them. Degrading wetlands has a big impact (KII-M-Aphra)".

4.1.6 Effects of Wetland Activities on Aquatic Species

The study also aimed to determine the effects of human activity on the species that inhabit the wetlands. According to the responders, aquatic animals that would flourish in wetlands, such as cats, geckos, and monkeys, are impacted because they must find other places to go when the marsh flora is cut down. They therefore reasoned that because aquatic species cannot survive in polluted surroundings, which alter the wetlands, it also results in the loss of habitats that eventually become extinct. Simultaneously, I was made aware that activities in wetlands have resulted in the decline of not only aquatic species but also avian

species that depend on these ecosystems for their existence. This has ultimately resulted in a decrease in the population of the latter (birds). In order to elucidate this finding, Raymond conveyed *that*

> *"Rapid reduction threatens Kampala's bird population." Without human care, Kampala's bird populations may decline in the next decade due to the lack of wetlands. They say no one owns wetlands land titles, but soon all landowners, including crested cranes, will. I know marsh birds. They rarely fly. When threatened, they walk and flee. Animals appear. You know where crocodiles, frogs, and fish breed. If you get rid of them, where will you get them? Therefore, their extinction may be a threat (KII-M-Raymond)".*

In continuation to answering the research question, it was observed that insects' survival was also reportedly affected by the use of chemical sprays for example in the aquatic spaces. This piece of evidence was reported by an agriculturalist who said,

"At this moment, I am addressing the subject from a micro perspective." … An illustrative example of a full armyworm can be observed in a garden setting, where one might encounter spiders, which serve as natural adversaries to various pests. Upon the application of a chemical agent, one effectively eradicates spiders from the vicinity. Upon their removal…Some may have developed a tolerance to the chemicals currently employed, resulting in a population that exhibits resistance. Thus, you are now applying a chemical to eliminate the alternative that could have aided in diminishing the quantities... (KII-Agriculturalist-Enock)".

This finding thus shows how environmental degradation has manifested itself from human choices to apply toxic materials in wetlands, which has in the end caused decline in animal species and at the extreme, their extinction.

4.1.7 The Culprits for Wetland Encroachment/destruction.

It was crucial for me to comprehend who is in charge of this mess because I was informed about the activities that occur in wetlands, which result in their destruction as well as the extinction of the animals that live there. Thus, when asked about the well-known wetland encroachers, the respondents named individuals such as political leaders, wealthy individuals, economists, and industrialists, those who make brooms out of papyrus, cattle keepers, those with political connections, investors, those who harvest fodder, bricklayers, and developers who are part of the Ugandan government as the ones who permit and participate in wetland destruction. For example, the female confirmed that those with economic muscle are responsible for the wetland's destruction. She said,

"…The establishment of industries is inherently linked to financial resources; it is implausible to suggest that an individual lacking economic means could undertake the construction of an industry in a wetland, particularly when they are unable to

procure the necessary materials for such an endeavour (IDI-F-Stella)". Additionally, Raymond claimed that those who are known to political leaders and seek out unusual profit are among the regular encroachers on wetlands. He said *"*

"There must be a political reason for it, since you can't just go there and pour dirt down and no one will stop you. If there are ties that make it hard for the people whose job it is to watch over wetlands to use the law against you, then there is something stopping them." So, these people work in politics and business, and they are all linked as long as they can keep policymakers from encroaching on wetlands. So, all of those people are Ugandans who want to live in those prime areas. Lubigi is in Kampala and is a prime area that can bring in a lot of money. Even if someone took it over and sold it seven years later, they would get a lot of money (KII-M-Raymond)".

The study participants also mentioned youths as part of the wetland encroachers. This was reported by a key informant, Mumbere, who said,

"Oh, the youths are the primary encroachers." Because they are unemployed, they are inclined to seek employment, which is why they exploit the wetland to locate a resource. However, the urban poor are typically the primary encroachers due to the constraint of land. Consequently, you discover that they are the ones who construct small, squat houses around the swamp, laying bricks, and cutting papyrus. Consequently, the urban impoverished are the primary encroachers. (IDI-M-Mumbere)".

Apart from the youths and rich people, I was informed that the government personnel are part of the main wetland encroachment. Fo example a one Brian asserted that,

"…A National Water and Sewerage Corporation facility has been built close to Bwaise, which gives the people who are encroaching more trust. Seeing that a government building is being built right in the swamp has given them more confidence that they should be set up in the same place. (KII-M-Brian)". Anna posits that the government fundamentally supports encroachers. She is reported to have said,

"The major encroachers, … we sometimes hear of government-sponsored companies. But besides that, like some industrial parks in which the government funds are put up in the wetlands, although that is not directly under Lubigi-Bwaise, such activities also affect the wetland… KII-ANNAH)".

Thus, the importance of this finding served to elucidate on the extent of wetland destructions and the characters orchestrating this vice in order to answer the first and second objective of this research.

4.1.8 The Common Foods Grown in Wetlands.

Given that the researcher was informed about the nature of wetland activities involving the cultivation of food for human consumption, it was essential to identify the types of foods grown in these environments. The study identified that the most commonly cultivated foods in wetlands, particularly in Lubigi, include yam (amayuuni in the local dialect), rice, and various vegetables such as cabbages, eggplants, sweet edible sugarcane, tomatoes, bananas, maize, Irish potatoes, sweet potatoes, and green pepper. A one Mumbere was quoted saying,

"One, I see yams, I see many sugarcanes and what else, partly when you go to the other side of Nateete you find people having banana plantations and maize in the wetland, yeah, so you will find that, that is what they are majorly doing there as far as farming is concerned. So, I will mention the other flower growing. I don't know whether we can call it food production, but there are also flowers there (IDI-M-Mumbere)".

This specific segment of gathered evidence significantly enhances our understanding of the activities conducted in wetlands, which subsequently impact the survival of aquatic species, while simultaneously playing a crucial role in the agro-economic sustenance of human populations. In addition, the participants in the study further indicated that the yam variety they grow demands significant amounts of water and mineral salts, leading to excessive use of the wetland, with channelled water introducing silicon into the area. This leads to an accumulation that contributes to global warming. Moreover, the practice of encroaching upon wetlands for agricultural purposes, which includes the introduction of sand, has a significant impact on these ecosystems. For example, Sarah informed me that "

"*Before you grow anything in a wetland, you must channel the water and pile the soil, which drains the wetland because most crops don't grow in flooded zones. They thrive in wetlands but not floods. You must build pathways for crop growth. Channels drain wetland water. Cut wetland vegetation to replace it with crops. It's twofold because you drain and cut wetland vegetation (KII-F-Sarah)".*. Another respondent added to the danger of planting crops in wetlands saying, "

"*Because when encroachment increases, it reduces the land acreage used to produce food because people are looking at those areas for commercial purposes, so there is almost no growing of such foods, which reduces the size of the wetland, which reduces aquatic life, which affects ecosystem interaction. Consequently, decreased food production might impact local populations and localities (KII-M-Raymond)".*

4.1.9 Effects of wetland encroachment on the Sustainability of Food systems.

When wetlands are encroached upon, the survey participants indicated that this adversely affects the sustainability of food systems. The degradation of wetland ecosystems leads to the destruction of papyrus reeds, which serve as both sustenance for aquatic organisms and a critical component of their habitat. This loss jeopardises the survival of aquatic fauna and disrupts breeding patterns, thereby imposing a strain on ecological equilibrium. Moreover, many aquatic species consumed by people, such as fish, are also exterminated when wetlands are filled with soil for developmental purposes, rendering food sustainability practically unattainable; this process impacts the water table, while fertilisers annihilate plant life and harm aquatic organisms. The study participants uniformly indicated consequences resulting from agriculture. One female key informant interviewee, for example, reported that

"…Certainly, there are adverse impacts, but on the positive side, districts such as Iganga, Tirinyi, and Lukaya are making strides in rice production, while Lugazi is focussing on increasing sugarcane output. This has led to a noticeable rise in food production…" (KII-F-Patience)". Like Patience, Alpha also felt that encroaching on wetlands to do farming has boosted the sustainability of food systems in the country. He observed that,

"The wetland near the city centre has boosted food production, making vegetables cheaper and more accessible than those transported from other areas. Farmers harvest and sell their crops, improving their living standards and focusing on sustainable development pillars. They are also focusing on improving their social aspects, such as avoiding future floods, while ensuring the availability of fresh, locally grown food (KII-M-Aphra)". Denis, however, deferred from the other respondents when he noted that the destruction of wetlands fosters the growth of harmful weeds, which in turn leads to the displacement of silicon into undesirable areas. He said,

"Fertilizers can encourage unwanted species in water bodies, such as water hyacinth, leading to siltation and reduced sustainability in the long run. Wetlands drain water, reducing recharge uphill and making it difficult to create boreholes or springs. This can result in a decrease in water table, making it difficult to access water sources and potentially not sustainable in the long run. Instead, reducing resources and spending on food production can lead to higher production costs (KII-M-Denis)".

4.1.10 Politicians' failure to protect and preserve the wetlands in Uganda.

Another objective for this study was to understand what politicians have done or failed to do within their mandate to preserve wetlands. The answer to these research questions was that the findings indicated that politicians hold a crucial position in the preservation of wetlands, exemplified by initiatives such as the Eureka projects, which aim to delineate these vital areas. These markers serve to exert pressure on the government to construct necessary drainage channels. However, it is evident that the wetland extends beyond the drainage channels. This is the reason the Bwaise channel has taken years to reach completion, resulting in the withholding of land titles in wetland areas. At the local government level, district ordinances and bylaws put wetland conservation into action. These rules are meant to control how property is used and limit farming or building in wetlands. The Local Government framework is used to create these rules, and offices like the District Natural Resources Officer and the Chief Administrative Officer are in charge of putting them into effect. In theory, these kinds of decentralized governance systems are meant to make people more likely to follow the rules and get involved in protecting wetlands. However, the results of this study show that these laws are not always enforced and are often weakened by political intervention and corruption. Respondents recounted instances where local officials selectively enforced restrictions or disregarded transgressions by politically connected persons, thereby undermining the intended protective function of district legislation. The authorities refer to these stringent regulations as ordinances, which are subsequently evolved into legislative bills. Nonetheless, at the district level, regulations known as ordinances are consistently enacted to prohibit cultivation in wetlands. In districts with a Chief Administrative Officer, a Natural Resources Officer assists in the formation of Environmental Focal Groups, which play a crucial role in rehabilitating encroached areas by providing residents with appropriate plant species for replanting around these zones. Nevertheless, the functions assumed are also permeated with corruption. One Lenient reported that.

"In Uganda, corruption and enforcement of wetland regulations are prevalent, often leading to individuals depleting the wetland and bribing authorities. This corruption often results in no follow-up or reclaiming measures to curb the wetland's return to normalcy (IDI-F-Lenient)". Additionally, another respondent identified corruption as the primary cause of wetland destruction, attributing this issue to a failure on the part of politicians, stating,

"…I still have the Mpigi side experience in Butambala, Lwera. For example, a member of parliament approaches you with money and says, "Man, you approve my project here and then." Since it's a large sum of money, you ultimately approve it…(KII-F-Patience)". Jennifer, who was also a study participant, highlighted the

inadequacy of the president's uncommitted measures to safeguard wetlands. She alluded that

"I've heard the president make multiple wetland protection announcements, but we debated whether his Covid control can back them. Every soldier followed his orders to the streets. If people don't drive or wear masks, the nation stops. Most wetlands would regrow in two years if his recent wetland preservation announcements were followed. I think we'd get them back if all politicians understood wetlands restoration. Some politicians remark, "For you if you have vacated this wetland, I will give you legal support," encouraging people to stay, making it impossible for technical personnel to restore wetlands.(IDI-F-Jennifer)." Furthermore, the study revealed that politicians significantly contribute to the degradation of wetlands, as indicated by respondents who expressed that these officials prioritise financial gain over environmental concerns. They tend to mislead the public and delegate the responsibility of enforcing protective policies to the Ministry of Water and Environment. Their reluctance to confront their constituents, many of whom are encroaching on wetlands, stems from a desire to broaden their voter base and, consequently, their financial resources. Essentially, their actions—or lack thereof—reflect a troubling trend, exacerbated by the pervasive issue of corruption within the political sphere. In light of the corruption and selective political enforcement that have contributed to the degradation of wetlands in Uganda, it has been reported that one Mumbere stated,

"Political corruption, especially economic corruption, exists. We're going to the Lwera marsh, where illegal sand mining is happening. The issue is political. Massive rice cultivation is underway…. Parliament and others can address these issues, but they remain silent. Thus, corruption prevails, as shown by the development of large constructions in swamps without official interference. ... I saw Luzira building destruction coverage yesterday. Substandard buildings were demolished while well-built homes were left. It is clear that the poor are displaced from the marshes while the wealthy continue to invade (IDI-M-Mumbere)". A further female respondent contributed to the discourse by highlighting the responsibility of politicians in facilitating the degradation of wetlands. She said that *"Personally, I think politicians have done more harm than good. They get votes from people who live in the wetland and encroach on it; they favour the community over the wetlands because they can't talk, so they respond to cries like "we don't have phones, we don't have a way out, the government should compensate us..." They sometimes act like they're conserving wetlands when they're benefiting because if they cared, they wouldn't degrade them (IDI-F-Linient)".* Another respondent, Aphra, noted that politicians supported wetlands removal because they feared losing their electorate. He said,

"I have seen politicians urging voters to use wetlands out of fear of losing votes.On that side of Kabale, politicians help residents grow crops in marshes.

Some politicians have invaded wetlands. You. Find that politicians too. Wetlands are their investments.On the voter side, they encourage, "Let this one not disturb you, these are your things, this is your land." For your use, the government sells it." Some politicians are misrepresenting locals by not providing sustainable information on obtaining business permissions (KII-M-Aphra)". Furthermore, an agriculturalist involved in the study indicated that politicians have vested interests in these wetlands, which explains their support for encroachers. I quote,

"…In Kigezi, wetlands provide a high rate of production and contribute to the livelihood of rural residents. Growing potatoes in wetlands is cheaper than in uplands. People with money are hiring ten- or thirty-acre plots to produce potatoes, and they can easily influence a politician. So, a wetland is struggling because a politician will say, "Now you are chasing them to go where?" However, these are my people; this is their only land and their livelihood. The land someone was born on and raised his family on now offers a significant alternative. They encourage incursion, and politicians do too (KII-Agriculturalist-Enock)". The research also indicates that selective policing by the government, influenced by politicians, tends to target the wealthy less, ultimately undermining efforts to protect wetlands. Denis presented a detailed account of a notable case. He stated,

"*The government's bias in razing impoverished people's houses in swamps may have encouraged foreign investors to invade wetlands. This encroachment is often attributed to politicians, leaders, or technical staff who grant wetlands without environmental impact evaluations, despite the belief that free settlement sites are beneficial (KII-M-Denis)".*

The findings also revealed a lack of support from government and politicians for these activities. Nonetheless, the economic hardships faced by these communities have compelled them to intrude upon the wetlands and water bodies. Moreover, the participants indicated that politicians do not support encroachers on wetlands, as certain businesses are directly owned by the politicians themselves. It was observed that despite the lack of direct involvement from politicians, efforts have been made to establish authorities responsible for addressing encroachment issues. One such authority is the National Environmental Management Authority (NEMA), which appears to focus primarily on urban centres, potentially neglecting the protection of all aquatic spaces in Uganda. A female respondent qualified the allegation by saying,

"Okay, some awareness efforts have been done, but just a few individuals know about it, and those are urbanites since they have access to communication. However, rural residents are left out, so you can find someone mismanaging the wetlands who has to be informed that it is horrible (IDI-F-Mubbala)".

The findings further indicate that these politicians play a crucial role in the preservation of water bodies and wetlands by regulating fish species in aquatic environments and marshy areas to prevent overfishing. One Brian reported that,

" I believe it's a good thing because fishermen have been acting badly by overfishing, so at least these folks have tried to control the lake's fishing population so that output is stable (KII-M-Brian)". The inability of politicians to safeguard wetlands is compounded by several factors: the presence of rice companies reliant on these ecosystems, which are being compromised through bribery from factory owners, allowing unrestricted industrial activities in these vital areas; the shortcomings of technocrats in executing the policies established by politicians; a burgeoning population; ineffective legislation that undermines political efforts; the influence of affluent individuals who remain beyond reproach; and a pervasive lack of awareness among the populace. Concerning the untouchables, a male interviewee provided a detailed recollection.

"*...it is widely recognised that individuals have migrated to the wetland; recently, we learnt that Ham, one of Uganda's wealthiest individuals, has constructed a property in the wetland." The individuals in question have faced prosecution; however, I contend that the legal framework is flawed. Nonetheless, it is evident that corruption often accompanies violations of the law (IDI-M-Mumbere)".*

Therefore, given this finding, it's imperative to understand that politicians have not done so much in preserving and protecting wetlands in Uganda.

4.1.11 Policies Responsible for Protecting The Environment.

The National Environment Management Authority (NEMA) and the Ministry of Water and Environment, especially through its Wetlands Management Department, are the main organizations in charge of protecting wetlands in Uganda. NEMA is in charge of coordinating environmental management, giving out licenses, making sure people follow the rules, and enforcing environmental laws. The Ministry, on the other hand, gives technical advice, helps with planning, and helps with wetland restoration. This study's results show that enforcement is still unequal, with a stronger focus on cities and high-profile cases. Many wetlands, especially those in peri-urban and rural areas, are still not well protected. Respondents also said that political influence sometimes limits these institutions' ability to act on their own against those who are encroaching on their land and have economic or political power. The proposed policies for safeguarding aquatic spaces and the environment include reducing overfishing, supporting NEMA's guidelines, adopting comprehensive education campaigns, reducing political influence, strong enforcement of penalties, streamlining responsibilities, strengthening impact assessments, shifting protection zones to local communities, ejecting farmers, and reducing corruption among politicians. Thus, a respondent asserted that,

"I propose that we implement punitive sanctions for Members of Parliament who degrade wetlands." If you are apprehended for the destruction or sale of a wetland,

we may initiate legal proceedings against you. If convicted, you may face imprisonment for a maximum of five to 10 years (KII-Agriculturalist-Enock)". A female respondent also advised that the authority in charge must do something. She said,

"NEMA should come and sensitise the people living in the wetlands; they should tell them the importance of wetlands and a better way to live in a better environment instead of destroying them" (IDI-F-Claire). Furthermore, the respondents suggested that local leaders should engage politicians to protect the environment, have environmental personnel on committees, encourage fishermen to use appropriate net sizes, construct septic tanks, raise awareness about wetland ecosystems, and teach people about co-existence with aquatic species using a participatory approach. A respondent is quoted to have informed that

"The initial action I would undertake is to plan a protest against swamp degradation; for example, one may engage with the local council and propose a collective effort to prevent this issue. If the community participates, it may deter the Members of Parliament from compromising the wetlands (KII-M-Raymond)". A one Sarah suggested *that*

"Wetland permits are issued by NEMA in Kampala, and decentralization of authority and administration would be beneficial. District officers can forbid wetland work, and obtaining permits is necessary. Decentralized authority would allow for clearer guidelines on usage, permissions, and vetting. This would make wetlands more useful to local communities, rather than being licensed for big companies (KII-F-Sarah)". The other respondent recommended sustainable and wise use of wetlands, such as fish farming, which helps retain water. She said,

"The government should discourage farming practices that drain water away and suggest alternative uses like irrigation for off-season activities. Additionally, there should be emphasis on enhancing upland fertility through the use of manure, fertilizers, and agro-chemicals to improve yields (IDI-F-Jennifer)".

Finally, agro-economic policies proposed for the preservation of wetlands include establishing a foundational administrative level that scrutinises any wetland usage not aligned with community welfare, enhancing poverty alleviation initiatives within communities, and permitting applications for wetland user permits.

4.2 Summary of findings.

This section provides a summary of the key findings of the study. The findings indicate that respondents largely agreed that the degradation of wetlands is primarily a political issue rather than a purely environmental or technical problem. Political actors were frequently identified as central contributors to wetland degradation through actions and inactions linked to corruption, electoral considerations, and power imbalances. Respondents highlighted practices such as

tolerating wetland encroachment to avoid alienating voters, selective enforcement of environmental regulations, and impunity among politically connected individuals constructing in wetland areas. These dynamics were described as constraining the ability of environmental managers to enforce protection measures effectively. The study's second objective was thus addressed, confirming that politicians did not succeed in safeguarding wetlands from human degradation. The initial objective received minimal support from the findings, since key informant respondents provided scant information regarding the actions taken by politicians to safeguard the environment from degradation. The findings indicate that respondents recommend Uganda to mobilise non-budgetary funding sources to enhance investment in preserving the integrity of its natural capital, which includes environmentally provided assets such as soil, sub-soil minerals, forests, water, wetlands, and other natural resources essential for economic activity and livelihoods, as opined by Moyini et al. (2002).Thus, a sustainable environmental management and protection paradigm shift according to the results will make Uganda's protection of plant and animal ecological species inevitable. Protection will have more political support during the proposed intervention than the reverse.

5. Chapter 5: Discussion and Recommendations

5.1 Discussion

This chapter discusses the findings of the study in relation to the theoretical lens of Value theory, agroecological principles, and existing research on wetland conservation and governance. The study demonstrates that wetland degradation in Uganda is not simply a product of population growth or subsistence farming but is deeply rooted in political inaction, corruption, and competing economic interests. By interpreting the findings through the concept of value, it becomes evident that wetlands are often regarded by political actors primarily for their exchange value land for settlement, agriculture, or industry while their use value, such as biodiversity conservation, ecosystem regulation, and food system sustainability, is neglected. The evidence from this study highlights how short-term economic and political gains override long-term ecological benefits. Activities such as sand mining, brick-making, and wetland farming provide immediate profits and opportunities for political patronage but compromise the ecological functions of wetlands, including flood control, water purification, and habitat provision. This aligns with Lanka, Khadaroo, and Böhm (2017), who emphasise that political and economic systems frequently commodify ecological spaces while disregarding their intrinsic and long-term value. In the Ugandan context, politicians were found to prioritise the exchange value of wetlands for private investors over their use value for local communities, ecosystems, and food system resilience. The findings are consistent with Aggrey et al. (2010) and Gideon and Bernard (2018), who document that wetland degradation in Uganda is exacerbated by weak enforcement and political interference. This study adds nuance by showing that even when policies and regulatory mechanisms exist, such as district ordinances and NEMA regulations, political actors may fail to implement them or deliberately undermine enforcement to secure votes or financial rewards. This reflects a broader governance challenge in which environmental institutions are subordinated to political expediency.

From the perspective of agroecology, the findings reveal important implications for sustainable food production in wetland landscapes. Agroecology emphasises the integration of ecological processes with food production, social equity, and governance. Respondents in this study highlighted that wetlands support staple crop cultivation, fisheries, and water availability, particularly for urban and peri-urban populations. However, the findings also show that when wetland use is driven by unregulated exploitation, these food systems become ecologically fragile. This demonstrates a key agroecological principle: food production systems cannot be

sustainable if they undermine the ecosystems on which they depend. Sustainable food production in the studied wetlands, from an agroecological perspective, would therefore require practices that maintain ecological functions while supporting livelihoods. This could include regulated and seasonal wetland use, protection of core wetland zones, promotion of low-impact cropping systems, and integration of fisheries with conservation measures. Respondents' experiences suggest that when wetlands are allowed to regenerate and water quality is maintained, both biodiversity and food productivity improve over time. Such practices align with agroecological principles of diversity, resilience, and the co-production of food and ecosystem services. The study also highlights the importance of governance in enabling agroecological transitions. Agroecology recognises that power relations and political decision-making shape land-use outcomes. The tolerance of wetland encroachment for electoral gain, as reported by respondents, directly undermines the possibility of sustainable agroecological management. Conversely, the study's recommendations—such as decentralised enforcement, community participation, and alternative livelihoods—reflect agroecological approaches that emphasise local knowledge, collective responsibility, and long-term stewardship of natural resources. The contradictions in public perceptions identified in this study further reinforce the relevance of agroecology. While some respondents viewed wetland farming as necessary for immediate food availability, others observed that long-term impacts included declining fish stocks, deteriorating water quality, and increased production risks. This tension mirrors findings by Akwetaireho and Getzner (2010) and illustrates the agroecological challenge of balancing short-term subsistence needs with long-term ecological sustainability. In relation to international research, the Ugandan case reflects broader patterns identified by Kingsford, Basset, and Jackson (2016), who argue that wetlands remain politically marginalised despite their ecological importance. Finlayson et al. (2019) similarly call for global recognition of wetlands as critical systems for both human wellbeing and environmental stability. This study contributes to these discussions by demonstrating how political failures in Uganda undermine not only wetland conservation but also the foundations of sustainable food systems. By integrating Value theory with agroecological principles, the findings underscore that wetland conservation is simultaneously a political, ecological, and food system challenge.

5.2 Relevance of the Study to Agroecology

This research is closely associated with agroecology as both a scientific field and a socio-political framework for sustainable food systems. Agroecology focuses on the links between natural processes, food production, social justice, and governance. This research shows that wetland degradation in Uganda can't be fixed just by using technology or ecological methods. It needs to be looked at in the

context of larger political and value-based decision-making processes. The study uses Value theory to look at wetland governance. This supports the main idea of agroecology, which is that ecosystems should be valued not just for their economic potential but also for their role in supporting food systems, biodiversity, and community livelihoods. This study found that wetlands are important agroecological areas that help with food production, biodiversity, and ecosystem management. People who answered said that wetlands are places where people can get water, fish, and staple crops, especially in cities and towns. The results also suggest that wetlands lose their biological services when they are overused for things like sand mining, brick-making, and unregulated farming. This deterioration leads to flooding, diminished water quality, and decreased stability in the food chain, exemplifying a fundamental agroecological principle: food security is unsustainable when the ecosystems that support agriculture are compromised. The research enhances agroecology by emphasizing the political aspects of food system sustainability. Agroecology acknowledges that power dynamics, governance frameworks, and policy agendas influence the management of land and natural resources. This research revealed that political actors prioritize immediate economic and electoral interests over long-term ecological sustainability, hence enabling the continued encroachment of wetlands despite existing rules. This study bolsters agroecological assertions that transformative change necessitates not merely ecological knowledge, but also accountable governance and ethical stewardship of natural resources. This study also showed that community knowledge and lived experience, which are important parts of agroecological practice, were present. Respondents exhibited awareness of ecological alterations in wetlands and their ramifications for food supply and livelihoods. Even so, local points of view were often left out of political decision-making. Agroecology promotes participatory governance that recognizes local knowledge in conjunction with scientific understanding, a tenet underscored by this study's recording of the repercussions of excluding communities from wetland management decisions. Lastly, the suggestions that come from this research are very similar to agroecological paths to sustainability. The focus on community involvement, decentralized enforcement, alternative livelihoods, and value-based governance is in line with agroecology's goals of resilience, social justice, and long-term ecological balance. This study broadens agroecology from farm-level activities to include environmental governance and policy reform by framing wetland protection as both an ecological and political duty. This highlights the importance of agroecology as a paradigm for tackling intricate environmental issues in environments of rapid urbanization.

5.3 Conclusion and Recommendations

The study concludes that the lack of effective wetland protection in Uganda is primarily a political problem, driven by corruption, short-term electoral considerations, and weak enforcement of regulations. While wetlands provide essential ecosystem services including flood control, biodiversity conservation, and food system support—their destruction continues largely unchecked due to political negligence. Recommendations emerging from this study include: 1. Strengthening political accountability: Politicians should be held accountable for permitting or engaging in wetland degradation. Strict penalties must apply to both political actors and private investors who violate conservation policies. 2. Decentralising enforcement: NEMA's authority should be devolved to district levels, with empowered local institutions to enforce wetland protection. 3. Community participation: Conservation strategies should actively involve local residents, who are both beneficiaries and custodians of wetlands. Awareness campaigns and participatory decision-making processes can build ownership. 4. Alternative livelihoods: Providing sustainable livelihood options such as fish farming and upland agriculture can reduce pressure on wetlands. 5. Integrating value-based governance: Policymakers must recognise wetlands not only for their exchange value but also their use value in sustaining ecosystems and human wellbeing. Embedding this perspective into policy frameworks would enhance ecological resilience and food security. 6. Mobilising non-budgetary funding: Uganda should explore innovative financing mechanisms, as recommended by Moyini et al. (2002), to support wetland restoration and conservation. In conclusion, protecting Uganda's wetlands requires a paradigm shift from seeing them as expendable land for economic gain to valuing them as indispensable ecological assets. By linking governance reforms with community action and ecological science, it is possible to restore wetlands and secure their role in ensuring environmental sustainability and resilient food systems.

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7. Popular science summary

Wetlands are among the most important ecosystems for human wellbeing and environmental stability. In Uganda, wetlands help regulate flooding, purify water, support biodiversity, and contribute to food production through fishing, small-scale farming, and water supply for households and urban agriculture. Many communities, particularly those living in and around Kampala, depend on wetlands for their daily livelihoods. Despite this importance, wetlands in Uganda continue to be rapidly degraded and converted for other uses.

This study examines why wetlands are not adequately protected in Uganda, using the Lubigi wetland in Kampala as a case study. Rather than focusing only on environmental or technical causes, the study explores the political and governance dimensions of wetland degradation. It investigates how decisions made by politicians and public authorities influence the way wetlands are managed, protected, or allowed to be destroyed.
The study is based on qualitative interviews with policymakers, environmental officers, community members, and individuals whose livelihoods are directly linked to wetland areas. The findings show that wetland degradation is not accidental or unavoidable. Instead, it is strongly linked to political inaction, weak enforcement of environmental laws, corruption, and competing land-use interests. Activities such as settlement expansion, sand mining, brick making, waste disposal, wetland farming, and infrastructure development were identified as major drivers of wetland destruction in the study area.

A key finding of the study is that wetlands are often treated primarily as land for economic exploitation rather than as vital ecosystems. Political actors frequently prioritise short-term economic gains and electoral considerations over long-term environmental protection. As a result, regulations intended to protect wetlands are inconsistently enforced, especially when encroachers are politically influential or economically powerful. This has led to increased flooding, declining water quality, loss of aquatic species, and growing risks to food system sustainability. The study also highlights the close relationship between wetland health and food security. While some wetland use contributes to short-term food availability, unregulated exploitation ultimately undermines the ecological functions that make food production possible in the long term. From an agroecological perspective, sustainable food systems depend on healthy ecosystems, biodiversity, and responsible governance. When wetlands are degraded, the resilience of food systems and community livelihoods is weakened.

The findings of this study can be used to inform policymakers, environmental authorities, and development actors working on wetland conservation and urban planning. The study suggests that effective wetland protection requires stronger political accountability, decentralised enforcement, and meaningful community participation. It also emphasises the importance of recognising wetlands not only for their economic value, but for their ecological and social contributions to food

systems, climate resilience, and human wellbeing. By making the political drivers of wetland degradation visible, this study contributes to broader discussions on environmental governance and agroecology in rapidly urbanising contexts. It demonstrates that protecting wetlands is not only an environmental responsibility, but also a political and societal choice with direct consequences for sustainable development and food security.

8. Appendix

8.1.1 Appendix A: Interview Guide

Main Research Question:
Environmental Destruction and Politicking in Uganda: A Case Study of the Lake Victoria Basin (Water and Forest Covers)

Theme 1: Human Activities and Destruction of Aquatic Life

1. Can you identify the types of human activities that take place in water bodies in Uganda?

2. Do you think these activities affect the environment?

3. If yes, what effects do these activities have on environmental health?

4. If not, can you explain why you think they do not affect the environment?

5. Are you aware of any species that depend on water bodies for survival? *(Probe for types of species.)*

6. Do these human activities affect the species that inhabit water bodies?

7. Who do you think are the main actors involved in these activities?

8. Why do you think these actors are able to engage in such activities?

Theme 2: Migration, Settlement, and Environmental Sustainability

9. Do you think migration and settlement affect the sustainability of water bodies?

10. If yes, in what ways do you think this happens?

11. If not, why do you think migration does not affect water bodies?

12. How does the settlement of people in wetlands affect aquatic animals and ecosystems?

13. Do you think human activities along the shores of water bodies contribute to environmental destruction?

14. If yes, why do you think this is the case?

15. If not, can you explain your reasoning?

Theme 3: Political Commitment and Food Production Security

16. Do you think authorities permit activities in water bodies or along their shores?

17. If yes, what do you think are the reasons behind permitting such activities?

18. If not, what reasons do you think explain the lack of permission?

19. Have you ever witnessed politicians preventing people from encroaching on wetlands, lakes, rivers, or swamps?

20. If yes, what was your impression of these actions?

21. If no, who do you think is responsible for preventing such encroachment?

22. What actions have politicians taken to protect aquatic spaces from destruction?

23. What actions have politicians failed to take to protect species that depend on aquatic environments?

Theme 4: Remedies and Future Protection of Aquatic Spaces

24. What measures could encourage politicians to take a stronger role in protecting aquatic spaces?

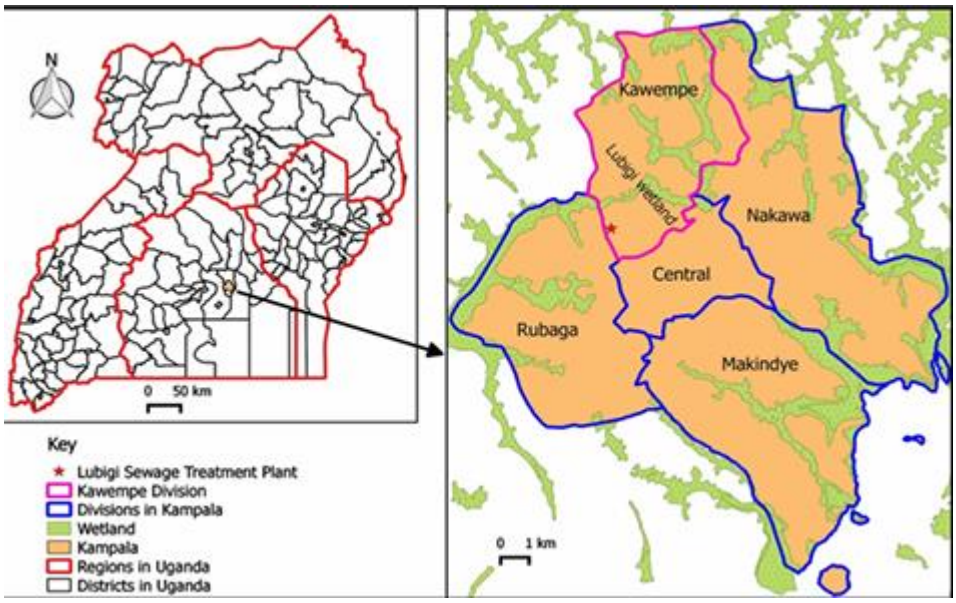
25. How can local communities contribute to protecting wetlands, rivers, and lakeshores from destruction?

26. Can you suggest any policies or strategies that could help protect aquatic habitats and species?

Thank you for your time and participation.

8.2 Annex A:

Annex A 1 Map of Lubigi



Current State of Lubigi Wet land

☒ YES, I Sempagala Alex, have read and agree to the agreement for publication and the personal data processing that takes place in connection with this

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☐ NO, I/we do not give my/our permission to publish the full text of this work. However, the work will be uploaded for archiving and the metadata and summary will be visible and searchable.