

**ENVIRONMENTAL STEWARDSHIP BY THE CHURCH OF UGANDA IN
THE ALBERTINE REGION: A CASE OF BUNYORO
KITARA DIOCESE**

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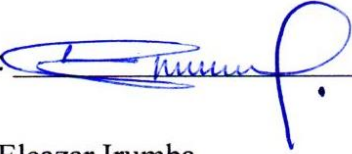
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**A DISSERTATION SUBMITTED TO BISHOP TUCKER SCHOOL OF
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Declaration

I Rev. Eleazar Irumba (RJ21P35/001) declare that the study titled: “Environmental Stewardship by the Church of Uganda in the Albertine Region: A Case of Bunyoro Kitara Diocese,” is my original research and has never been submitted to any other Institution of Higher Education for award of Doctor of Philosophy.

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Dedication

I dedicated this study to Bunyoro Kitara Diocese that made me feel at home, nurtured me, and sprouted this seed

Acknowledgement

First and foremost, I would like to thank God. He has given me strength and encouragement throughout all the challenging moments of completing this study. I am truly grateful for His unconditional and endless love, mercy, and grace.

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ABSTRACT

The topic of study was environmental stewardship by the church of Uganda in the Albertine region: a case of Bunyoro Kitara diocese. There is an increasing focus on environmental management in the Albertine region, especially in the call to have the church collaborate with the government in addressing environmental degradation. Church traditions have ethical responsibilities for managing the environment and all creation. The Bible asserts that the Church is scripturally duty-bound to fulfill its mandate to value and treat creation with respect. Air, water, and soils pollution in the Albertine region are because of industrialization and urbanization which release toxic gases to the environment, and this generally is dangerous to human health and the environment. NEMA (2024) indicates that increased deforestation, industrialization due to oil drilling, wetland destruction, poor soil conservation, dumping of industrial waste at the shores of lake albert, has led to the increased pollution of the Albertine areas and the destruction of natural habitat of wildlife hence poses a serious threat to the environment. The purpose of this study is to explore the Theological and Ethical practices for effective environmental stewardship in the Albertine region. The study was guided by the following specific objectives; to investigate the current factors responsible for Environmental Degradation in the Albertine Region, To examine the role played by Church of Uganda in Environmental Stewardship in the Albertine Region, to establish the relationship of Religious Teachings and Ethical Practices in Environmental Stewardship in the Albertine Region and to explore the theological practices that the church can use to enhance environmental stewardship in the Albertine Region. Methodologically, Hermeneutical and phenome logical approaches were used to collect qualitative and quantitative data using interviews, focus group discussions, observations and a mixed survey. The research participants were mainly church leaders, community leaders, civil servants and the Christians in Bunyoro Kitara Diocese. During the survey, 200 participants were randomly sampled, and 170 participants responded to the survey. The study applied random sampling strategy and purposive. Majority of the respondents asserted that urbanization, population growth, and economic expansion were the major factors for environmental degradation. The study revealed that the church organizes environmental sensitization programs, provides leadership to the people by taking responsibility for the environment and church teachings are centered on environmental conservation and management. This study provides knowledge to the researchers, government and other international development organizations on the critical role in safeguarding the environment from degradation and other negative environmental consequences. The principal contribution of this study is the development of a **contextual Anglican theological framework for environmental stewardship** that integrates **ecclesial participation, ecological diakonia, biblical stewardship, and environmental ethics** with empirical evidence from the Albertine Region. The Church of Uganda is encouraged to use the religious teachings to develop policies and programs that promote sustainable population growth and environmental management, invest in comprehensive theological training on environmental stewardship for its clergy and lay leaders, prioritize the integration of ecological diakonia in its spiritual teachings, Interdenominational collaboration in environmental stewardship should be strengthened to harness the collective power of the Christian community in the region. This study highlights the pressing need for a balanced and integrated approach to urbanization, population growth, economic expansion and environmental stewardship, particularly in the Albertine Region.

CHAPTER ONE

INTRODUCTION

1.0 Background of study

This study analyzes the theological and ethical practices that can be used by the Church of Uganda to promote environmental stewardship in the Albertine region. The study mainly investigated the factors responsible for the degradation of the environment, and how the church can use the religious resources to promote ethical and theological practices of environmental stewardship in Bunyoro Kitara Diocese. The topic of environmental stewardship cannot be ignored because it is one of the conservation strategies that can influence the sustainability of the ecological system.¹ Practicing stewardship of the environment is recounted by scholars as a way of creating citizens who are responsible for their environment.² When the church champions the empowering of the citizens in managing the environment, the chances of having the population ready to steward the environment are high. Having the general population involved in the management and stewardship of the environment also promotes more sustainable environments.³ Given that the term stewardship is used widely, this study used it in the context of managing and protecting the environment.

Environmental stewardship has emerged as a dynamic intersection of ecological sustainability and practical conservation, increasingly institutionalized through both grassroots initiatives and formal management strategies. Far from being a mere technical approach, stewardship reflects a shift in ecological consciousness, wherein ordinary citizens are not only participants but experiential agents in the care and rehabilitation of creation. From a phenomenological standpoint, such engagement represents a lived response to environmental degradational response that arises from embodied awareness, relational proximity to nature, and moral responsibility shaped by context and memory.

¹ Worrell, Richard, and Michael C. Appleby. "Stewardship of natural resources: definition, ethical and practical aspects." *Journal of agricultural and environmental ethics* 12 (2000): 263-277.

² Buell, Lawrence. *The future of environmental criticism: Environmental crisis and literary imagination*. John Wiley & Sons, 2009.

³ Arakawa, Sachi, Sonya Sachdeva, and Vivek Shandas. "Handbook of engaged sustainability." In: *Dhiman S.; Marques J., eds. Handbook of engaged sustainability*. New York, NY: Springer International, 2018, 1-23.

Here, Lynn White Jr.'s seminal critique becomes salient. In his 1967 essay, White contended that the Christian tradition especially in its Western, post-Enlightenment form fueled ecological crises by endorsing a domination ethic over nature. He traced this attitude to theological misreadings of Genesis 1:28, which elevated human dominion at the expense of creation's intrinsic value. Thus, White challenged Christian theology to either reform or risk continued complicity in environmental exploitation. In response to White, emerging eco theological movements have sought to reclaim stewardship as a theologically rooted ethic of relationality, humility, and responsibility.

Within the above reframed perspective, stewardship is no longer anthropocentric management, but a sacred vocation grounded in the belief that the Earth is God's creation, entrusted to humanity for care rather than control (cf. Psalm 24:1; Romans 8:19–22). In this study, I recognize that stewardship is an environmental management strategy that can construct resilience among community members, to enhance their civic responsibilities towards ecological sustainability.⁴ This points to the relevance of the church participating in creating programs that can promote environment stewardship. Having programs that involve learning about managing the environment can shape the behaviors and actions of the people towards the environment.⁵

The introduction chapter explains the background to the study, the problem statement, research objectives, and research questions. It also describes study scope, significance, justification, and theoretical framework. It further presents a review of related literature to situate this study in the discipline of theology and environmental management. Literature review also provides theoretical concepts for understanding the research variables and analyzing the research findings. The chapter also consists of the research design and methodology of the study, which include the details of participants, research tools and analysis procedures. And finally provides the ethical consideration, limitations of the study, the definitions for the key research terms, and a brief description of the study chapters.

⁴ Arakawa, Sachi, Sonya Sachdeva, and Vivek Shandas. "Handbook of engaged sustainability." *In: Dhiman S.; Marques J., eds. Handbook of engaged sustainability. New York, NY: Springer International, 2018, 1-23.*

⁵ Arakawa, Sachi, Sonya Sachdeva, and Vivek Shandas. "Handbook of engaged sustainability." *In: Dhiman S.; Marques J., eds. Handbook of engaged sustainability. New York, NY: Springer International, 2018, 9-12.*

The Church has the mandate to respond to this fundamental concern of environmental stewardship. From practical theological perspectives, there should be harmony between environmental stewardship, and the fulfilment of the needs of all creatures, to avoid conflict with nature.⁶ Studies indicate that despite the significant role that the Church of Uganda plays in environmental stewardship, there is scanty information regarding its current involvement.⁷ In Uganda, there has been little attention paid to the importance of consulting or involving stakeholders, such as the church in the management of land and exploration of oil and gas activities at different levels. It is further indicated by studies that environmental conditions have been seriously compromised in the current age through human greed, materialism, self-indulgence, competitiveness, and short-sightedness.⁸ This explains my motivation to investigate how Church of Uganda in the Albertine region is implementing her role in educating the followers about their environmental stewardship mandate. As scholars have recounted, this study will explore the ethical and theological practices that the Church can employ to raise environmental awareness and teach environmentally responsible actions among its followers.⁹

Globally, there is an increasing focus on environmental management, especially in the call to have the church collaborate with the governments in addressing environmental concerns. Throughout history, religious traditions have ethical duties for managing the environment and all creation.¹⁰ The actions of greed have led to destruction of the environment, and this is not welcomed by most world religions. These have been reflected in their historical and theological teachings even if they are not put into practice.¹¹ The Bible contains passages that reveal the theological foundation for the participation of the Church in environmental

⁶ Gitonga, Sarah Kagendo, Dickson Nkonge Kageema, and Jonathan Kathenge. "Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya." *Journal of Pastoral and Practical Theology (JPPT)* 3, no. 1 (2024): 34-43.

⁷ Adejuwon, Ezekiel Adekunle, and Olukemi Esther Adejuwon. "Environmental Sustainability and Church Ethical Responsibility." (2023).

⁸ Hardy, Andrew R. "Developing Pentecostal church planting pedagogy that responds to social need and ecological crisis." *Journal of Pentecostal and Charismatic Christianity* 43, no. 2 (2023): 170-189.

⁹ Yangzi, Zhang, Kenny Cheah Soon Lee, and Mohd Shahril Nizam Bin Shahrarom. "Likes, Shares, and Sweat: Exploring the Effectiveness of Social Media Influencing in Online Fitness Coaching During the COVID-19 Pandemic in Henan Province, China." *Remittances Review* 8, no. 4 (2023).

¹⁰ Hardy, Andrew R. "Developing Pentecostal church planting pedagogy that responds to social need and ecological crisis." *Journal of Pentecostal and Charismatic Christianity*, 2023, 170-189.

¹¹ Rugyendo, M. "Practicing a Christian Environmental Ethic through Stewardship." *Journal of African Interdisciplinary Studies* 6, no. 4 (2022): 37-46.

stewardship. The Bible asserts that the Church is scripturally duty-bound to fulfill its mandate to value and treat creation with respect (Col 1:17; Heb 1:3, 10-12). The Church is given mandate for stewardship according to Genesis. 1:26-28; Psalm 8:5. This explains why researching the role of the church in promoting environmental stewardship was necessary.

The global climate change has created major growing concerns and Scientists have confirmed that it has come about due to human activity. Practicing stewardship of the environment is linked to social and cultural contexts that affect how individuals take responsibility for the environment. In their analysis, Arakawa and others revealed that the history of racism among Americans influenced how African Americans responded to environmental stewardship.¹² Racism alienated the African Americans and could not allow inclusive participation in environmental stewardship.¹³ Taylor recounts the harsh treatment and racial discrimination that the African American in post-slavery were subjected to regarding inclusive enjoyment of the environment and the ecosystem. Scholars have attributed this historical challenge with the poor management of the environment by majority Africans, who regard environmental conservation as a white man business.¹⁴

Moreover, the public was not conscious about participating in environmental enforcement, as it was the work of government agencies. In fact, in many instances, government agencies did not include clear mechanisms for citizen involvement in programs and actions to achieve compliance with and enforce environmental laws. Using the law to enforce environmental laws is regarded and has an effective mechanism to have the citizens take the responsibility of the environment.¹⁵ The 21st Century developments and human activities have adversely affected the environment.¹⁶ Air, water, and soils pollution as a result of industrialization and urbanization releases enormous

¹² Arakawa, Sachi, Sonya Sachdeva, and Vivek Shandas. "Handbook of engaged sustainability." In: *Dhiman S.; Marques J., eds. Handbook of engaged sustainability*. New York, NY: Springer International, 2018, 1-23.

¹³ Taylor, Dorceta E. "Blacks and the environment: Toward an explanation of the concern and action gap between blacks and whites." *Environment and behavior* 21, no. 2 (1989): 175-205.

¹⁴ Anderson, Christopher W. *The Nature of Church Camp: An Environmental History of Outdoor Ministry, 1945–1980*. Lexington Books, 2023.

¹⁵ Davis, Jeremy. "Effective Leader Development Within a Church-Planting Organization for a Changing and Chaotic World." (2023).

¹⁶ John, A. B., S. N. Zubairu, R. E. Olagunju, and O. K. Akande. "Comparative Study of Indoor Environmental Performance of Church Buildings in Northeast Nigeria." *Proceedings of the International Conference of Contemporary Affairs in Architecture and Urbanism-ICCAUA*, 2023.

number of toxic gases to the environment that could become dangerous for humans. It is indicated by several studies that natural resources, specifically oil and gas, are important and growing sources of energy globally. The Caribbean National Resource Institute emphasizes the need for building the capacity of the citizens to be good stewards of their resources.¹⁷

To build the capacity for stewardship, scholars have called for resource mobilization to avail assess for engaging the communities.¹⁸ Previous studies also recount how improved infrastructure, availability finances, knowledge and skills are necessary for building capacity for effective stewardship. Activities such as networking, cultural connection, financial cooperation and human development skills have been associated with good stewardship building.¹⁹ Lack of environmental sustainability is a major global challenge, which is made evident by extreme weather conditions, climate change, ozone depletion, food, and water security issues.

Despite the existence of environmental policies and organizations that advocate and oversee the protection of the environment, the World Health Organization has noted the increase in environmental problems. The challenges of persistent pollution, climate change, ozone depletion, emerging diseases, and the decline and extinction of species have remained a global environmental problem.²⁰ Although economic activities, such as, mining, industrialization, and oil and gas are linked to economic development and social transformation, studies have attributed the increased environmental degradation to such human and organizational activities.²¹ Oil and gas has been blamed for environmental effects of land degradation and pollution, declining wildlife, stunting forests and natural vegetation and the death of aquatic life.²²

¹⁷ Caribbean Natural Resources Institute (CANARI). 2020. Institutional analysis of Enabling Conditions for Ecosystem Stewardship in the Fisheries Sector of Guyana. Barataria, Trinidad: CANARI

¹⁸ Bennett, Nathan J., Tara S. Whitty, Elena Finkbeiner, Jeremy Pittman, Hannah Bassett, Stefan Gelcich, and Edward H. Allison. "Environmental stewardship: A conceptual review and analytical framework." *Environmental management* 61 (2018): 597-614.

¹⁹ Ibid, Bennett, Nathan J., et al "Environmental stewardship: A conceptual review and analytical framework." *Environmental management* 61 (2018): 597-614.

²⁰ Mudu, Pierpaolo, and World Health Organization. "Ambient air pollution and health in Accra, Ghana." (2021).

²¹ Waseq, Wail Mohammad. "The impact of air pollution on human health and environment with mitigation measures to reduce air pollution in Kabul Afghanistan." *Int J Health Sci* 8, no. 1 (2020): 12.

²² Edo, Great Iruoghene, Lilian Oghenenyoreme Itoje-akpokiniowo, Promise Obasohan, Victor Ovie Ikpekoru, Princess Ogheneken Samuel, Agatha Ngukuran Jikah, Laurine Chikodiri Nosu et al. "Impact of environmental pollution from human activities on water, air quality and climate change." *Ecological Frontiers* (2024).

It is thus imperative to protect the environment for it to continually provide the required services and resources to sustain all forms of life. A sustainable world involves the flourishing of life on earth over an indefinite time frame. Such flourishing includes human ideas and environmental well-being built on the principles of generational justice where future generations can benefit from the environment.²³ Organizational practices and other human activities that promote environmental sustainability might thus help in alleviating environmental problems and thereby improving the welfare of people and the environment.²⁴

For several decades, foreign investors have sought to capitalize on the mineral wealth in Africa.²⁵ Their investments in the mining industry in sub-Saharan Africa have not contributed to environmental preservation.²⁶ The result is that mining is a major threat to the environment across the continent.²⁷ Mining processes cause pollution that contributes to health problems and environmental degradation that can affect people and other creatures that depend on the environment.²⁸ Mining activities thus pose significant challenges for most people in Africa.

In Uganda, a developing country in sub-Saharan Africa, mining operations have been in existence since the early twentieth century.²⁹ Early mining activities carried out in Uganda from the 1920s to the 1970s relied heavily on timber and involved significant clearance of trees, which led to deforestation and soil erosion.³⁰ In the 1990s, the Ugandan government privatized state-owned mines and developed new policies that led to more foreign investment in the mining

²³ Penna-Firme, Rodrigo. "Protestant Christianity and the Bible as Wisdom for Earth Environmental Stewardship." *Studia Ecologies Bioethical* 21, no. 4 (2023): 15-25.

²⁴ Lagat, Daniel Kipkemboi. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." (2017).

²⁵ Alphonsa, P. J. "Biblical Mandate for Ecological Stewardship." *Asian Horizons* 18, no. 1 (2024): 8-18.

²⁶ Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum Ecclesia* 45, no. 1 (2024): 3140.

²⁷ BEREBO, Charles B. "Integrating Ethical, Legal, and Cultural Paradigms: Advancing Environmental Stewardship." *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis* 8, no. 1 (2025): 1-15.

²⁸ Talabi, Joseph Moyinoluwa, Olubunmi Oluyemi Akitoye, and Samuel Oludare Okusanya. "Theological Evaluation of Christians' Attitude to Environmental Preservation in Alimosho Local Government Area of Lagos." *environment* 99: 142.

²⁹ Rugyendo, M. "Critical Role and Place of the Church as a Response to Environmental Crisis." *Journal of African Interdisciplinary Studies* 8, no. 10 (2024): 321-331.

³⁰ Discua Cruz, Allan, and M. Isabella Cavalcanti Junqueira. "Family firms: the impact of a Christian perspective on environmental protection and sustainability practices." In *Faith Traditions and Sustainability: New Views and Practices for Environmental Protection*, pp. 39-62. Cham: Springer International Publishing, 2023

industry.³¹ Satellite images indicate a decline in forest cover around 12 mining towns in the Copper belt Province of Uganda due to deforestation.³²

Mining-related environmental and social problems in Uganda are partly due to unsustainable organizational practices and irresponsible behavior by some organizational leaders. The absence of an effective framework for integrating social and economic aspects to minimize environmental and social problems also contributes to these adverse outcomes.³³ In most African countries, poor remedial measures have increased environmental problems. The inadequate support from the Ugandan government prevents the implementation of environmental laws and regulations due to a weak regulatory framework.³⁴ Uganda's weak environmental governance record is reflected in its low ranking on the 2008 International Environmental Sustainability Index.

A study that focuses on how stakeholders influence the implementation of environmental policies and mining operations to foster environmental sustainability in Ugandan could address the gap in the literature regarding stakeholder influence. Research findings may also provide stakeholders with insight into addressing environmental problems for the benefit of the current and future generations.³⁵ Knowledge generation on environmental sustainability is considered by Helen Mbewe as a resource for creating positive social initiatives that organizational leaders and local communities may use to address environmental issues. Over the last decade, management on usage of natural resources in a sustainable manner has become one of the priorities of government, policy makers and environmentalists.³⁶

³¹ Edvardsson Björnberg, Karin, and Mikael Karlsson. "Faithful stewards of god's creation? Swedish evangelical denominations and climate change." *Religions* 13, no. 5 (2022): 465.

³² Gitonga, Sarah Kagendo, Dickson Nkonge Kagama, and Jonathan Kathenge. "Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya." *Journal of Pastoral and Practical Theology (JPPT)* 3, no. 1 (2024): 34-43.

³³ Mwitwa, Jacob, L. German, Ambayeba Muimba-Kankolongo, and Atie Puntodewo. "Governance and sustainability challenges in landscapes shaped by mining: Mining-forestry linkages and impacts in the Copper Belt of Zambia and the DR Congo." *Forest policy and economics* 25 (2012): 19-30.

³⁴ Ottuh, John Arierhi. "Christianity and Environmental Care in Nigeria: The Role of Christians in Addressing Indiscriminate Refuse Disposal." *Pharos Journal of Theology* 103, no. 1 (2022).

³⁵ Ng, Shu Tian, and Kimin Eom. "Religious stewardship and pro-environmental action: The mediating roles of environmental guilt and anger." *Psychology of Religion and Spirituality* 16, no. 3 (2024): 263.

³⁶ Diener, Joel, and André Habisch. "God's Stewards: A Global Overview of Christian-Influenced Mutual Fund Providers." *Journal of Risk and Financial Management* 15, no. 12 (2022): 547.

It was against this background that this study finds it relevant to investigate how the Church of Uganda influences the implementation of environmental policies to foster environmental sustainability in the Albertine region. This will provide policymakers with insight into addressing environmental problems and generate knowledge for positive social change and environmental sustainability that religious institutions, organizational leaders, and local communities may use to address environmental issues. The involvement of the Church in the stewardship of the environment will help to sustain the natural resources, and at the same time bring income into the hands of the locals. The industrial growth in the last century has had huge impacts that are both positive and negative. The major negative impact has been on the environment.

1.1 Research Problem

The Albertine region is experiencing environmental degradation due to human activities on environment which has attracted the government and the church to act on the environmental stewardship in the Albertine region. Some of these human activities include; industrialization, urbanization, deforestation, agriculture, oil mining which has presented severe environmental challenges to the Albertine region by exacerbating environmental crises, as noted by air and water pollution in the area specifically in the lake albert shores where there is a lot of plastic bags in the shores of the lake, fumes in the air as a result of oil related activities, more to that there is wild life extinction since some of the oil drilling points have been constructed in queen Elizabeth national park, other oil drilling industrial areas are in Wanseko which is 5 kilometer to the park such oil drilling machines cause sound pollution scaring wild animals there by chasing them away to un protected areas where by they are easily harmed and climate change related occurrence in the region. These climate-related changes are observed by the increased heat of the area coupled with limited rainfall. Human activities in the Albertine region contribute a lot to the environmental problems that affect the people living in the region. The government of Uganda and the church of Uganda have tried to make significant activities to ensure that environmental degradation is reduced in the Albertine region, some of these key activities include employing maritime and environmental police along lake albert to stop people from dumping polythene along the shores of the lake albert , in the area of industrialization in the oil drilling areas the government has also encouraged proper following of environmental rules to enable the conservation of environment,

this is observed by the fact that oil drilling key players in the Albertine region employ environmental specialists to enhance conservation. Despite the good intentions from the government and church of Uganda in ensuring environmental conservation, the environmental degradation in the Albertine region has completely worsened as currently the level of sound, air and water pollution has increased from the previous levels. Currently the level of wastes being dumped at the shores of lake albert is far beyond the accepted standards. The 2024 report by the National environmental management Authority (NEMA) indicates increased deforestation, wetland destruction, poor soils conservation in the Albertine region areas covered by Bunyoro Kitara Diocese.³⁷ Therefore the ecological and moral crisis brought about by environmental degradation necessitates an environmental stewardship, and this can be performed well by the church of Uganda through Albertine region. The current challenges to the environmental degradation prompt theological and Ethical questions to how the church of Uganda can influence environmental stewardship in the Albertine region.

While policies on the environmental management exists in Uganda, Andrew Omona recount the challenge of implementation of such policies in Uganda.³⁸ Although the national environmental management authority has created awareness of environmental crises,³⁹ little is known how the church can contribute to environmental stewardship in the Albertine region. Theologically, previous scholars have explained how biblical theology a basis for the participation of the church in environmental management can be;⁴⁰ presented the eco theological crisis,⁴¹ highlighting how community-based stewardship and religious teachings can address environmental crises⁴² and reinterpret biblical texts from the ecological justice perspectives.⁴³ However, a theological gap was noted regarding to localizing biblical teachings on the church involvement in environmental stewardship in the ecclesial context of the Albertine region. While eco theological framework has

³⁷ NSOER, 2024. National State of Environment Report of Uganda, 2024. NEMA

³⁸ Omona A. David. The Mainline Churches and Climate Change in Uganda.

³⁹ National Environment Management Authority (NEMA). *Air Quality in Uganda*, 2024.

⁴⁰ Kipkemboi, Lagat Daniel. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." *African Multidisciplinary Journal of Research* 2, no. 1 (2017).

⁴¹ Boff, Leonardo. *Cry of the Earth, Cry of the Poor*. Orbis Books, 1997.

⁴² Rabwoni, Bernard. "Ecological stewardship and environmental crisis in Uganda: insights from religious teachings, root causes of crisis, and pathways to sustainable solutions." 2024.

⁴³ Habel, Norman. *The Earth Bible: Reading Scripture from an Ecological Perspective*. Sheffield Academic Press., 2020

been proposed in the previous research,⁴⁴ the lack of intergration of these theoretical insights with ecclesial practice in the Albertine region has left a theological gap in intergrating eco theology, environmental ethics and ecclesial participation to have a church driven environmental stewardship. Although some scholars have explored the faith-based campaigns for environmental awareness,⁴⁵ there is limited data on how the church of Uganda has operationalized eco theology and environmental stewardship in Bunyoro Kitara Diocese. Therefore, this study was conducted to explore the theological role of the church of Uganda in response to challenges of environmental stewardship in the Albertine region.

1.2 Research Objectives

1.2.1 Purpose of the study

To examine the factors contributing to environmental degradation, assess the role of the Church of Uganda in environmental stewardship, examine the relationship between religious teachings and ethical practices in environmental stewardship, and explore theological practices that can enhance effective environmental stewardship in the Albertine Region.

1.2.2 Specific Objectives

1. To investigate the current factors responsible for Environmental Degradation in the Albertine Region.
2. To examine the role played by Church of Uganda in Environmental Stewardship in the Albertine Region.
3. To establish the relationship between Religious Teachings and Ethical Practices in Environmental Stewardship in the Albertine Region.
4. To explore the Theological Practices that the Church can use to enhance Environmental Stewardship in the Albertine Region.

1.3 Research Questions

This study was guided by the following research questions.

⁴⁴ Conradie, M. Ernest. *Theology in a Time of Environmental Crisis: Ecological Perspectives for Contextual Theology*. Wipf & Stock., 2021.

⁴⁵ Turyomurugyendo, Paul. *Faith and Ecology: Church Engagement in Environmental Conservation in Western Uganda*. Bishop Stuart University Journal of Theology and Development. 2022.

- a) What are the current factors responsible for environmental degradation in the Albertine Region?
- b) What role does Church of Uganda play in Environmental Stewardship in the Albertine Region?
- c) In what ways do church teachings influence the ethical practices regarding environmental stewardship in the Albertine Region?
- d) What theological Practices can the Church of Uganda employ to enhance Environmental Stewardship in Albertine Region?

1.4 Scope of the Study

This study was carried out in the Albertine region, found in the western part of Uganda. This region consists of five districts, that Kibale, Buliisa, Kikuube, Masindi, and Hoima districts. Bordering Congo and South Sudan, the Albertine region forms the largest of the western arm of the East African rift valley. While oil production is still a couple of years away, at peak capacity, the combined areas are expected to produce approximately 200,000 barrels of oil per day. The oil fields, such as Maputa and Waraga, have barrels of oil estimated at 100 to 400 million, the giraffe, containing at least 400million barrels, and the kingfisher in Hoima is approximated at 500 million barrels and oil.⁴⁶

The study analyzed the efficacy of environmental Stewardship in enhancing household development in the Albertine region. Specifically, it investigated the status of environmental stewardship in the Albertine region, assessed how environmental stewardship contributes to household development in the Albertine region, and analyzed the challenges faced by the church of Uganda in the stewardship of the environment, to enhance household development in the Albertine Region. Although the oil discovered in western Uganda comes with opportunities for growth and development of the economy, studies recount that the environmental challenges faced by the communities in the Albertine region need to be addressed.⁴⁷ This study was conducted in the Albertine region to provide data that can be used by the government, policymakers, and civil

⁴⁶ Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." *Extractive Industries and Society* 6, no. 2 (2019): 358-366.

⁴⁷ Kuteesa, Annette, "Local Communities and Oil Discoveries: A study in Uganda's Albertine Graben Region, 2014.

society organizations to effectively enforce environmental policies and programs for enhancing the livelihood of the local citizens.

1.5 Justification of the Study

The study was essential since mining operations are considered to contribute to a wide range of environmental and social problems such as global warming, air pollution, land degradation, contaminated water, and health issues that could be more devastating for the future generations.⁴⁸ Previous studies recommended the commitment by stakeholders to enhance environmental sustainability.⁴⁹ This made it necessary to explore stakeholder influence to gain a robust understanding regarding their influence in the implementation of environmental policies and other issues relating to environmental sustainability.

Raimi Olalekan and other scholars recounted the need for household development that comes with sustainable environmental stewardship.⁵⁰ Conducting this study was important, because the findings would contribute to improving household livelihoods. The participation of the local communities, civil society actors, government agencies, and other stakeholders is crucial in addressing social and environmental issues. The development and adoption of environmental sustainability practices could contribute to environmental protection and hence sustain life for the benefit of the present and future generations.

Activities in Albertine region contribute to environmental problems that affect the people living in the region. There is little compliance with the regulations and international standards as well as the lack of enforcement of the national laws by the environmental agencies in the region⁵¹. The significant information from the study includes the need for the local communities and other stakeholders to be actively involved in confronting environmental problems that concern them.

⁴⁸ Eckelman, Matthew J., and Jodi Sherman. "Environmental impacts of the US health care system and effects on public health." *PloS one* 11, no. 6 (2016): e0157014.

⁴⁹ Turnock, S. T., E. W. Butt, T. B. Richardson, G. W. Mann, C. L. Reddington, P. M. Forster, J. Haywood. "The impact of European legislative and technology measures to reduce air pollutants on air quality, human health and climate." *Environmental Research Letters* 11, no. 2 (2016): 024010.

⁵⁰ Raimi, Morufu Olalekan, Zulkanaini Adio, Odipe Oluwaseun Emmanuel, Timothy Kayode Samson, Bankole Sunday Ajayi, and Temitope Jide Ogunleye. "Impact of sawmill industry on ambient air quality: A case study of Ilorin Metropolis, Kwara State, Nigeria." *Energy and Earth Science* 3, no. 1 (2020).

⁵¹ Requia, Weeberb J., Matthew D. Adams, Altaf Arain, Stefania Papatheodorou, Petros Koutrakis, and Moataz Mahmoud. "Global association of air pollution and cardiorespiratory diseases: a systematic review, meta-analysis, and investigation of modifier variables." *American journal of public health* 108, no. S2 (2018): 123-130.

1.6 Significance of study

This study findings will be useful in the following ways: -

The findings will contribute to environmental strategies that can be used to address environmental problems that affect the people living around those areas. The study findings will provide more information on the regulations and international standards that should be enforced within the national laws by the environmental agencies and the church in the Albertine region. The government and environmental protection agencies can apply the research findings in the development of environmental policies and regulations that might more adequately address environmental issues.

The study was designed to underscore the role of the church of Uganda in environmental management. The findings will provide a robust understanding of how environmental stewardship influences the implementation of environmental policies. This will enhance the promotion of household development in the Albertine region.

The people residing within the vicinity of mine will benefit from the application of research findings to prevent pollution, environmental degradation, and other aspects that cause health and social problems. The research results might also reveal the focal areas to address and make a positive difference in the affected communities.

The findings will also add to the existing body of literature concerning environmental responsibility, leadership and organizational change issues, stakeholder theory, and how organizational leaders may effectively manage the relationships with the different stakeholders to protect the environment. Additionally, organizational change and leadership scholars may utilize the information to develop new models of change or to conduct future research.

1.7 Theoretical Framework

This study investigated the role of the church in environmental stewardship in the Albertine region. The theological and ethical perspectives of Christian stewardship and ecological stewardship were studied to establish how the Bunyoro Kitara Diocese can promote the stewardship of the environment in the Albertine region. It analyzed the conceptual approaches that construct Christian theology of environmental stewardship. In the context of this study and from the ethical

perspective, this research established how the Church of Uganda views environmental stewardship as a dimension that should feature in their religious and theological teachings.⁵²

Theoretically, the study considered the emerging theories that illustrate how Christian stewardship contributes to the mission of the Church to preserve, protect, and maintain natural, social, and environmental resources for the benefit of the communities. This allowed the understanding of the levels of literacy regarding environmental stewardship among the church communities. The Church was a key stakeholder in enforcing the stewardship of the environment, since it is her theological mandate (See Gen. 1:27-28; Matt. 5:16). Scholars have supported the argument that the Church has an important role to play in raising environmental awareness and promoting environmentally responsible actions among its followers. Christians are therefore required to nurture and protect the environment and be knowledgeable about and engage with environmental issues as part of exercising their environmental stewardship duty.⁵³

The study was anchored in two main theoretical models: The Ecclesial Participation Model by Daniel Kiptemboi, a conceptual framework suggested by in his work of environmental stewardship and biblical theology;⁵⁴ and stewardship model that explains the responsibility of humankind in managing the creation of God. Ecclesial participation is a theoretical model that explains the willful involvement of the church in promoting environmental stewardship through theological practices that preserve the environment.⁵⁵ This theoretical model describes the activities that the church should engage to enhance environmental stewardship. The ecclesial participation model of Kiptemboi was chosen based on three aspects.

First, the model provides theological rationale that is relevant for designing practical steps for church involvement in ecological diakonia. Second, the conceptualization of the model guided the integration of environmental management in the mission of the church of Uganda in Albertine

⁵² Kirenga, Bruce J., Qingyu Meng, Frederik Van Gemert, Hellen Aanyu-Tukamuhebwa, Niels Chavannes, Achilles Katamba, Gerald Obai, Thys Van der Molen, Stephan Schwander, and Vahid Mohsenin. "The state of ambient air quality in two Ugandan cities: a pilot cross-sectional spatial assessment." *International journal of environmental research and public health* 12, no. 7 (2015): 8075-8091.

⁵³ Çapraz, Özkan, Bahtiyar Efe, and Ali Deniz. "Study on the association between air pollution and mortality in İstanbul, 2007–2012." *Atmospheric pollution research* 7, no. 1 (2016): 147-154.

⁵⁴ Kipkemboi, Lagat Daniel. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." *African Multidisciplinary Journal of Research* 2, no. 1 (2017).

⁵⁵ Ibid Kipkemboi, Lagat Daniel. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." 2017.

region. And finally, Kipkemboi grounds the model in biblical theology, hence, it facilitates the analysis of the biblical perspectives of environmental stewardship. In this study, the central concepts of ecclesial participation model are participation of the church in activities for preserving the environmental and enforcing of theological practices that promote conservation attitudes among the Christians. Based on this model, the study analyzed the roles of the church in promoting environmental stewardship and established the theological practices that can enhance ecological conservation in Albertine region.

Although Kipkemboi suggests a practical ecclesial participation model that enhance the implementation of biblical stewardship of the environment, the model does not fully develop the operationalization of the link between theological mandate and the structures of the church. The current study integrated ecclesial participation with ecotheology and church mission, to expand the theoretical and theological thinking about the role of the church in environmental management. It was further revealed that existing ecclesial participation model lack contextual grounding, since they largely derived from Western ecotheologies and ethical practices based on global Christianity. In addition, the existing models are normative and require grounding in empirical research. This study grounds ecclesial participation model in theological reflections based on Ugandan context. Integrating ecotheology with environmental realities of Ugandans produced relevant contextual insights on the theological role of the church in environmental stewardship. The study also provides contextual feasibility by expanding conceptual boundaries, to propose theological and ethical practices that promote environmental stewardship.

A stewardship theoretical model in this study is based on ethics of human and ecological justice and principles of management and conservation of creation as entrusted by God. Stewardship explains the biblical responsibilities that humanity has inherited regarding the management of the creation given by God. Humankind is created with the moral obligation to protect the natural environment and preserve it for the welfare and subsistence of future generations. The model entails the religious obligations of every Christian to care for and conserve the environment (Cf. Gen 2:15). Human stewardship consists in the management practices that aim at preserving the creation given by God and enforcing environmental justice.⁵⁶ Stewardship is a biblical call for all

⁵⁶ Kipkemboi, Lagat Daniel. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." *African Multidisciplinary Journal of Research* 2, no. 1 (2017).

humanity, since God created them in His image, so that have dominion over the earth. Based on stewardship model, this study established religious teachings that can promote the ethical practices of environmental management. The model was also the basis for discussing the factors responsible for environmental degradation and explaining the relationship between environmental management and human activities. So, the findings were analyzed to indicate how humanity has a stake in how elements of nature and the environment are used and managed.

The study integrated the two theoretical models to explore the role played by the church in environmental stewardship, particularly the level of engagement of and by the church in environmental management, and the commitment of Christians towards environmental stewardship. In this study, ecclesial participation model explains the relevance of participation of the church in activities that promote environmental stewardship and the significance of the theological teachings on ecology that transform that attitude and behavior of Christians towards environmental management.⁵⁷ At the core of stewardship model are the values, ethical practices, beliefs and commitments of humanity towards nature itself, and the use and management of nature by people. This model emphasizes that human responsibilities towards environmental management are fundamentally rooted in the biblical mandate of creation care and ethical issues related to the environment and resource management.⁵⁸ In order to achieve efficient and sustainable management of the environment, the church has role to play in enforcing environmental stewardship.

This study contributed to the theoretical expansion of the concept of ecological diakonia, which is regarded as a powerful framework within the Church's mission, reflecting its commitment to justice, peace, and the integrity of creation. This means that humans act as helpers and keepers of creation, not as owners. This service defends all living things and fights environmental damage. The study shows that through incorporating ecological theology into its teachings, the Church can promote the interconnectedness of humanity and the natural world, advocating for stewardship as an ethical mandate. The current study contributes to literature and study findings that have

⁵⁷ Ngome, A. "The Theology and Sustainable Development Nexus: Connecting the Dots." *International Journal of Philosophy and Theology* 3, no. 2 (2015): 9-23.

⁵⁸ Ngome, A. "The Theology and Sustainable Development Nexus: Connecting the Dots." *International Journal of Philosophy and Theology* 3, no. 2 (2015): 9-23.

recounted how ecological diakonia can help the Church guide its members toward sustainable living and conservation efforts, particularly in the Albertine Region.

1.8 Literature Review

Numerous studies exist on the topic of environmental stewardship from different disciplines. This *study considers scholarly works that have discussed environmental stewardship from Eco theological, religious and ecclesial perspective*. The purpose of the literature is to present existing debates and scholarship on environmental stewardship and theology, to place this study in broader contexts and provide the locus of the thesis. The review considers studies from global perspective, then it is narrowed to Uganda, and Albertine region. The focus is to present the existing scholarship and discourses on environmental management, policies and Eco theological practices in the Church. In the last decade, scholarship has focused on community participation in environmental stewardship, and gender implications for environmental management.⁵⁹ The theological and missiological role of the church regarding environmental management has also taken a centre stage in current scholarship. Historically, scholars such as Lynn White have argued that environmental stewardship is a divine responsibility of humanity.⁶⁰

The stewardship of the environment entails the practices by humanity that aims at promoting the sustainability and well-functioning of the ecosystem, in the manner that sustains life. Lynn White as one of the early scholars on religion and ecological ethics recounted the significance of the positive relationship between humanity and nature. White asserts that the human response to nature depends fully on what they believe about the ecological system.⁶¹ In his argument, White contested the idea of humanity being superior to nature, and the environment being regarded as a physical fact without sacredness. The notion that nature exists to serve man propagates attitudes and practices that may lead to environmental destruction. According to Whitney, the arguments by White forms mainstream ecotheology, which is a foundation for the Christian theology of

⁵⁹ Sahai, Ragini. "Community participation in environmental management: Role of Women." In *International Conference on Recent Research Development in Environment, Social Sciences and Humanities*, (2015): 173-180.

⁶⁰ White, Lynn, Thesis: The Historical Roots our Ecologic Crisis at Firty, 1967, p.1205.

⁶¹ White, Lynn, Thesis: The Historical Roots our Ecologic Crisis at Firty, 1967, p.1205.

environmental management.⁶² This reveals that the man-nature relationship has ecological and ethical implications necessary for environmental management. Despite the above perspective, much of the literature only focuses on policy frameworks and environmental outcomes but less attention on church-drive practices for sustaining the environment. The current study contributed research findings that show how education, religious values, and local knowledge systems can cultivate environmental stewardship.

In environmental sustainability, stewardship is an ethical practice that both preserves the environment and glorifies God of creation. To elaborate this argument, Hyneman and Shore provide a persuasive biblical justification for environmental stewardship, anchoring World Vision's methodology for creation care in scriptural and theological foundations.⁶³ Hyneman and Shore further articulates how biblical theology provides the ground for the stewardship of the environment. Humans are theologically considered caretakers of the creation entrusted to them by God.⁶⁴ Hyneman and Shore argue that, for the integrating the mission of the church, faith and ethics in the evangelistic approach should be considered for the sustainability of the environment. The main argument brought forwards is pursuing stewardship of creation by maintaining a good relationship nature in the way that reflects the character of God. This points to the wider *Eco-diakonia* within the church that should guide the way the church responds to the sustainability of the environment. A critical analysis, however, shows the perspectives reflected by Hyneman and Shore are for church organizations that operate at the global level, but does not entirely examine how this could happen in an African setting. To enhance their research, there is need to incorporate indigenous ecological knowledge, ecumenical environmental ethics, and the socio-political aspects of climate justice. Within the context of Uganda, this study investigated how theological practices and views among the laity in local contexts can inform the participation of the church in environmental management. This was one of the significant contributions by the current study.

Writing about ecological stewardship and environmental crisis in Uganda, Benard Rabwoni highlights that ecological crisis is often brought about by the spiritual and moral failures of the

⁶² Whitney Elspeth, "Lynn White's "the Historical Roots of our Ecologic Crisis after fifty", 2016, pp.24-25.

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⁶⁴ Hyneman, Jared and Shore, Christopher. "Why are we stewards of Creation? World Vision's Biblical Understanding of how we relate to Creation." *Natural Environment and Climate Issues*, 2013, 1-14.

believers.⁶⁵ Rabwoni explores the ecological crisis in Uganda through the lens of religious teachings, identifying spiritual and moral roots of the environmental degradation. In his argument, religious institutions, such as church of Uganda have the potential to shape ecological ethics that is necessary for sustainability of the environment. Although Rabwoni's study present significant theological and ethical observations into environmental crisis in Uganda, the work is generic and does not contextualize the religious teachings for sustainability of the environment. Rabwoni also ignores the institutional capacity and the local challenges encountered by Church of Uganda in responses to concerns of environmental degradation. In this study contributes to the gaps in literature by examining the theological practices and approaches that Church of Uganda can use to promote environmental stewardship.

According to Bennett and others, practices that promote stewardship require collaboration among key stakeholders, such as the government, non-governmental organizations, the church, and other environmentalists.⁶⁶ While Bennett et al articulate the need for cross-sector collaboration, empirical studies from East Africa remain scarce. Little is known about how churches, district governments and environmental NGOs in Uganda operationalize such partnerships, and what governance arrangements sustain them over time. Research on this area will brighten the initiative for managing the environment. Previous research on *Community Participation in Environmental Management* by Ragini Sahai discusses reveal the importance of community participation and involvement for environmental stewardship.⁶⁷ Sahai provides the gender dimension of understanding how the church can promote environmental stewardship in the context of India. Although integrating women in the advocacy and promotion of environmental stewardship is necessary, a review of her study shows that Sahai does not present empirical data, which leaves a research gap in field-based evidence.

To address the above research gap, the current study investigated the role of the Church in

⁶⁵ Rabwoni, Bernard. "Ecological Stewardship and Environmental Crisis in Uganda: Insights from Religious Teachings, Root Causes of Crisis, and Pathways to Sustainable Solutions." (2024).

⁶⁶ Bennett, Nathan J., Tara S. Whitty, Elena Finkbeiner, Jeremy Pittman, Hannah Bassett, Stefan Gelcich, and Edward H. Allison. "Environmental stewardship: A conceptual review and analytical framework." *Environmental management* 61 (2018): 597-614.

⁶⁷ Sahai, Ragini. "Community participation in environmental management: Role of Women." In *International Conference on Recent Research Development in Environment, Social Sciences and Humanities*, (2015): 173-180.

environmental stewardship through interviews, focus group discussions and a survey. This provides primary data as evidence for promoting participation in environmental stewardship, which this study accomplished. Additionally, Sahai presents discussions on the participation of women in environmental management, without any theoretical framework. This is a critical gap in academic depth; hence I anchored this study in ecclesial participation model to provide a critical analysis of how participation in environmental stewardship by Church of Uganda is necessary. In my view, the participation by the church is achieved through incorporating environmental considerations into theological teachings as well as a stronger emphasis on sustainable practices within the church community.

The theological teachings of the church emphasize the missiological and theological role of the church regarding environmental stewardship. This has attracted current debates on the positionality of the church in promoting environmental management. For instance, Xu, , Zhi Qiu in *Revitalizing the House Church Tradition* argues that the Christian communities are excellently positioned to teach about the environment.⁶⁸ In his historical discussions of the church model for social inclusion and stewarding the environment, Xu provides an extensive argument regarding the missiological role of the church. Although Xu's work provides comparative views that can be related to ecclesial realities in Uganda, it has limitations in ecological and gender dynamics. This presented an opportunity for the current research on local experiences of the church in promoting environmental management.

The churches offer great teaching on environmentalism through recycling. Jared and Christopher in *Why are we stewards of the Creation*, recounts the accountability that humanity should practice in regarding to managing creation.⁶⁹ Other scholars that join this debate on the theological role of the church are Dagmara Kowalik and others, who recount that the teachings about the environment supported in the narrative of the creation of Adam grant the church a theological mandate to enforce environmental stewardship.⁷⁰ Kowalik and others further recount the theological stand by

⁶⁸ Xu, Zhi Qiu. "Revitalizing the House Church Tradition." *Mission in Praise, Word, and Deed: Reflections on the Past and Future of Global Mission* (2023): 151.

⁶⁹ Hyneman, Jared and Shore, Christopher. "Why are we stewards of Creation? World Vision's Biblical Understanding of how we relate to Creation." *Natural Environment and Climate Issues*, 2013, 1-14.

⁷⁰ Kowalik, Dagmara, Katarzyna Nowak, Katarzyna Kowalik, and Paweł Gogacz. "The Role of the Catholic Church against Changes and Threats to the Value of Work." *Religions* 14, no. 9 (2023): 1207.

the church concerning the dignity that the works of humanity carry. Their analysis reveals what the Church should do in response to poor recognition of the need for work, with focus on the economic landscape of Europe.⁷¹ Their study engages in theological role of the church, which I found very relevant in this study. However, a research gap is presented in the lack of eco-theological engagements that focus on the dignity for environmental work. The research gap presented an opportunity for investigating the role of the church in teaching environmental stewardship that ensures sustainability of the ecosystem in Ugandan context. This contributes literature on how to address disparity between existing environmental policies and their implementation in Uganda.

According to Willis Jenkins, religious and environmental ethics can act as contextual strategies for enhancing the establishment of moral communities that can address environmental problems.⁷² Lukas and Szot examined whether the relationship between religiosity and environmental concern, and found out that the women and African Americans who reported high religiosity, also had a positive concern for the environment. This suggests that religion and environmental connection is more nuanced.⁷³ While Lukas and Szot nuance Lynn White's thesis show that Christianity foster environmental concern, little is known about how different theological practices and teachings by the church in Uganda shape peoples' stewardship behaviors. So, a study to integrate theological discourse, and Eco-justice frameworks into empirical analyses of church environmental action in Uganda was needed to address the research gaps. In the Ugandan context, it is necessary to investigate the practices and teachings that can theologically influence how the church implements care for the environment and teach ecological concern.

The Church has a historical role in responding to stewardship of resources. The authors of *The Integrated Resource and Environment Management (IREM)* provide philosophical insights that natural resources should not be viewed as independent and isolated entities.⁷⁴ But rather there should be an integrated approach. Emphasizes the strengths and vulnerabilities of faith-based

⁷¹ Kowalik, Dagmara, Katarzyna Nowak, Katarzyna Kowalik, and Paweł Gogacz. "The Role of the Catholic Church against Changes and Threats to the Value of Work." *Religions* 14, no. 9 (2023): 1207.

⁷² Willis Jenkins. "After Lynn White: Religious Ethics and Environmental Problems." *Journal of Religious Ethics*, 2009.

⁷³ Ibid, Lukas and Szot, 2019, p.65.

⁷⁴ Sowa, Robert Michael. "Making a case for mainstreaming environmental justice concerns in the mission of the Catholic Church in Sierra Leone in light of *Laudato Si'*." PhD diss., University of Glasgow, 2023.

organizations in Uganda's environmental management, emphasizing the importance of capacity building and stakeholder support. He further notes that, in the number of the primary areas of concentration in the Church of Uganda Provincial Master Strategic Plan 2016-2025 is good environmental management. According to the 2014 national census, Anglicans take 32.0% in, Uganda's denominations, as Catholics take 39.3%, Moslems 13.7% among other denominations. This shows that Church encompasses an integrated approach to ministry and environmental stewardship. The authors of IREM provide the human dimension of analyzing the role of science in management of natural resources and do not mention any philosophical process based on ethical and theological perspectives, hence the task of the research. The literature review shows that research is still needed to assess how such theological visions are open-rationalized across other African contexts, particularly through parish-level implementation, interfaith cooperation, and gender-sensitive Eco-pastoral strategies. This gap calls for inquiry into the practical theology of environmental justice within the church in Uganda.

Daniel Fiorino explains performance of countries in Sub-Saharan Africa about environmental management. He argues that the issues relating to income, institutional factors, social development and other aspects have hindered majority of low-income countries to effectively address environmental challenges.⁷⁵ Some of the challenges are attributed to lack of research on localizing the international standards for environment management among church contexts in low-income countries like Uganda. The other challenges accelerating environmental problems are mining activities. While the communities initially welcome mining organizations during exploration, social tensions tend to rise after the commissioning of the mining projects due to the severe environmental consequences that are often not addressed.⁷⁶ In Ghana, the establishment of the mines caused health problems, deforestation, a great decrease in agricultural activities, more poverty, and social conflicts as the mine developers took some of the best lands from the local people.⁷⁷

Mining activities have contributed to environmental degradation. The process of environmental

⁷⁵ Fiorino, Daniel J. "Explaining national environmental performance: approaches, evidence, and implications." *Policy sciences* 44 (2011): 367-389.

⁷⁶ Miao, Qing, and Chibuike Nduneseokwu. "Introduction to Environmental Leadership." In *Environmental Leadership in a VUCA Era: An Interdisciplinary Handbook*, pp. 1-35. Singapore: Springer Nature Singapore, 2025.

⁷⁷ Benti, Benjamin, Charlotte Curé, and Valérie Dufour. "Individual signature in the most common and context-independent call of the Rook (*Corvus frugilegus*)." *The Wilson Journal of Ornithology* 131, no. 2 (2019): 373-381.

management is regarded as costly. Previous studies point out the implementation and maintenance costs of the environmental management systems and policies. About implementation, activities ranging from planning, coordination, creating awareness all prove to be costly about environmental management. Tang and other scholars have argued that the costs of maintenance include monitoring performance, conducting regular audits and ensuring that maintenance reviews are timely made.⁷⁸ Tang and others demonstrate that image diffusion models can learn emergent visual correspondence without supervision, opening new avenues for unsupervised visual reasoning. However, these advancements remain largely confined to technical domains. There is a research need to understand how such models can be adapted for ethical and participatory use in domains like environmental stewardship, community-based ecological monitoring, and visual theology in religious organizations in Ugandan context.

The magnitude of environmental degradation resulting from mining organizational practices makes it necessary to develop and implement the required measures of protecting the environment and the people. According to Chalwe Sakupapa, partnerships between the people in the mining corporations and other organizations, civil society actors, the local communities and other stakeholders could alleviate environmental and social problems, to facilitate environmental sustainability.⁷⁹ Sakupapa also discusses the theological mandate for the church in Africa to promote ecological ethics and advocate for environmental sustainability. A critical analysis reveals that study by Sakupapa indicates a scarcity of broader comparative studies of interfaith eco-justice initiatives across sub-Saharan Africa. This leaves a research gap how such theological frameworks are embodied at the local church level. The current study addresses this gap by examining how the Church of Uganda can influence the implementation of environmental policies in the mining industry to promote environmental sustainability.

According to previous studies, environmental destruction is also affected by the expansion of cemeteries that result from concrete graves. In Albertine region, this phenomenon emerging ecological concerns that intersect with land scarcity, oil-driven industrialization, and fragile

⁷⁸ Tang, Luming, Menglin Jia, Qianqian Wang, Cheng Perng Phoo, and Bharath Hariharan. "Emergent correspondence from image diffusion." *Advances in Neural Information Processing Systems* 36 (2023): 1363-1389.

⁷⁹ Sakupapa, Teddy Chalwe. "Zambian Protestant Ecumenism and the Quest for Eco-Justice: A Case Study of the Council of Churches in Zambia." *Scriptura* 122, no. 1 (2023): 1-15.

ecosystems.⁸⁰ In this context of Albertine region, burial practices involving reinforced concrete graves, cement vaults, metal caskets, and synthetic wreaths contribute cumulatively to environmental degradation. Studies show that the concrete slabs put on the graves significantly reduces permeability of soil, prevent natural decomposition and permanently affect the land that could ecologically regenerate.⁸¹ From my observation, a single constructed grave may seem minimal, but the cumulative effect in densely populated regions like Hoima, and Buliisa requires critical eco-theological reflections.

From a theological perspective, majority of the funeral and burial practices in Albertine region equally present these eco-theological dilemmas for the Church of Uganda. According to Jesse Mugambi, African Christians should practice the eco-theology that emphasize the sacredness of land, and communal stewardship.⁸² Although African eco-theology may encourage burials that are eco-friendly, contemporary funeral practices increasingly reflect commercialized and status-driven expressions of memorialization that prioritize permanence over ecological responsibility. The concrete structures and non-biodegradable wreaths inadvertently contradict the biblical mandate to “till and keep” the earth.⁸³ In the region where environmental degradation is already a challenge, promoting burial theology that enhance ecologically sustainable alternatives and grounded in Anglican liturgy and African ecological consciousness may be helpful. In April 2025, the Province of Church of Uganda made a bold move towards achieving the above-mentioned practice. The Church of Uganda encouraged planting trees to honor the dead, instead of laying wreaths. Although this has not taken ground yet, encouraging tree planting in place of wreath is form of stewardship that responds to environmental challenges that may result from contamination and waste that increase environmental harm.

In Uganda, several factors have limited the effectiveness of environmental management. A study on “Environmental Management in Uganda” show that the implementation of the policies regarding environmental impact assessment is critical.⁸⁴ Environmental degradation resulting

⁸⁰ United Nations Environment Programme (UNEP), *2023 Global Status Report for Buildings and Construction* (Nairobi: UNEP, 2023).

⁸¹ Julie Rugg, “Cemetery Land Use and Environmental Sustainability,” *Mortality* 27, no. 2 (2022): 115–131.

⁸² Jesse N. K. Mugambi, *Christian Theology and Environmental Responsibility* (Nairobi: Acton Publishers, 2021).

⁸³ Celia Deane-Drummond, *Theology and Ecology in Dialogue* (London: SCM Press, 2022).

⁸⁴ Edodi, Sampson. "Managing the environment: Issues and priority actions for sustainable waste management in Uganda." *African Geographical Review* 42, no. 3 (2023): 342-356.

from mining and industrial activities is a major societal concern. Mangaliso Matshobane calls for the commitment of the church towards addressing the environmental issues.⁸⁵ This shows that environmental management is necessary to mitigate the impact of human activities on the natural environment. In response to the realities revealed in NEMA reports about the environment, this study investigated how the Church of Uganda can promote environmental stewardship.

Given the environmental problems that have confronted people globally, the need for regulations and full compliance with environmental regulations cannot be overstressed.⁸⁶ Environmental policies are instituted to ensure the environment is protected. However, the implementation of environmental policies is still challenging, particularly in the developing countries.⁸⁷ Some studies conducted in Africa revealed that a significant number of the environmental problems stem from poor policy development and enforcement by the government and the regulatory agencies. This shows that extra effort is needed to enforce environmental policies. The government is one of the stakeholder groups that should influence policy implementation regarding environmental protection. Within the broader context of environmental sustainability, and the government has a critical role in developing frameworks and standards for managing different aspects of the environment.⁸⁸ Nunan, Adrian and Foster argue that government should integrate the environment protection policies into the overarching policy and the local government policies.⁸⁹ The government sensitization of the local communities regarding environmental issues could play a significant role in promoting environmental sustainability.

In Uganda, the environmental policy and frameworks for creation care have been advocated by the province of Church of Uganda. Enshrined within 2015-2025 strategic plan, are the strategic activities for environmental conservation. The inclusion of environmental policies represents a significant institutional response to the growing ecological crisis in Uganda. Scholars note that

⁸⁵ Matshobane, Mangaliso. "The role of the South African Pentecostal and Charismatic Church in sustainable development: Focusing on safety and security." *Pharos Journal of Theology* 104, no. 3 (2023): 1-12.

⁸⁶ Kraft, Michael E. *Environmental policy and politics*. Routledge, 2021.

⁸⁷ Miao, Qing, and Chibuike Nduneseokwu. "Introduction to Environmental Leadership." In *Environmental Leadership in the VUCA Era: An Interdisciplinary Handbook*, pp. 1-35. Singapore: Springer Nature Singapore, 2025.

⁸⁸ Kock, Carl J., Juan Santaló, and Luis Diestre. "Corporate governance and the environment: what type of governance creates greener companies?" *Journal of Management Studies* 49, no. 3 (2012): 492-514.

⁸⁹ Nunan, Fiona, Adrian Campbell, and Emma Foster. "Environmental mainstreaming: the organizational challenges of policy integration." *Public Administration and Development* 32, no. 3 (2012): 262-277.

the interest of the church in environmental crisis aligns with broader trends in African Christianity, where churches increasingly recognize environmental degradation as both a moral and theological concern.⁹⁰ The church of Uganda environmental policy emphasizes environmental conservation, climate change mitigation, disaster risk reduction, and sustainable livelihoods, positioning the Church as a moral agent in environmental governance. The presence of the Church in local communities, significantly facilitates the dissemination of ecological messages to the Christians. According to Kimanje Bbosa, the policy on environmental management by the Church of Uganda significantly contribute to the integration of environmental ethics into structures of church governance, which is relevant in mobilizing the dioceses and parishes to establish environmental committees and focal persons.⁹¹

According to the existing efforts and policies on the environment by the church, the Church of Uganda has transitioned from symbolic ecological concern to practical church involvement. The review of the Church of Uganda Provincial Environment Policy show that the church is making significant contribution to African eco-theology. However, the reviewed studies also reveal the need for context-specific, empirical, and theological research to assess the effectiveness of the policy and to refine ecclesial participation models for environmental stewardship in Uganda. This study therefore contributes to the contextual evidence and the extent of ecclesial participation in environmental stewardship. It enriches the understanding of how the church of Uganda is performing about environmental management. The study also expands the literature on how churches in Uganda engage in broader environmental stewardship that integrates climate resilience, community participation, and sustainable management of the environment.

In summary, the scholarly works reviewed jointly affirm the growing theological and ecclesial drive toward church-led environmental stewardship in the Christian context of Africa. The studies consulted also anchor stewardship in biblical and ecclesiological frameworks, showing that stewardship and sustainable management of the environment is fully part of the mission of the church. Studies that theologically criticized the church uncover the contextual difficulty of

⁹⁰ Conradie, M. Ernst (2021). *Theology in a time of environmental crisis: Ecological perspectives for contextual theology*. Wipf & Stock. 2021.

⁹¹ Bbosa, E. Kimanje. *Greening our churches: Environmental ethics promotion and protection in the Anglican Church of Uganda*. *Jumuga Journal of Education, Oral Studies, and Human Sciences*, 2025

religiosity in determining environmental awareness, showing the need for reinterpreting dominion theology practiced by humankind. The literature reviewed also clarify the importance of having theological approaches that are contextualized, ecologically oriented and enhance the practice of environmental stewardship. Most of the studies did not investigate how religious stakeholders can be involved in the efforts to ensure sustainability of the environment in Albertine region. There was empirical evidence of excessive pollution, weak regulatory frameworks, inadequate government support, and poor implementation that signify limited stakeholder involvement to minimize environmental problems. Furthermore, most of the studies occurred in the developed countries while studies on environmental stewardship in the developing countries that includes Uganda are limited. Further engagement with literature is presented in the discussion of the findings proceeding chapters.

It is evident that the religious teaching perceives nature and environment as and therefore from the a theological basis for environmental stewardship, the church leaders specifically in Albertine region have the duty to teach their congregation on the benefit of environmental stewardship and more to that the Christians need to be taught on their duty of environmental stewardship, in relation to the above it is imperative to note that the stewardship of the environment entails the practices by humanity that aims at promoting the sustainability and well-functioning of the ecosystem, in the manner that sustains life.

It is imperative for the Christians to realize that their role in environmental stewardship is clearly stated in the bible and therefore it is the duty of church to protect the environment. This study has discovered that the theological thought on environmental stewardship is anchored in the theological conviction that humanity should care for nature and not promote exploitative relationship with the environment. The church's role in the theological teaching of environment is one which mainly is to ensure that there is proper management of environment, rally other faithful's into the main cause of action which is ensuring that there is environmental stewardship to create a better environment that can promote livelihood of the church members.

To ensure that there is effective environmental management, this requires that the church engages in ecological contextual theology. The contextual ecotheology is necessary for shaping how African and Ugandan ecotheology can influence the practices of the church of Ugandan to promote environmental stewardship. Lynn White as one of the early scholars on religion and ecological

ethics recounted the significance of the positive relationship between humanity and nature. White asserts that the human response to nature depends fully on what they believe about the ecological system.⁹² In his argument, White contested the idea of humanity being superior to nature, and the environment being regarded as a physical fact without sacredness.

The existing literature has been key understanding the importance of environmental management and stewardship however there has not been a particular literature review discussing the environmental stewardship in Bunyoro Kitara, an area that currently has a rapid development on oil drilling and above all the place also has game parks a, water bodies and increased urbanization. And its clear urbanization has influence on the environment in areas of waste management and disposal, when the population increases in areas the wastes generated increases and these wastes depending on the type like polyethene's bags influence environment and yet the government. In the Albertine the rise in urbanization is mainly fueled by the influx of the foreign workers who are working in oil related facilities and fishermen in lake albert are also on the rise, some of this fishermen fish, mukene, tilapia, and all different kinds of fish.

The people of Albertine indicated that the lived experiences of Christians in Bunyoro Kitara Diocese, is something to pay attention to since the environmental management in this area is key as its were queen Elizabeth national park and lake albert are located to highlighting the extent of ecological crisis in Albertine region. The magnitude of environmental degradation specifically is recounted as a crisis that cannot be understood in isolation from rapid urbanization, population growth, and economic expansion in Albertine region. The ecological crisis underscores in this thesis show that it is necessary for Eco theologians to use lived realities of African Christians as a theological focus, that make ecotheology relevant to the Christians of Church of Uganda. Based on the lived experiences of how Christians relate with the environment, I argue that Ugandan Eco theologians can promote environmental stewardship by presenting the categories of environmental theology that the Christians can understand and practice.

This study has revealed that there is a complex relationship between urbanization, population growth and economic growth with environmental crisis, in this study it was further established that

⁹² White, Lynn, Thesis: The Historical Roots our Ecologic Crisis at Firty, 1967, p.1205.

the raising awareness on responsible management of the resources and the ecosystem by the Church of Uganda is critical. The previous literature now explicitly explains the benefit of raising awareness on the stewardship of environment. The theologians assert that it is imperative for theologians to include promoting practices and commitment to stewardship, to harness the benefits of urbanization while minimizing its negative effect on the environment.

In this study the church of Uganda through its clergy men further assert that it is imperative in encouraging the residents of Albertine region specifically in areas of Wanseko, Bullisa and some parts of Hoima that are near lake albert to ensure that they plan their land use clearly so as settlement is planned to avoid degradation of the land and overcrowding since if there is no proper management of settlement space there is likelihood of environmental degradation and more to that it is essential for the church to be involved in effective planning of land-use in Albertine region, waste management, sustainable agricultural practices, which promote environmental stewardship. Adopting sustainable practices that incorporate stewardship principles will ensure that economic growth and household development does come at the expense of the environment.

In this study Church of Uganda plays multiple significant roles in environmental stewardship within the Albertine Region. Environmental stewardship is particularly promoted through tree-planting initiatives, education on environmental stewardship, advocacy for policy implementation, and holistic approach to addressing environmental and socio-economic challenges. Promoting these environmental stewardship programs is to ensure that there is proper balance between the use of nature and the maintenance of the environment around lake albert. When there is proper environmental stewardship among the residents of Albertine and the Christians of the church of Uganda many negative effects of environmental degradation will be reversed as some of these environmental degradation challenges like deforestation, waste disposal on water banks stems as a s result of ignorance of the people and therefore the church teaching by following the biblical and religious teaching is crucial for the development of sustainable environmental in the Albertine.

As environmental concerns continue to grow in the Albertine region, the Church has a crucial role in fostering eco-consciousness and sustainable living for nurturing a more responsible and harmonious relationship between humanity and the environment. Hence, active involvement in environmental management by the church in Bunyoro Kitara Diocese and the Province at large

has a positive impact on the attitudes and actions of the community towards the environment. This establishment points to a deeper understanding of the substantial influence of the church regarding the management of the environment.

Globally environmental stewardship is a collective responsibility of all key stake holders and therefore it is imperative for church of Uganda's to get engaged into it since if the environment is compromised and everyone including the church will not escape its impacts as the bible recommends the church to take leadership of creation therefore church of Uganda has to get involved and work hand in hand with other key stakeholders like government to ensure that the environment is preserved, the church of Uganda has through the Christian communities should interpret their theological and ethical mandate of environmental management from stewardship perspective. This will enrich the Eco theological scholarship that should transform Christian behaviors and attitudes towards having a sustainable environment. Environmental sustainability as established in this study is integral to the theological and social mission of the Church of Uganda. To achieve sustainability and preservation of the environment, I recount the need for collaborative action from governments, religious organizations, industries, and communities. With the theological practices and ethical reflections presented in this study, the thesis recounts the Eco theological practices that can be genealogized in other contexts to enable the church respond to the environmental crisis and transform the attitudes of Christians towards environmental management.

In finding out on the environmental stewardship by the church, this study has clearly ecclesial participation and biblical stewardship within the socio-economic realities of Uganda's Albertine Region. Unlike previous studies that relied largely on Western Eco theological frameworks, this research demonstrates how Anglican theology can be contextualized to address environmental degradation associated with oil exploration, urbanization, and population growth. It has been further revealed that this study also indicates that the church is not merely an observer on the environmental conservation but rather an active participant, especially in highly vulnerable areas like Albertine region.

This study has further introduced new understanding that there are different ways through which the church can play a role in the environmental stewardship of the Albertine region like for example, expanding existing scholarships by demonstrating that faith-based institutions can complement government environmental policies and contribute significantly to sustainable

environmental management. Unlike in the past the responsibility of environmental conservation and stewardship was viewed as only government responsibility plus some NGOs and other western donors.

The fact, church of Uganda has a; large followers almost 40% of Uganda's population subscribe to the church of Uganda teachings this study further reveals that church of Uganda has ability to play a critical role towards environmental sustainability as it encourages that biblical teachings, of ethical values, and environmental responsibility are mutually reinforcing. It demonstrates that environmental stewardship which is rooted in Christian doctrines of creation, stewardship, and human responsibility rather than merely environmental activism. This contributes to the growing discipline of African ecotheology.

Existing literature largely discusses environmental theology from global or theoretical perspectives. This study contributes new knowledge by localizing ecotheology within the cultural, ecological, and ecclesial context of Bunyoro Kitara Diocese, thereby providing an African Anglican interpretation of environmental stewardship that responds to local environmental challenges. The study identifies specific theological practices including environmental preaching, ecological discipleship, clergy training, parish environmental programs, community sensitization, and integration of environmental themes into church teaching as practical mechanisms for strengthening environmental stewardship. These practices provide a framework for implementation by Anglican dioceses and theological institutions.

1.9 Research Design

The research design gives the methodological orientation of the study. The study used a hermeneutical phenomenological research design, to examine the phenomenon of Christian stewardship of the environment by church of Uganda in Albertine region.⁹³ The design of hermeneutic phenomenology seeks to explain the meaning rooted in the texts and lived human experiences of the community.⁹⁴ Using this design, the researcher interpreted the meaning to the lived experience of environmental degradation in Albertine region. In this study, environmental concerns formed shared issues among the people of Albertine region. A hermeneutical phenomenology was chosen to guide the implementation of the study because it facilitated the interpretation and the study of lived experiences that historically situated and linguistically expressed.⁹⁵ This research design was also used because it enabled the study of how the biblical teachings of environmental theology, diakonia, and stewardship of creation can be used and incorporated in the church teachings and practices.⁹⁶ Because the study was interested in the theological and ethical practices for environmental stewardship, hermeneutical phenomenological design was deemed helpful in the understanding of the views of people regarding what can be done to ensure environmental ethics.

The above research design was also used to aid the researcher in the analysis of findings on moral responsibility of the church towards creation, since, ecological diakonia can be interpreted as a lived commitment of the church.⁹⁷ The church as a religious institution was considered as significant in negotiating the conflict between human livelihood and environmental integrity. Hermeneutical phenomenology was found resonating with the interpretative nature of ecotheology, where the truth of environmental management emerges from interaction of scripture, tradition and human experiences. In addition, the design coherently represents the approaches to the analysis of ethical and theological dimension of environmental research.⁹⁸ Therefore, it was

⁹³Parker, Sharon K., and Gudela Grote. "Automation, algorithms, and beyond: Why work design matters more than ever in a digital world." *Applied psychology* 71, no. 4 (2022): 1171-1204.

⁹⁴ van Manen, Max. *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research and Writing*. Walnut Creek, CA: Left Coast Press, 2014

⁹⁵ van Manen, Max. *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research and Writing*. Walnut Creek, CA: Left Coast Press, 2014

⁹⁶ Conradie, Ernst M. *Christianity and Ecological Theology: Resources for Further Research*. Stellenbosch: SUN Press, 2011.

⁹⁷ Deane-Drummond, Celia. *Theological Ethics through a Multispecies Lens: The Evolution of Wisdom, Volume I*. Oxford: Oxford University Press, 2019.

⁹⁸ Fuster Guillen, Doris Elida. "Qualitative research: Hermeneutical phenomenological method." *Journal of*

found relevant, because design considers stewardship of the environment as the lived experience of the Christians, facilitates the interpretation of it as the moral obligation of the church towards the environment.

Based on the hermeneutical phenomenology, the ethical and theological practices were studied through an interpretative research paradigm. This paradigm enabled the researchers to understand the way people live in relation to the world around them.⁹⁹ The status of environmental stewardship by the church in Albertine region was assessed in the following ways. A qualitative study involving hermeneutical and phenomenological approaches addressed the theological dimension of the study. Christian stewardship was a key variable studied to understand how it contributes to environmental management. This was done with the aim of establishing the practical theological aspects that can guide the church to enforce the stewardship of the environment.¹⁰⁰

1.10 Research Methods

According to the nature of the research questions, the researcher employed qualitative approaches but triangulated them with some quantitative methods, especially during data collection. The study examined the ethical practices that contribute to environmental stewardship. Specifically, the activities carried out by the church concerning the management of the environment, the factors that caused the degradation of the environment, and the relationship between the teachings of the church and ethical practices. The findings contributed to the theological themes and approaches that can be used by the church to promote stewardship of the environment. Based on phenomenological design, data was collected from participants in Albertine region, who have experienced environmental challenges. To ensure generalizability, and triangulation of the study findings, the study used qualitative and quantitative methods to collect and analyze mixed data.¹⁰¹

This approach that integrates qualitative and quantitative methods was used because the research sought a comprehensive understanding of the phenomena of environmental

Educational Psychology-Propositos y Representaciones 7, no. 1 (2019): 217-229.

⁹⁹ Flick, Uwe. "The SAGE handbook of qualitative research design." (2022): 1-100.

¹⁰⁰ Flick, Uwe. "The SAGE handbook of qualitative research design." (2022): 1-100.

¹⁰¹ Mulisa, Feyisa. "When Does a Researcher Choose a Quantitative, Qualitative, or Mixed Research Approach?" *Interchange* 53, no. 1 (2022): 113-131.

stewardship. The qualitative approaches enabled the researcher to have an interpretive depth on the lived experiences of environmental degradation and management.¹⁰² The quantitative approaches (survey method) provided empirical breadth, which enabled the research to establish the factors responsible for environmental degradation, understand the initiatives by the church of Uganda in environmental management.¹⁰³

Following the adopted methods above, the process of collecting data was implemented using oral interviews, key informant interviews and survey questionnaire. All participants in the qualitative study were purposively chosen, considering their expertise in ethical and theological matters of the environment. The rationale for choosing both qualitative and quantitative methods of data collection was to collect enriched data that improve on the strength of the study. Employing a mixed approach increased the understanding of the findings.¹⁰⁴ The integration of the two approaches was important to enhance validity, and credibility of the findings,¹⁰⁵ since the triangulation of the approaches facilitated the understanding of the empirical data from the theological and ethical perspectives. Combining the theological and ethical perspectives in the study on the role of the church in environmental stewardship enhanced the research outcomes on the theological practices, which church of Uganda should embrace.

1.11 The Study Location

This section presents the area where the study took place, by describing the region, the people and their activities, that had impact on how the environment is managed. The study investigated the current factors, such as urbanization, population growth, and economic growth, that influence the environment. Surveying the activities within the study area highlights the details of what contributes to environmental degradation and what can be done to promote environmental stewardship by the church of Uganda. The study area covered the Albertine region geographically as described in the section of geographical scope.¹⁰⁶

¹⁰² Michael Quinn Patton. *Qualitative Research and Evaluation Methods*, 4th ed. Thousand Oaks, CA: Sage, 2015.

¹⁰³ Creswell, W. John and Plano Clark, Vickl, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 6th ed. Thousand Oaks, CA: Sage, 2018.

¹⁰⁴ Taherdoost, Hamed. "What are different research approaches? Comprehensive Review of Qualitative, quantitative, and mixed method research, their applications, types, and limitations." *Journal of Management Science & Engineering Research* 5, no. 1 (2022): 53-63.

¹⁰⁵ Michael Quinn Patton. *Qualitative Research and Evaluation Methods*, 4th ed. Thousand Oaks, CA: Sage, 2015.

¹⁰⁶ The Map showing the study area is attached in appendix III.

The study was conducted in the diocese of Bunyoro Kitara, which consists of five districts, Buliisa, Kagadi, Kikuube, Hoima, and Kibaale, found in mid-western Uganda. Bunyoro Kitara has existed since 1972, when it was carved out from the Diocese of Ruwenzori.¹⁰⁷ It is composed of eleven (11) Archdeaconries, with most of the households living in semi-urban communities and others living in typically rural communities. This affects their economic activities and social livelihood practices. With the discovery of oil and other resources in the Albertine region, Bunyoro Kitara has attracted migrants who seek employment and to carryout business to improve their livelihood.¹⁰⁸

It also attracts tourists, who come to visit the national parks, Lake Albert, and the Ruwenzori mountains. Further, the Albertine region is home to a number of mineral deposits, including gold, cobalt, and tin, although this is still relatively underdeveloped.¹⁰⁹ Following the rural-urban migration, this region consists of people with diverse cultures. They are involved in agricultural activities, which include farming and fishing. The latter contributes to the income generation of the majority of the people who occupy the region. In addition to farming, the region has attracted professional workers and civil servants due to the discovery of oil and gas.

In summary, the Albertine region is multicultural and diverse. Conducting a study on environmental stewardship by the church in this study region was therefore necessary, given the background of the region as explained above. The ecosystem reveals the need for good stewardship of the environment. With the developments taking place in the Albertine region, the chances for environmental degradation are very high. This implies that studying how the church of Uganda can contribute to environmental stewardship is critical and timely.

¹⁰⁷ Mbabazize, Peter Mbabazi. "The Anglican Church in a bid to raise income among the clergy and the laity so as to contribute to their livelihood and acquire a sustainable livelihood: A case study of Bunyoro – Kitara diocese in Uganda." *International Journal of Social Sciences and Entrepreneurship*, 1 (11), 2014, 440-466

¹⁰⁸ Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." *The Extractive Industries and Society* 6, no. 2 (2019): 358-366.

¹⁰⁹ Mawejje, Joseph. "Natural resources governance and tax revenue mobilization in sub saharan Africa: The role of EITI." *Resources Policy*, 62, (2019): 176-183.

1.12 Research Participants

This section presents the characteristics of the participants that took part in the study. The characteristics of the participants provided an opportunity to underscore how their background influenced how people in Albertine region observe environmental stewardship.

Table 2.1: Showing Demographic Characteristics of Participants

Variable	Category	Frequency/n	Percent %
Marital Status	Single	40	24
	Married	90	52
	Separated	20	11
	Divorced	15	9
	Widowed	05	3
	Total	170	100
Religious Affiliation	Protestant Christians	80	47
	Catholic	55	32
	Born Again Christians	15	9
	Muslim	20	12
	Total	170	100
Highest education level	None	2	1
	Primary level	75	44
	Secondary level	80	47
	Tertiary	13	8
	Total	170	100

Source: *Primary data from Questionnaire and Focus Group Discussions May 2023*

According to table 2.1 above, the majority of the participants (52%) are married while 24 % are single, 11% are separated, 9% are divorced and 3% are widowed. Regarding religious affiliations, 47% of participants are Protestant Christians while 32% are Catholics, 12% are Muslims and 9% of participants are Born Again Christians. For education level of participants, majority of the participants (47%) have attained secondary level of education, 44% have attained a primary level of education, and 8% have tertiary education, while 1% of the participants have never attended school. The findings indicate that participants that participated in the study have attained a reasonable level of education to relevantly contribute to the study results.

Religious affiliation and the level of education are necessary variables to explain the behavior of human society regarding environmental management. I consider religious affiliation and education

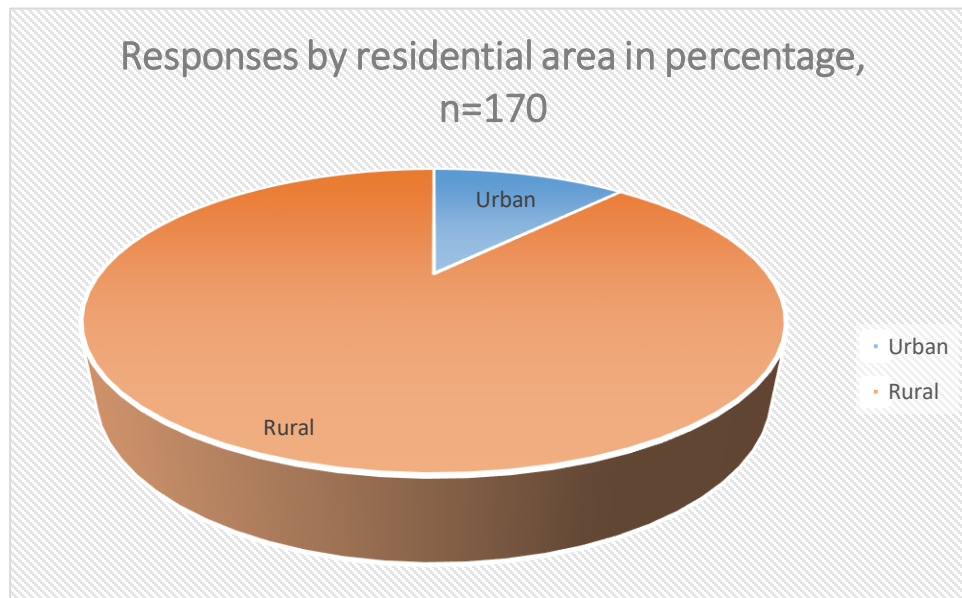
attainment as significant variable to discuss environmental stewardship. Studies supported the notion of one's level of education having a significant impact on their environmental management skills¹¹⁰. So, the population with higher levels of education are more likely to have the knowledge, skills, and experience necessary to be successful environmental managers. Education can provide individuals with the knowledge and skills they need to understand and address environmental problems. Education can also help individuals to develop their communication and leadership skills required to promote good stewardship of environment. In general, individuals with higher levels of education are more likely to have the knowledge, skills, and experience necessary for effective environmental management¹¹¹. To understand the theoretical perspectives regarding environmental management, education level is an important variable to explain how stewardship and social justice can be promoted.

Religious affiliation is considered necessary to explain practices related to environmental stewardship. So, I argue that one's religious affiliation can explain the religious beliefs and values that motivate people to care for the environment. This variable also indicates what the religious tradition teaches regarding the responsibility of humanity towards environmental stewardship. It is hence perceived that religious beliefs can motivate people to adopt sustainable practices for good environmental management. Understanding the religious background lies ground for appreciating how religious communities can enhance opportunities for the community to learn about environmental issues. This can also reveal the role of religious leaders in raising awareness on environmental issues and advocating for policies and practices that promote effective environmental stewardship. In summary, religious affiliation can play a significant role in shaping people's attitudes and behaviors towards the environment.

¹¹⁰ Giannakitsidou, Olga, Ioannis Giannikos, and Anastasia Chondrou. "Ranking European countries on the basis of their environmental and circular economy performance: A DEA application in MSW." *Waste management* 109 (2020): 181-191.

¹¹¹ Mawejje, Joseph. "Government expenditure, informality, and economic growth: Evidence from Eastern and Southern African countries." *African Development Review* 36, no. 1 (2024): 125-138.

Figure 2.1: Responses by the Current Residential Area



Source: Field Data collected on

From figure 2.1 above, the majority (88%) of the participants live in rural areas in Albertine region. While 12% of them indicated that they live in urban areas. This has implications on how they respond to research questions on environmental stewardship. The variation in the responses obtained will be explained from the social context of the participants. This study perceives that the standard of living and social context are significant factors to understanding environmental stewardship. The relationship between place of residence and prediction of environmental stewardship is another debatable research matter. From my observation, when people live in areas that give them access to gardens and other green spaces, they are more likely to demonstrate environmental stewardship. This implies that the findings on residence of the participants can explain behavior of residents regarding managing the environment. Coping with urban life,” recounts that the people who live in areas with good public transportation are more likely to use public transportation instead of driving, a behavior that can reduce their environmental impact. The role of the residential environment in environmental stewardship,” asserts that people who live rural areas that exhibit strong culture of environmental stewardship are more like to observe good practices towards environmental management. In addition to other factors, such as people’s environmental attitudes and behaviors, the residential area of a population plays significant role in environmental stewardship. So, in the analysis of chapter the findings by residence of

participants are relevant to understand the predictors of behavior regarding environmental management.

1.13 Sampling Techniques

The study sample is designed and selected to yield reliable data at urban-rural community levels for Bunyoro Kitara Diocese. During the qualitative phase of the study, participants were selected purposively. Purposive sampling as a strategy enabled the researcher to intentionally determine sample population to provide relevant information. This kind of sampling is considered “ideal for explanatory research design.

The research participants were mainly church leaders, community leaders, civil servants and the Christians in Bunyoro Kitara Diocese. During the survey, 200 participants were randomly sampled, and 170 participants responded to the survey. The random sampling strategy was considered as effective in my study because it is helpful for a study where the subjects are scattered geographically in wider areas. The study also had some oral interviews with key informants and focus group discussions. All the participants for interviews and focus group discussions were selected purposively considering their leadership position in the diocese and the conceptual knowledge on the study. All the participants selected willingly consented to participate in the study. In this study church leaders selected were from the following groups of respondents (Bishops, Canons, Dean, Archdeacons, Diocesan clergy, Parish priests, Assistant priests and lay leaders).

1.14 Data collection methods

Data for this study was based on empirical data and secondary literature. The empirical data was generated through questionnaire surveys, key informant interviews and focus group discussions, and observations. The secondary sources included the documents on environmental management and church projects on environmental management, the published and unpublished scholarly literature. This study employed mixed data collection methods to collect data sequentially. Since the study is largely qualitative, numerous qualitative methods were used to collect views, opinions, and experiences of the participants. In this regard, three main methods of data collection were used in this study. These include:

Interview Method

This is a qualitative inquiry strategy that allows the researcher to collect qualitative information by interacting with the research participants directly. The interview research method, as outlined by scholars, can be in-person, telephone focus group, or email interviews.¹¹² In this study, the interviews were in-person and telephone (in extreme circumstances where follow-up interviews could not be possible to be scheduled for a physical meeting). This method was used because of its convenience for collecting data from key informants.¹¹³ The interview method was used because of it allowed the researcher flexibility to explore the lived experiences of environmental management and theological understanding of the role that church must play in stewarding the environment. Using interviews facilitated in-depth study of the underlying perceptions, practices and ethical practices that informed the ecclesial environmental mission.¹¹⁴ Interview method was chosen, because, using interviews in hermeneutical phenomenology design allows the participants to share the views elaborately, which is necessary for interpretation of findings.

During the KI interview schedule had open-ended questions, which allowed flexibility during the interview. Questions were formed on the factors responsible for the destruction of the environment and the ways the church employs to promote environmental stewardship.¹¹⁵ This method is limited to participants that the researcher considered as experienced and knowledgeable on the study subject. This provided the opportunity to collect data with in-depth, and information based on the expertise of the participants. The interview method employed a semi-structured open-ended interview guide that allowed a systematic flow of the interview process and at the same time a flexible process.

¹¹² Gill, Paul, and Jessica Baillie. "Interviews and focus groups on qualitative research: an update for the digital age." *British dental journal* 225, no. 7 (2018): 668-672.

¹¹³ Santhosh, Lekshmi, Juan C. Rojas, and Patrick G. Lyons. "Zooming into focus groups: strategies for qualitative research in the era of social distancing." *ATS scholar* 2, no. 2 (2021): 176-184.

¹¹⁴ Irving Seidman. *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*, 5th ed. New York: Teachers College Press (2019).

¹¹⁵ Johnson, David R., Christopher P. Scheitle, and Elaine Howard Ecklund. "Beyond the in-person interview? How interview quality varies across in-person, telephone, and Skype interviews." *Social science computer reviews* 39, no. 6 (2021): 1142-1158.

Documentary Analysis

As a strategy for collecting qualitative data, documentary analysis enabled the researcher to gather information from secondary materials on the study problem. The first document reviewed was the Church of Uganda Policy on Environmental Conservation, and the Church of Uganda Strategic plan document 2016-2025. These were obtained from the Provincial website. These documents were reviewed with the purpose of establishing the commitment of the Anglican Church of Uganda towards environmental management, the concerns addressed in ecological conservation and the strategies of the Church of Uganda to promote environmental management. The second document was The Bunyoro Kitara Diocesan Mitigation project of climate change, accessed on the website of Alliance of Religion and Conservation (ARC). The aim was to find out the projects of the diocese on environmental management. Others included the scholarly articles published online about theology, church and environmental care, or ecological stewardship. These were analyzed to enrich research findings on environmental concerns in the Albertine region. This method was relevant for triangulating data and contextualizing findings.¹¹⁶ The process involved journaling, analyzing documents that were considered relevant to address the research questions. The records regarding environmental management in the region were also reviewed to validity the empirical data.

Observation method

Participant observation method was used to record how Christians in Bunyoro Kitara diocese interact with the environment. According to David Gray, participant observation is one of the vital methods for data collection in phenomenological research designs that allows the research to have assess on the cultural interaction of the participants and also observe how they interact with their environment.¹¹⁷ Since one of the research objectives was to examine the factors that contribute to environmental degradation, Alan Bryman recounts that spending time in the communities observing the behavior and practices of the people in community is very necessary.¹¹⁸ To describe the activities that have contributed to environmental degradation and what the activities by the church a community of practice, the researcher spent some time visiting church

¹¹⁶ Creswell, John., "A Qualitative Inquiry and Research Design." (2013):102-105

¹¹⁷ Gray, David. *Research in the Real World* (3rd ed.) London, UK: Sage. 2014.

¹¹⁸ Bryman, Alan. *Social research methods*. Oxford University press, 2016.

communities in Bunyoro Kitara Diocese and took account of what he observed as advised by David Gray.¹¹⁹ (Gray, 2014). The researcher took fields note on every visit in the communities, according to what they observed. These field notes were integrated into the research inquiries that were discussed in-depth interviews. The field notes were necessary for triangulation of the findings.

Survey Method

The study also sought to understand the patterns, statistics, and context that affect environmental stewardship. To achieve this, a quantitative survey method was employed to collect information on the factors that contribute to environmental degradation, and opinions regarding the role of the church and the ethical practices for environmental stewardship. The survey method was chosen because it was convenient for collecting data across the study population at the same time. The quantitative survey was also used to generalize the study findings and provide a description of the study population.¹²⁰ The use of a survey method was relevant in establishing the significant predictors of environmental stewardship.¹²¹ This approach collected data using open-ended and close-ended questionnaire. In the administration process, the research assistants supplied the survey questionnaires to the participants and guided the filling of the survey using the native languages.

1.15 Data Analysis Techniques

The analysis of the data collected was done based on the nature of the data. The qualitative data was analyzed through interpretative hermeneutics and deductive analysis. Interpretative hermeneutics is a process of data analysis that interprets the meaning that a community assign to their lived experiences.¹²² The process include studying texts to reveal the themes and teachings that people use to make sense of their world.¹²³ In this study, the researcher used interpretative

¹¹⁹ Gray, Gray, David. *Research in the Real World* (3rd ed.) London, UK: Sage. 2014.

¹²⁰ Creswell, W. John and Plano Clark, Vickl, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 6th ed. Thousand Oaks, CA: Sage, 2018.

¹²¹ Creswell, W. John and Plano Clark, Vickl, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 6th ed. Thousand Oaks, CA: Sage, 2018.

¹²² Creswell, John W., and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Thousand Oaks, CA: Sage, 2018.

¹²³ Swinton, John, and Harriet Mowat. *Practical Theology and Qualitative Research*. 2nd ed. London: SCM Press, 2016.

hermeneutics to understanding the perceptions and opinions that Christians in Bunyoro Kitara Diocese have concerning the role of the church in environment stewardship. The analysis technique was chosen because it was particularly appropriate for analyzing texts that form the basis for ecotheology. Using interpretative hermeneutics aided the researcher to understand how the church executes her theological mandate for creation care.

The process of deductive analysis was guided by the study theoretical framework. The researcher used the theoretical perspectives of ecclesial participation model and stewardship model to interpret the qualitative data collected. The responses obtained from the participants were analyzed to establish how the theoretical concepts manifest in the church activities and teachings. The process involved the coding of texts and the generation of categories for analysis.¹²⁴ Data is coded and categorized to identify the themes through Excel. Themes generated were based on the study objectives that guided the research.

On the other hand, the survey data collected was statistically analyzed using descriptive analysis through Excel to generate trends and patterns in the findings. Descriptive analysis involves organizing quantitative data to reflect the distribution, frequency, and the association among research variables.¹²⁵ The descriptive analysis was used to summarize and interpret numerical data for the purpose of identifying the key trends and patterns related to the environmental degradation and involvement of the church in environmental stewardship within Albertine region. This analysis technique was used to particularly provide empirical basis for understanding how human activities contribute to environmental degradation and how the church can use her teachings to promote environmental stewardship. To provide descriptive statistics, data collected through structured questionnaire survey was entered into Excel worksheets where descriptive statistics such as frequencies and percentages were computed.

1.16 Research Ethical Consideration

The researcher diligently ensured that this research was conducted with integrity, honesty and truthfulness. The ethical considerations laid down by various research institutions were fully

¹²⁴ Creswell, John W., and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Thousand Oaks, CA: Sage, 2018.

¹²⁵ Creswell, John W., and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Thousand Oaks, CA: Sage, 2018.

complied with. According to recommendations by Craig Wong and other scholars, the ethical issues considered were in four main aspects, recruitment of participants, consent to participate, confidentiality, appropriate research methods, and safety.¹²⁶ To ensure that the study meets the ethical standards of research, the research protocol was submitted for IRB review by the UCU Research Ethics Committee.

Informed consent

The researcher sought informed consent from the participants before participating in the study. The researcher received informed consent from all the participants that took part in the study. A consent form was served to the participants in the language they understood well, and each participant endorsed that he or she consented voluntarily without manipulation or coercion. Participation in the research was voluntary, and the research participants were informed of their right to participate or withdraw at any time of their choice. The interviewees were always asked for consent to be recorded and if they do not feel comfortable with taping the interview, the device will not be used.

Confidentiality and Data Privacy

The researcher assured the participants that anonymity and confidentiality would be maintained the identity of individuals from whom construction was obtained during the study was kept strictly confidential. Ensuring confidentiality was regarded as an act of dignity, respect, and data protection practice. Thus, there was sensitive treatment of and privacy for data collected and analyzed. No construction revealing the identity of any individual shall be included in the final report or other communications prepared throughout the course of the study. The interview guide was completed, and no identification of the participants was required. All this is clearly explained in the cover letter that was requesting the participant to have an interview session. The researcher will allow the participants adequate time to reflect on the instruction provided and will not coerce them. The participants will not be paid for their participation in the study and will not be required

¹²⁶ Wong, Craig S., Amy J. Kogon, Bradley A. Warady, Susan L. Furth, John D. Lantos, and Benjamin S. Wilfond. "Ethical and policy considerations for genomic testing in pediatric research: the path toward disclosing individual research results." *American Journal of Kidney Diseases* 73, no. 6 (2019): 837-845.

to write their names or signatures. Confidentiality was discussed with the participants before they participated in the study.

Compensation:

Participation in the study was voluntary and so, there were no incentives for the participants. Nevertheless, a transport refund of 20,000/- shillings was given to participants who traveled for the interviews and FGDs to compensate for their time and transport.

1.17 Definition of Research Terms

Ecological Ministry:

This is a term that refers to the approach of the church to integrate ecological and environmental issues with the religious teachings of the church to address the environmental challenges and the ecological needs of the people. In this research, ecological ministry is used interchangeably with Eco-diakonia to mean the ministry activities of the church towards environmental protection, climate justice, and environmental stewardship.

Environment:

The term environment is defined as the total of the living (biotic: plants, animals, fisheries, birds, etc.) and non-living (abiotic: natural resources, land, water, rocks, air, etc.) elements in nature that influence human existence and development. So, in this study, the term environment is used in that very context of the word to incorporate all the ecological system that determines the survival of God's creation.

Stewardship:

Stewardship means the duties and obligations that humanity is assigned to do. From a biblical perspective, stewardship implies an act of faithfulness in nurturing and developing God-given talents, gifts, abilities, resources, and opportunities for own good and the good of humanity. Based on this definition, this research used the term stewardship to mean the actions of fulfilling God-given responsibilities and the administration of his resources entrusted to the church.

Environmental stewardship:

The compound term environmental stewardship is considered to mean a responsible management of activities carried out by human beings in accordance with the effect they have on nature in the way that enhances conservation of the environment to support all life forms in the ecosystem.¹²⁷ In this study, environmental stewardship is used in the context of managing environmental resources for the good of the community and the sustainability of God's creation.

Environmental sustainability:

The sustainability of the environment is defined as the conservation of the ecological system to support the appropriate present and future needs of nature.¹²⁸ Environmental sustainability portrays the need to protect the resources and the ecosystem for humanity to flourish. In this study, environmental sustainability is used to mean the responsibility of the church to maintain the continuity and conservation of the natural resources under their care to support future well-being of God's people.¹²⁹

Environmental conservation:

Environmental conservation is the practice of protecting, preserving, and managing natural resources and ecosystems to ensure their sustainability for future generations. It involves a balance between human needs and ecological integrity, focusing on reducing waste, preserving biodiversity, and combating issues like climate change and pollution. In this study, environmental conservation is used to mean the responsibility of the church to care for the environment because it is considered a divine responsibility to act as caretakers or stewards rather than owners. By protecting nature is considered as an act of worship and gratitude towards the creator.

Environmental Degradation:

¹²⁷ Mathevet, Raphaël, François Bousquet, Catherine Larrère, and Raphaël Larrère. "Environmental stewardship and ecological solidarity: Rethinking social-ecological interdependency and responsibility." *Journal of Agricultural and Environmental Ethics* 31 (2018): 605-623.

¹²⁸ Shutaleva, Anna. "Ecological culture and critical thinking: building of a sustainable future." *Sustainability* 15, no. 18 (2023): 13492.

¹²⁹ Hayat, Imran, Muhammad Sajad Malik, Muhammad Waris Ali, Muhammad Husnain, Muhammad Sharif, and Abdul Haleem. "The Role of Islamic Environmental Ethics in the Alleviation of Climate Challenges and the Preservation of Ecosystem." *Russian Law Journal* 11, no. 11S (2023): 395-404.

The degradation of the environment entails the destruction of the environment through harmful activities, such as air, water, and soil pollution. This leads to the loss of the ecosystem that supports human life and wildlife. In this study, environmental degradation is used in the context of creating changes in the environment that are perceived as undesirable, destructive, and compromise the survival of natural environment.

1.18 Overview of the study Chapters

Chapter one provides a general introduction to the study. It introduces the study by providing the background to the study, the statement of the problem being investigated, the objectives and questions that guided the study. It also explains the theoretical framework of the study and definitions of the research concepts. It also presents literature reviews and theoretical discussions concerning the involvement of the church in environmental stewardship. The chapter concludes with discussions of the research methodology entail the research design and approach adopted in the implementation of the study. The details of data collection, data analysis and ethical considerations are provided under methodology section.

Chapter two presents' findings of the current factors responsible for environmental degradation in Albertine region. In my analysis of each variable identified are discussed to reveal the level of significance of each factor about environmental degradation. This study analyzes the relationship of urbanization, population growth and economic growth to environmental management using the stewardship model, which is based on the belief that humans are stewards of God's creation and have the responsibility to care for it.

Chapter Three consists of findings on the role played by the Church of Uganda in environmental stewardship, specifically focusing on its efforts within the Albertine region. As a religious institution deeply rooted in the community, the Church of Uganda has the potential to exert significant influence and inspire positive change in environmental practices. In this chapter, church of Uganda is regarded as a prominent institution with capacity to contribute towards environmental stewardship. In exploring the role of the church in environmental stewardship, this study established the complex relationship that exists between the church and environmental management in Bunyoro Kitara Diocese.

Chapter Four examined the relationship between religious teachings and ethical practices for environmental stewardship. It highlights the role of religious teachings in promoting sustainable practices, conservation efforts, and responsible resource management. The current chapter (4) explores the interplay between religion, ethics, and environmental stewardship, to uncover the significant impact of religious teachings on fostering a harmonious coexistence between humans and nature. This chapter analyses the influence of conservation ethics and attitudes on environmental stewardship.

Chapter Five present findings on the theological practices the Church can employ to enhance environmental stewardship in the Albertine Region. It explores different approaches and strategies rooted in theological teachings that inspire active engagement in environmental conservation. This chapter presents findings on the theological practices that can be used to enhance environmental stewardship in Albertine region. The study findings are mainly analyzed to discuss the environmental theology that explains the relationship between humans and the natural world from a Christian perspective.

Chapter Six consists of the conclusions that I reflected on based on the study findings, to highlight the implications of the empirical findings. The chapter also entails my reflections on the research implications to the field of theology and ecology. Considering what the study accomplished, broader theoretical and practical recommendations are suggested. And finally, I propose areas of further research.

CHAPTER TWO

CURRENT FACTORS RESPONSIBLE FOR ENVIRONMENTAL DEGRADATION IN ALBERTINE REGION

2.1 Introduction

This chapter presents and analyzes the findings on the factors that have contributed to environmental degradation in the Albertine region. In my analysis of each variable identified, I make efforts to discuss the level of significance of each factor about environmental degradation.¹³⁰ In reference to previous studies and literature, an explanation of how the identified factors affect environmental management is presented. From the literature review as presented in the previous chapter of this study, the research questions focused on three main variables, namely: urbanization, population growth and economic growth. These were identified and measured in relation to their impact on environmental degradation. The researcher analyzed and interpreted the responses obtained from the participants who took part in this study. So, to achieve this objective, the participants were asked to state their level of agreement on how urbanization, population growth, and economic growth contribute to environmental degradation. These produced responses on the level of agreement concerning the current factors responsible for environmental degradation in the Albertine region. Environmental degradation is a global concern, with Albertine region being no exception. The variety of natural resources that are present in Albertine region and the poverty and environmental challenges present an ironical picture. What this study observed is that environmental issues in Albertine region and parts of Uganda require comprehensive understanding of the economic, social and political issues that affect environmental sustainability.

This study analyzes the relationship of urbanization, population growth and economic growth to environmental management using the stewardship model, which is based on the belief that humans are stewards of God's creation and have the responsibility to care for it.¹³¹ The stewardship model suggests that human activities should be managed in a way that protects and sustains the

¹³⁰ Areas affected with environmental degradation as indicated on the Map of Albertine region in appendix IV.

¹³¹ Rabwoni, Bernard. "Ecological stewardship and environmental crisis in uganda: insights from religious teachings, root causes of crisis, and pathways to sustainable solutions." *African Journal of Emerging Issues* 6, no. 14 (2024): 1-20.

environment.¹³² So, based on this model, humans have a moral obligation to consider the environmental impacts of their decisions, including their decisions about reproduction. And from stewardship perspective, urbanization, population growth and pursuit for economic growth should be managed in a way that minimizes its negative impacts on the environment¹³³. Stewardship model promotes what is exhorted in the Christian Bible, Genesis 1:26-28; Psalm 24:1 and Matthew 6:25-33, which stresses the need for humanity to be responsible and steward the creation of God. To analyze how population and economic growth contribute to environmental degradation, I will examine how the populaces in Albertine region have not observed stewardship principles of environmental management. This will expose how mismanagement of population and economic growth lead to environmental degradation. In this research, environmental degradation consists of detrimental alterations occurring in the environment, which emerge from human activities and the natural processes¹³⁴. The phenomenon of environmental degradation poses a significant threat to humanity and sustainability of ecosystems¹³⁵. Understanding the prevailing factors that contribute to environmental degradation is one major step to addressing this global challenge that has diverse impacts on the current and future generations¹³⁶.

The analysis and discussion of the relationship of urbanization and environmental management is achieved using the social justice model, which is based on the belief that all people in a community have the right to clean and healthy environment¹³⁷. From the social justice perspective, urbanization should be promoted in the manner that ensures that everyone has access to resources that enable them to have good life without destroying the environment¹³⁸. Whatever development

¹³² Bennett, Nathan J., Tara S. Whitty, Elena Finkbeiner, Jeremy Pittman, Hannah Bassett, Stefan Gelcich, and Edward H. Allison. "Environmental stewardship: A conceptual review and analytical framework." *Environmental management* 61 (2018): 597-614.

¹³³ Quincey, D. J., Luckman, A., Hessel, R., Davies, R., Sankhayan, P. L., & Balla, M. K. (2007). Fine-resolution remote-sensing and modelling of Himalayan catchment sustainability. *Remote sensing of environment*, 107(3), 430-439.

¹³⁴ Falkner, Robert, and Barry Buzan. "The emergence of environmental stewardship as a primary institution of global international society." *European Journal of International Relations* 25, no. 1 (2019): 131-155.

¹³⁵ Mohammed Jabar Odah, Ahmed Abd Ali Kazem, Hussain Hamza Hussein, and Raed Abd AL-kadum mageed Brism. "The Impact of Human Activities on Environmental Sustainability." *Journal of Medical Genetics and Clinical Biology* 1, no. 8 (2024): 119-141.

¹³⁶ Inbit, Mohammed Jabar Odah, Ahmed Abd Ali Kazem, Hussain Hamza Hussein, and Raed Abd AL-kadum mageed Brism. "The Impact of Human Activities on Environmental Sustainability." *Journal of Medical Genetics and Clinical Biology* 1, no. 8 (2024): 119-141.

¹³⁷ Schlosberg, D. (2004). Reconceiving environmental justice: global movements and political theories. *Environmental politics*, 13(3), 517-540.

¹³⁸ Inbit, Mohammed Jabar Odah, Ahmed Abd Ali Kazem, Hussain Hamza Hussein, and Raed Abd AL-kadum

is planned and implemented should not oppress humankind, because it has led to destruction of the environment that is a source of livelihood. About the social and cultural context of Albertine region, the above-mentioned models will provide a framework for analysis and interpretation of the factors responsible for environmental degradation.

2.2 Current Factors Responsible for Environmental Degradation in Albertine Region

To obtain the findings on current factors responsible for environmental degradation were measured as indicated in the table below.

Variable	Category	Measurement Scale	Interpretation of the scale
Urbanization	Aspects of urbanization that affect the environment	Likert scale 1-5	1= Strongly disagree 2= Disagree
Population growth	Aspects of population growth that affect the environment	Likert scale 1-5	3= Neutral 4= Agree
Economic growth	Aspects of economic growth that affect the environment	Likert scale 1-5	5=Strongly agree

Urbanization

Urbanization is a terminology used to describe the changes within cities in the aspects of magnitude, concentration and divergency. Urbanization is related to movement of populations and resources from rural and suburban areas to urban areas and traditionally has been linked to industrialization, although current patterns of migration toward cities in the developing world appears to be independent of industrialization.¹³⁹ Although urbanization is demographically

mageed Brism. "The Impact of Human Activities on Environmental Sustainability." *Journal of Medical Genetics and Clinical Biology* 1, no. 8 (2024): 119-141.

¹³⁹ Ahmed, Z., Le, H. P., & Shahzad, S. J. H. (2022). Toward environmental sustainability: how do urbanization, economic growth, and industrialization affect biocapacity in Brazil? *Environment, Development and Sustainability*, 24(10), 11676-11696.

categorized in terms of size, density, and heterogeneity, reveals more implications for humanity when viewed through a theological-phenomenological lens. From the interaction with participants in this study, urbanization emerged as a deeply personified and theological experience that reshapes human identity, moral imagination, and the circumstances of celestial encounter.

Phenomenologically, it is necessary for Eco theologians to discuss the ways in which urban space forms the horizon of human intentionality, embodiment, and relationality.¹⁴⁰ The transition from rural to urban is not merely spatial or economic, but it is a reorientation of the lifeworld, affecting how people perceive time, community, and God. Urban environments alter not just behavior but moral and spiritual perception, that shape how humanity approaches their relationship with nature. Recent theological reflections on the city emphasize the symbolic and eschatological significance of urban life. In his work *Theology in the Capitalocene*, Michael Northcott argues that cities are not just ecological and economic hubs but spiritual ecosystems, shaping the ethical responses of their inhabitants in light of creation care and social justice.¹⁴¹ Similarly, Eric O. Jacobsen's *The Space Between* stresses the sacramental dimensions of urban life, where even mundane interactions within public space are potential sites of divine grace.¹⁴² These insights resonate with phenomenological theology in asserting that urbanization constitutes a reshaping of relational space, where God may be encountered in proximity to strangers, injustices, and new solidarities.

Urbanization also transforms religious practices and theological expressions. As Graham Hill explores in *Global Church*, urban Christians are forging new theologies of community, hospitality, and justice from the underside of global cities.¹⁴³ These theologies are improvisational, embodied, and responsive—less institutional than incarnational. Urban faith is lived amidst slums, skyscrapers, marketplaces, and refugee centers, revealing new forms of public theology that resist privatization and spiritual individualism.

¹⁴⁰ James K. A. Smith, *How (Not) to Be Secular: Reading Charles Taylor* (Grand Rapids, MI: Eerdmans, 2014), 23–27.

¹⁴¹ Michael Northcott, *Theology in the Capitalocene: Ecology, Identity, Class and Solidarity* (Lanham, MD: Lexington Books/Fortress Academic, 2022), 51–55.

¹⁴² Eric O. Jacobsen, *The Space Between: A Christian Engagement with the Built Environment* (Grand Rapids, MI: Baker Academic, 2012), 109–120.

¹⁴³ Graham Hill, *Global Church: Reshaping Our Conversations, Renewing Our Mission, Revitalizing Our Churches* (Downers Grove, IL: IVP Academic, 2016), 225–230.

Based on the study findings and interaction with previous literature, theological phenomenology recognizes that the city is both a site of divine immanence and divine absence. In cities marked by inequality, and ecological degradation, the divine is often obscured. Urbanization, then, becomes not only a crisis of belonging but also a sacramental possibility. The challenge for theology is not merely to critique urban systems but to discern how grace might become visible in the tension between alienation and communion.

To understand the context of the factors affecting environmental management in Albertine region, empirical data on public perceptions of urbanization's impact on the environment, collected via a Likert-scale survey. Each variable represents a specific dimension of the urban-environment relationship. A phenomenological research approach is used to underscore the lived experience, perception and meaning making and frames the findings through Eco theological lenses, which interpret environmental crises considering theological ethics and the doctrine of creation.

The findings presented in table 2.1 below show the statistics on how urbanization has contributed to environmental degradation. With the rapid growth of Hoima city and towns in Bunyoro Kitara diocese which include Buliisa, Kikuube, Kagadi, Kibale and Kakumiro, population of the people in the region continues to grow, with rural -urban migration. This trend poses several implications for environmental stewardship within the region. In the analysis process, I agree that the relationship between urbanization and environmental stewardship is complex. The complex issue regarding urbanization and environmental management is that dynamic relationship between urbanization and economic development in contemporary Uganda.

The findings in table 2.2 reveal the perceptions of participants on how urbanization contributes to environmental degradation in the Albertine region. And according to the findings, most participants strongly agreed (37%), and agreed (30%) that urbanization leads to spreading disease and poor health. While 37% and 23% strongly agreed and agreed respectively that economic benefits of urbanization came at the expense of the environment. Additionally, technological advancements accompanying urbanization contributed to environmental degradation, with 20% strongly agreeing, 25% agreeing, and 19% undecided. However, 30% were undecided and 21% disagreed about urbanization having strain on the environment.

60% of the participants that affirm that economic benefits of urbanization come at the expense of the environment, highlights a collective lived tension. The participants recognize urban progress but experience it as environmentally costly. The subjective awareness of ecological loss underpins this perception, rooted not just in abstract knowledge but embodied experiences of degraded air, reduced green spaces, or polluted water. From an Eco theological viewpoint, the moral failure here is the instrumentalization of the Earth, violating the biblical vision of stewardship (Genesis 2:15), in which humans are to "till and keep" the garden, not deplete it.

Table 2.2: Responses on how Urbanization has caused environmental degradation in Albertine region, n=170

Variable	Category	Responses in Percent %					Total
		SA	A	NS	DA	SDA	
Urbanization	Economic benefits of urbanization come at the expense of the environment	37	23	15	8	17	100
	Urbanization strains natural resources and ecosystems	11	29	30	21	9	100
	Urbanization leads to disease spread and poor health	37	30	10	8	15	100
	Technological advancements accompanying urbanization worsen environmental degradation	20	25	19	21	15	100

Source: Field Data Collected on 2nd July 2023

During the focus group discussions, it was likewise revealed by a significant proportion of participants who strongly agreed that urbanization, urbanization's economic benefits come at the expense of the environment. One participant recounted:

With the rapid expansion of cities and towns, we are witnessing the loss of green spaces and natural habitats. The construction of buildings, roads, and infrastructure encroaches

upon forests and wetlands, resulting in increased environmental degradation, pollution, and resource depletion (FGDs on 23rd May 2023).

Another participant during the focus group discussion further highlighted that;

Ever since the discovery of oil many companies have come to Albertine region to set up oil processing facilities, something that has led to the cutting down of the forest to create spaces for these facilities. The high demand for housing from workers creates overcrowding, leading to the development of slums and lower living standard (FGDs on 23rd May 2023).

The argument raised in the discussions was the phenomenon of losing the environment as infrastructural developments are implemented. The notion of destroying the environment for development purposes is observed by the researcher as destructive in environmental management. In addition to destruction of the environment, another participant noted that:

Urbanization comes with increased pollution levels. Industries and vehicles release harmful emissions, and the improper waste management in urban areas further degrades the environment. The noise pollution from these heavy machines scares wildlife animals hence chasing them away from their protected habitats to unprotected areas where they are easily harmed (FGD on 23rd May 2023).

On the same note other respondents during the interview indicated that;

Currently we have seen an increase in the number of cars in this area, something previously was very rare and it would take over two days without a car passing specifically in the areas of Wanseko but now there are many cars from oil companies. Some of these cars move with a lot of smog and others seem not to be having or having little smog. Again, production facilities located near residential areas expose millions of people to toxic pollution, resulting in respiratory, cardiovascular, and other serious diseases (Interview on 23rd May 2023).

These voices from the focus group discussions highlight the detrimental impacts of urbanization on the environment. Participants recognized the conversion of natural landscapes into concrete

jungles and the associated consequences, such as air and water pollution, as major concerns. Uncontrolled urbanization without proper environmental planning and regulation can exacerbate environmental degradation. The expansion of urban areas often leads to converting agricultural land and forests, disrupting ecosystems and fragmenting habitats. The increased demand for infrastructure and resources also strains water, energy, and waste management systems, leading to resource depletion and environmental pollution. The insights provided by the participants reinforce the need for proactive measures to mitigate the environmental consequences of urbanization and promote sustainable urban development practices in the Albertine Region.

Through many of the people expressed the challenges to the environment because of urbanization one of the tellers in the focus group discussion highlighted that: “the cutting of the forest in these areas has also helped us in getting the big towns that we now have.” (Oral Interview, 3rd July 2023).

The findings above align with Nissl and Siedentop who found strong correlations between urbanization and environmental degradation.¹⁴⁴ They revealed significant associations between urban expansion, land use change, and indicators of environmental degradation such as deforestation, habitat loss, and water pollution. These factors contributed to converting natural landscapes into urban areas, leading to the loss of forest cover, fragmentation of ecosystems, and disruption of wildlife habitats. The study also highlighted the role of urbanization in increasing pollution levels, with industrial activities, transportation emissions, and improper waste management practices being significant contributors to environmental pollution, including air and water pollution. In a report by UNEP, air pollution was indicated to be responsible for 7 million deaths each year within cities.¹⁴⁵

There are both challenges and opportunities associated with urbanization, and it is important to carefully consider both when developing policies and programs. On the one hand, urbanization can lead to several environmental problems. For example, cities are major sources of air pollution

¹⁴⁴ Nissl I, H., & Siedentop, S. (2021). Urbanization and land use change. *Sustainable land management in a European context: a co-design approach*, 75-99.

¹⁴⁵ Yakubu, Okhumode H. "Addressing environmental health problems in Ogoni land through implementation of United Nations environment program recommendations: environmental management strategies." *Environments* 4, no. 2 (2017): 28.

from vehicles, industry, and power plants.¹⁴⁶ Air pollution can cause several health problems, including respiratory infections, heart disease, and cancer. Urbanization can also lead to water pollution from sewage, runoff from paved surfaces, and industrial waste.¹⁴⁷ Water pollution can make water unsafe for drinking and can also damage ecosystems. Other environmental challenges associated with urbanization include congestion, noise pollution, and waste disposal.

This view was also further expounded by one of the respondents during the interview who indicated that;

Most of the waste from the industries is being observed in the running water and yet this is the water we survive on by drinking and fishing. The water we are drinking is contaminated with plastics and other poisonous wastes leading to the suffering of many people from respiratory illnesses, skin irritation, and we are expecting long-term illnesses like cancer in the region (Oral Interview on 23rd May 2023).

On the other hand, urbanization also presents opportunities for environmental stewardship. For example, cities can invest in renewable energy sources to reduce their reliance on fossil fuels¹⁴⁸. Cities can also improve public transportation to reduce traffic congestion and air pollution. Additionally, cities can develop green spaces, such as parks and gardens, to improve air quality and provide recreational opportunities for residents. Finally, cities can reduce waste by implementing waste reduction and recycling programs¹⁴⁹.

Although urbanization is presented as a major driver of environmental degradation, assert that the impact of urbanization on environmental degradation varies depending on the level of

¹⁴⁶ Bertolina, C., Farotto, M., Crivellari, S., Giaccherio, F., Grasso, C., Bertolotti, M., & Maconi, A. (2023). Summary of the 2016 World Health Organization Report and 2021 Compendium on Environmental Diseases. *Working Paper of Public Health*, 11(1).

¹⁴⁷ Yakubu, Okhumode H. "Addressing environmental health problems in Ogoni land through implementation of United Nations environment program recommendations: environmental management strategies." *Environments* 4, no. 2 (2017): 28.

¹⁴⁸ Henderson, K., & Lareau, M. (2023). A model of Sustainable Development Goals: Challenges and opportunities in promoting human well-being and environmental sustainability. *Ecological modelling*, 475, 110164.

¹⁴⁹ Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." *The Extractive Industries and Society* 6, no. 2 (2019): 358-366.

development of the country or region.¹⁵⁰ In developing countries, urbanization is often associated with higher levels of environmental degradation than in developed countries.¹⁵¹ This is because developing countries often lack the infrastructure and resources to manage the environmental impacts of urban growth.¹⁵² It can further be argued that the environmental impacts of urbanization also depend on a number of factors, including the size of the city, the rate of urban growth, and the types of economic activities taking place in the city. For example, large cities with high levels of industrialization are more likely to experience air pollution and water pollution¹⁵³. In an interview one participant said:

“There are many good buildings that are coming up in these areas like for example Wanseko, Kigorobyia and Bullisa towns. These towns are now growing at a very high speed of which were previously villages” and excessive construction eliminates green spaces, reducing the land’s ability to absorb water and increasing the likelihood of flooding (Oral Interview, 5th July 2023).

During the Focus group discussion, the participants further indicated that;

“We did not have good roads but now all the main roads in Buliisa, Hoima, Kagadi, Wanseko and Kikuube districts are tarmacked which has eased transport, business and networking with other areas but again on the other hand, high quality and smooth surfaces have encourage drivers to exceed safe speeds, directly resulting in more severe accidents, soil erosion, alteration of natural water channels, and increased pollution, including toxic from runoff (Oral Interview, 5th July 2023).

¹⁵⁰ Nathaniel, Solomon P., Nnamdi Nwulu, and Festus Bekun. "Natural resource, globalization, urbanization, human capital, and environmental degradation in Latin American and Caribbean countries." *Environmental Science and Pollution Research* 28 (2021): 6207-6221.

¹⁵¹ Sarkodie, Samuel Asumadu. "The invisible hand and EKC hypothesis: what are the drivers of environmental degradation and pollution in Africa?" *Environmental Science and Pollution Research* 25, no. 22 (2018): 21993-22022.

¹⁵²¹⁵²Nasir, Muhammad Ali, Nguyen Phuc Canh, and This Ngoc Lan Le. "Environmental degradation & role of financialization, economic development, industrialization and trade liberalization." *Journal of Environmental Management* 277 (2021): 111471.

¹⁵³ Kuule, Derick Ansyijar, Benard Ssentongo, Paul John Magaya, Gordon Yofesi Mwesigwa, Isaac Tom Okurut, Kenneth Nyombi, Anthony Egeru, and John Robert Stephen Tabuti. "Land use and land cover change dynamics and perceived drivers in rangeland areas in Central Uganda." *Land* 11, no. 9 (2022): 1402.

During the interviews one of the key respondents asserted that;

“Most of the people who come to the Albertine region are foreigners such as Chinese, Indians, and Ugandans from other regions who come to get jobs in the oil sector at the central processing facility. Even now, when you go to the Albertine region towns like Wanseko, Kigoroby and Buliisa trading Centers, you find them there having built houses after clearing some places which were once forests and put their amusement facilities like hotels”. These hotels have significantly impacted the environment through high resource consumption and pollution (Oral Interview, 5th July 2023).

According to findings and my observations, urbanization has increased demand for resources¹⁵⁴. It should be noted that the growing cities in the Albertine Region have led to consumption of more resources, such as water, energy, and food. This eventually led to increased pollution and depletion of natural resources¹⁵⁵. Land degradation is a serious problem in the Albertine Region, especially in areas where there are deforestation and overgrazing. The pursuit of urbanization often leads to the destruction of green spaces, such as forests and wetlands. These green spaces play an important role in filtering air and water pollution to provide habitat for wildlife. Previous studies have argued that the demand for natural resources often lead to increase in urban concentration, which has a significant impact on the environment, the quality of life and the standard of living for urban residents¹⁵⁶.

In the effort to understand how urbanization has influenced environmental management, the current study recounts that pursuit of resources in Albertine region has promoted rapid urbanization and at the same time lowered the standards of living¹⁵⁷.

¹⁵⁴ Ahmed, Zahoor, Muhammad Wasif Zafar, and Sajid Ali. "Linking urbanization, human capital, and the ecological footprint in G7 countries: an empirical analysis." *Sustainable cities and society* 55 (2020): 102064.

¹⁵⁵ Zerbo, A., Delgado, R. C., & González, P. A. (2020). A review of the risk of cholera outbreaks and urbanization in sub-Saharan Africa. *Journal of biosafety and biosecurity*, 2(2), 71-76.

¹⁵⁶ Ebeke, C. H., & Etoundi, S. M. N. (2017). The effects of natural resources on urbanization, concentration, and living standards in Africa. *World Development*, 96, 408-417.

¹⁵⁷ Tuem, S. R., Ndomou, M., Manz, K. J. C., Nchoutpouen, N. M., & Gouado, I. (2021). Effect of aqueous and methanolic extracts of *Solanum aethiopicum* Linn Gilo (Solanaceae) leaves on body weight and Glycemia in rats with alloxan-induced diabetes. *Journal of Pharmacognosy and Phytochemistry*, 10(5), 142-146.

This finding was further outlined during the interview where one of the respondents established that;

“The construction of the airport took my land and now I don’t have where to stay with my big family. Per now I am staying in a very small piece of land because the compensation was not well affected and up to now, I have not been able to buy enough land to cultivate enough food and getting income to support my big family”. (Oral Interview, July 2023).

The standard of living is affected by resource scarcity which comes by the realities of urbanization, and the inability to exploit the natural resources for economic development. The current study also established that urbanization results in housing problems and urban poverty especially among the residents of Albertine region. In Uganda generally, the rapid urbanization and poor performance of the economy have facilitated the formation of slums in areas and hence increased the demand for housing. The findings further show that resources and urbanization are greatly associated with and impact each other. In the context of environmental conservation, rapid urbanization creates increased demand for resources, which has eventual influence on environmental management¹⁵⁸.

And from the perspective of stewardship, communities are less careful regarding stewardship of natural resources, when it comes to strive for survival.¹⁵⁹ On this note, Wassie, Simachew also assert that urbanization in Africa is accelerating very rapidly and poses significant economic challenges as well as it brings economic opportunities.¹⁶⁰ Overall, the impact of urbanization on environmental stewardship is complex and depends on a number of factors, such as the level of development of the country or city, the policies that are in place, and the choices that individuals make.¹⁶¹ Previous studies also confirm that urbanization creates both opportunities and challenges.

¹⁵⁸ Raihan, Asif, Dewan Ahmed Muhtasim, Sadia Farhana, Monirul Islam Pavel, Omar Faruk, Mostafizur Rahman, and Abir Mahmood. "Nexus between carbon emissions, economic growth, renewable energy use, urbanization, industrialization, technological innovation, and forest area towards achieving environmental sustainability in Bangladesh." *Energy and Climate Change* 3 (2022): 100080.

¹⁵⁹ Kumar, Gopal, Supriya Vyas, Shashikant Nishant Sharma, and Kavita Dehalwar. "Challenges of Environmental Health in Waste Management for Peri-urban Areas." In *Solid Waste Management: Advances and Trends to Tackle the SDGs*, pp. 149-168. Cham: Springer Nature Switzerland, 2024.

¹⁶⁰ Wassie, Simachew Bantigegn. "Natural resource degradation tendencies in Ethiopia: a review." *Environmental systems research* 9, no. 1 (2020): 1-29.

¹⁶¹ Malandrino, Ornella, Daniela Sica, and Stefania Supino. "The role of public administration in sustainable urban development: Evidence from Italy." *Smart Cities* 2, no. 1 (2019): 82-95.

¹⁶²However, urbanization will have a significant impact on the environment in the coming decades. It is important to develop and implement policies and practices that promote sustainable and efficient environmental management in urban areas.¹⁶³ This has implication for the church, which is responsible for raising awareness regarding the impact of urbanization.

The findings obtained in the current study indicate that rural urbanization is prevalent in Albertine region due to search for economic development and improved livelihood. Although studies have indicated that urbanization positively impacts average income of the populace, no statistical evidence has confirmed this relationship.¹⁶⁴ Rather it is clearly observed that urbanization is associated with economic, social and environmental challenges that urban cities face. This calls for strategies that integrate approaches centered on environmental stewardship and based on the local contextual realities that have influence on environmental management and socio-economic development¹⁶⁵.

The rapid urbanization that is taking place around the world is having a significant impact on environmental stewardship; on the one hand, urbanization can lead to several environmental problems, such as air and water pollution, congestion, and waste disposal¹⁶⁶. On the other hand, urbanization can also create opportunities for more sustainable and efficient environmental management¹⁶⁷.

Urbanization has been considered as an environmental hazard because it leads to destruction of ecosystems to have residential and commercial buildings.¹⁶⁸ This process results in the loss of

¹⁶² Güneralp, B., Lwasa, S., Masundire, H., Parnell, S., & Seto, K. C. (2017). Urbanization in Africa: challenges and opportunities for conservation. *Environmental research letters*, 13(1), 015002.

¹⁶³ Angelidou, Margarita, Artemis Psaltoglou, Nicos Komninos, Christina Kakderi, Panagiotis Tsarchopoulos, and Anastasia Panori. "Enhancing sustainable urban development through smart city applications." *Journal of science and technology policy management* 9, no. 2 (2018): 146-169.

¹⁶⁴ Turok, Ivan, Andreas Scheba, and Justin Visagie. "Rethinking urbanization and economic development: a synopsis." *Environment & Urbanization* 35, no. 2 (2023): 297-309.

¹⁶⁵ Turok, Ivan, Andreas Scheba, and Justin Visagie. "Rethinking urbanization and economic development: a synopsis." *Environment & Urbanization* 35, no. 2 (2023): 297-309.

¹⁶⁶ Atieku, J. N., and S. K. Segbefia. "Land Degradation: A Global Challenge and its Effects on Humankind and the Environment, with a Special Focus on Ghana." *Indiana Journal of Humanities and Social Sciences* 5, no. 7 (2024): 58-64.

¹⁶⁷ Voumik, Liton Chandra, and Tasnim Sultana. "Impact of urbanization, industrialization, electrification and renewable energy on the environment in BRICS: fresh evidence from novel CS-ARDL model." *Heliyon* 8, no. 11 (2022).

¹⁶⁸ Dadashpoor, Hashem, Parviz Azizi, and Mahdis Moghadasi. "Land use change, urbanization, and change in landscape pattern in a metropolitan area." *Science of the Total Environment* 655 (2019): 707-719.

biodiversity, disruption of ecosystems, and reduced availability of natural resources. Studies have shown that urban expansion is a significant driver of deforestation, wetland loss, and soil degradation, contributing to global environmental degradation¹⁶⁹.

The region is also experiencing rapid urbanization and population growth, partly driven by oil-related migration, employment opportunities, and development projects. While the oil industry promises economic growth and infrastructure development, it also raises complex issues surrounding environmental degradation, displacement of communities, disruption of wildlife habitats, and social inequality. This urban expansion puts increasing pressure on land use, biodiversity, and public services. These dynamics make the Albertine Region a critical case study for integrated ecological and theological analysis, particularly in light of environmental ethics, and theological visions of justice, creation care, and environmental stewardship.

The population that occupies urban communities leads to air pollution.¹⁷⁰ Urban air pollution is primarily caused by emissions from vehicles, industrial activities, and energy consumption¹⁷¹. Scholars have regarded pollution matter as detrimental to the life of an ecosystem.¹⁷² The phenomenon of urban heat islands further exacerbates air quality issues in cities, amplifying the impacts of air pollution on urban environments¹⁷³.

Urbanization affects water quality through increased runoff of pollutants, sewage discharge, and changes in hydrological patterns.¹⁷⁴ Urban areas often experience higher levels of water pollution due to surface runoff carrying contaminants such as heavy metals, chemicals, and nutrients into water bodies¹⁷⁵. This pollution can degrade aquatic ecosystems, impair drinking water sources,

¹⁶⁹ Hana, Zidfina Aunal, and Amin Pujiati. "The Influence of urbanization on environmental, economic, and social performance." *Journal of Economic Education* 12, no. 1 (2023): 42-54.

¹⁷⁰ Xu, Xi, Yujing Xie, Ke Qi, Zukui Luo, and Xiangrong Wang. "Detecting the response of bird communities and biodiversity to habitat loss and fragmentation due to urbanization." *Science of the total environment* 624 (2018): 1561-1576.

¹⁷¹ Hald-Mortensen, Christian. "The Main Drivers of Biodiversity Loss: A Brief Overview." *Journal of Ecology and Natural Resources* 7, no. 3 (2023): 000346.

¹⁷² Li, Guangdong, Chuanglin Fang, Yingjie Li, Zhenbo Wang, Siao Sun, Sanwei He, Wei Qi et al. "Global impacts of future urban expansion on terrestrial vertebrate diversity." *Nature Communications* 13, no. 1 (2022): 1628.

¹⁷³ Soni, H., Yadav, R. K., & Patra, S. K. (2024). Global Impact of Urbanization on Ecosystems: A Comprehensive Bibliometric Analysis. *Natural Hazards Research*.

¹⁷⁴ Agrawal, Kamal Kishore, Chittaranjan Panda, and Mahendra Kumar Bhuyan. "Impact of urbanization on water quality." In *Current Advances in Mechanical Engineering: Select Proceedings of ICRAMERD 2020*, pp. 665-673. Springer Singapore, 2021.

¹⁷⁵ Agrawal, Kamal Kishore, Chittaranjan Panda, and Mahendra Kumar Bhuyan. "Impact of urbanization on water

and pose risks to human health. Urban development also contributes to the loss of wetlands and natural water filtration systems, further compromising water quality and availability¹⁷⁶.

The rapid increase in urbanization is linked to generation of waste materials that affect the ecosystem of the cities.¹⁷⁷ This contributes to environmental hazardless and pollution that exacerbate environmental degradation. Sustainable waste management strategies, including recycling, composting, and waste-to-energy technologies, are critical for minimizing the negative effects of urbanization on the environment. Previous studies equally associate urbanization with diverse effects of pollution that affect the ecosystem.¹⁷⁸ The concentration of built infrastructure and impervious surfaces in cities alters local climate conditions, leading to the urban heat island effect and changes in precipitation patterns¹⁷⁹. These climate impacts further stress ecosystems, water resources, and vulnerable communities in urban areas, highlighting the interconnectedness of urbanization and global environmental change¹⁸⁰.

Many African countries experience significant deforestation because of the conquest for fuel, agricultural land and habitation of the residents. This loss of forest cover leads to habitat destruction, soil erosion, loss of biodiversity, and contributes to climate change by reducing carbon sequestration capacity¹⁸¹.

Practices, such as overgrazing, monoculture farming, and improper land management, are considered destructive to the environment and lead desertification of the soil.¹⁸² This leads to

quality." In *Current Advances in Mechanical Engineering: Select Proceedings of ICRAMERD 2020*, pp. 665-673. Springer Singapore, 2021.

¹⁷⁶ Ahakwa, I. (2023). The role of economic production, energy consumption, and trade openness in urbanization-environment nexus: a heterogeneous analysis on developing economies along the Belt and Road route. *Environmental Science and Pollution Research*, 30(17), 49798-49816.

¹⁷⁷ Agrawal, Kamal Kishore, Chittaranjan Panda, and Mahendra Kumar Bhuyan. "Impact of urbanization on water quality." In *Current Advances in Mechanical Engineering: Select Proceedings of ICRAMERD 2020*, pp. 665-673. Springer Singapore, 2021.

¹⁷⁸ Agrawal, Kamal Kishore, Chittaranjan Panda, and Mahendra Kumar Bhuyan. "Impact of urbanization on water quality." In *Current Advances in Mechanical Engineering: Select Proceedings of ICRAMERD 2020*, pp. 665-673. Springer Singapore, 2021.

¹⁷⁹ Liu, Jin, Zhenyao Shen, and Lei Chen. "Assessing how spatial variations of land use pattern affect water quality across a typical urbanized watershed in Beijing, China." *Landscape and Urban Planning* 176 (2018): 51-63.

¹⁸⁰ Wen, Huwei, Chien-Chiang Lee, and Ziyu Song. "Digitalization and environment: how does ICT affect enterprise environmental performance?" *Environmental Science and Pollution Research* 28, no. 39 (2021): 54826-54841.

¹⁸¹ Tahir, M., Burki, U., & Azid, T. (2022). Terrorism and environmental sustainability: Empirical evidence from the MENA region. *Resources, Environment and Sustainability*, 8, 100056.

¹⁸² Ali, Fatma Faraj, Ahmed Salem Buhedma, and Tariq Abdulrahman Nouh. "Land Degradation and Desertification." In *Achieving Food Security Through Sustainable Agriculture*, pp. 50-80. IGI Global, 2024.

reduced agricultural productivity, food insecurity, and displacement of populations in affected areas, Water resources in Africa are under pressure from various sources, including pollution from industrial activities, agricultural runoff, and inadequate sanitation systems¹⁸³. This results in water scarcity, waterborne diseases, and ecosystem degradation.¹⁸⁴ Climate change has greatly affected countries, with changes in rainfall seasons, rising temperatures, and more frequent severe weather events such as scarcities and floods affect livelihood and food security.¹⁸⁵ These changes disrupt agricultural systems, affect the availability of water, the standard of living, leading to poverty and scarcity of food. Rapid urbanization in African cities brings challenges such as air pollution from vehicles and industries, inadequate waste management leading to pollution of land and water bodies, and pressure on natural resources due to growing populations¹⁸⁶. Africa is home to rich biodiversity, but this is increasingly threatened by habitat destruction, poaching, illegal wildlife trade, and climate change¹⁸⁷. Loss of biodiversity not only impacts ecosystems but also affects human well-being through loss of ecosystem services and potential medicinal resources¹⁸⁸.

In Uganda, majority people resort to rural-urban migration in search for better livelihood in urban communities. Because of scarcity of land and employment opportunities, rural urban migration has contributed greatly to increase in urbanization. In addition, high population, coupled with improvements in healthcare and declining mortality rates, contribute to natural population increase, further fueling urban growth¹⁸⁹. Urban areas in Uganda offer a range of economic

¹⁸³ Abdi, Omar A., Edinam K. Glover, and Olavi Luukkanen. "Causes and impacts of land degradation and desertification: Case study of the Sudan." *International Journal of Agriculture and Forestry* 3, no. 2 (2013): 40-51.

¹⁸⁴ Mishra, Rakesh Kumar. "Fresh water availability and its global challenge." *British Journal of Multidisciplinary and Advanced Studies* 4, no. 3 (2023): 1-78.

¹⁸⁵ Ahmed, Toqeer, Mohammad Zounemat-Kermani, and Miklas Scholz. "Climate change, water quality and water-related challenges: a review with focus on Pakistan." *International journal of environmental research and public health* 17, no. 22 (2020): 8518.

¹⁸⁶ Iyiola, Adams Ovie, Akinfenwa John Akinrinade, and Francis Oluwadamilare Ajayi. "Effects of Water pollution on biodiversity along the coastal regions." In *Biodiversity in Africa: Potentials, Threats and Conservation*, pp. 345-367. Singapore: Springer Nature Singapore, 2022.

¹⁸⁷ Zakar, Muhammad Zakria, Dr Rubeena Zakar, and Florian Fischer. "Climate change-induced water scarcity: a threat to human health." *South Asian Studies* 27, no. 2 (2020).

¹⁸⁸ Hummel, S., Weiß, A., Bonifacio, E., Agardh, D., Akolkar, B., Aronsson, C. A., ... & Ziegler, A. G. (2021). Associations of breastfeeding with childhood autoimmunity, allergies, and overweight: The Environmental Determinants of Diabetes in the Young (TEDDY) study. *The American journal of clinical nutrition*, 114(1), 134-142.

¹⁸⁹ Mukherjee, Santanu, Arbind Kumar Patel, and Manish Kumar. "Water scarcity and land degradation nexus in the Anthropocene: reformations for advanced water management as per the sustainable development goals." *Emerging Issues in the Water Environment during Anthropocene: A Southeast Asian Perspective* (2020): 317-336.

opportunities, including formal employment, entrepreneurship prospects, access to services, and markets¹⁹⁰.

With increase in rural-urban migration, there is competition housing, water supply, sanitation, and transportation, which lead to overcrowding, slum proliferation, and inadequate service delivery. The influx of migrants to urban areas exacerbates unemployment challenges, with many individuals engaging in the informal sector due to limited formal job opportunities. Urbanization contributes to environmental degradation through increased pollution, deforestation, waste generation, and pressure on natural resources, posing sustainability challenges¹⁹¹.

Uganda has experienced rapid urbanization in recent decades, driven by factors such as rural-urban migration, population growth, and economic development¹⁹². According to the Uganda Bureau of Statistics (UBOS), the urban population increased from 6.7 million in 2014 to 7.5 million in 2021, with Kampala, the capital city, being the primary urban center of growth¹⁹³. This rapid urban growth has led to various environmental challenges, the increase in population is not only in Kampala but also in Albertine towns like Hoima, Masindi and Buliisa, the towns in Albertine regions whose population now has moved up to 2.1million have faced population growth which has exacerbated environmental challenges in the region¹⁹⁴.

One of the challenges facing Albertine region is air pollution and it's a significant issue since its affecting the lives of the wildlife, this air is mainly due to the increasing oil and gas exploration specifically by emissions being emitted from large construction trucks, industries, heavy machinery and biomass burning for cooking,¹⁹⁵ at the moment quality of air in Albertine has

¹⁹⁰ Farrukh, M., Ansari, N., Raza, A., Wu, Y., & Wang, H. (2022). Fostering employee's pro-environmental behavior through green transformational leadership, green human resource management and environmental knowledge. *Technological Forecasting and Social Change*, 179, 121643.

¹⁹¹ Khan, M. K., Babar, S. F., Oryani, B., Dagar, V., Rehman, A., Zakari, A., & Khan, M. O. (2022). Role of financial development, environmental-related technologies, research and development, energy intensity, natural resource depletion, and temperature in sustainable environment in Canada. *Environmental Science and Pollution Research*, 29, 622-638.

¹⁹² Mukherjee, Santanu, Arbind Kumar Patel, and Manish Kumar. "Water scarcity and land degradation nexus in the Anthropocene: reformations for advanced water management as per the sustainable development goals." *Emerging Issues in the Water Environment during Anthropocene: A Southeast Asian Perspective* (2020): 317-336.

¹⁹³ Thiong'o, Nyambura, Francis Kiroro, Maurice Mutisya, Benta Abuya Volla Ochieng, and Moses Ngware. "Access to Quality Education for Children Living in Urban, Poor Informal Settlements in Uganda."

¹⁹⁴ World Bank Group. *Uganda Economic Update, May 2019: Economic Development and Human Capital in Uganda-A Case for Investing More in Education*. World Bank, 2019.

¹⁹⁵ Hummel, S., Weiß, A., Bonifacio, E., Agardh, D., Akolkar, B., Aronsson, C. A., ... & Ziegler, A. G. (2021).

continued to worsen due to the presence of the many industries in the Albertine region of Uganda, specifically the increase in carbon monoxide the increase in the industries specifically oil drilling companies has compromised the quality of air in the region, the Albertine region is a focal point for oil extraction, especially with projects like Total's Tilenga project, which involves significant drilling and infrastructure development. In rural areas, the use of firewood and charcoal for cooking is common. This practice releases substantial amounts of smoke and particulate matter, contributing to indoor and outdoor air pollution.¹⁹⁶ Efforts are underway to address these environmental challenges, there has been some efforts to combat poor air quality for instance, a \$3.3 million grant from the World Bank and Sweden is being utilized to protect the biodiversity of the Albertine region, which indirectly helps improve air quality by promoting sustainable practices and reducing deforestation, however the air quality is still continuing to worsen¹⁹⁷.

Despite these efforts, the region continues to face significant air quality issues due to the sources of pollution.¹⁹⁸ Monitoring and mitigation measures need to be strengthened to ensure the health and well-being of the local population and the environment¹⁹⁹. Urbanization has also contributed to water pollution in Uganda, primarily through inadequate sanitation infrastructure and industrial effluents.²⁰⁰ The expansion of urban areas has resulted in deforestation and habitat fragmentation, leading to biodiversity loss in Uganda.²⁰¹ Emphasized the need for sustainable land use planning to mitigate the adverse effects of urban expansion on forests and wildlife habitats.²⁰² The Albertine Graben report indicates that there was increase in poaching between 2016 and 2020 (4,854 to

Associations of breastfeeding with childhood autoimmunity, allergies, and overweight: The Environmental Determinants of Diabetes in the Young (TEDDY) study. *The American journal of clinical nutrition*, 114(1), 134-142.

¹⁹⁶ Lachowicz, Joanna Izabela, Simone Milia, Mariusz Jaremko, Enrico Oddone, Emanuele Cannizzaro, Luigi Cirrincione, Ginevra Malta, Marcello Campagna, and Luigi Isaia Lecca. "Cooking particulate matter: A systematic review on nanoparticle exposure in the indoor cooking environment." *Atmosphere* 14, no. 1 (2022): 12.

¹⁹⁷ Mawejje, J. (2019). The oil discovery in Uganda's Albertine region: Local expectations, involvement, and impacts. *The Extractive Industries and Society*, 6(1), 129-135.

¹⁹⁸ Manisalidis, Ioannis, Elisavet Stavropoulou, Agathangelos Stavropoulos, and Eugenia Bezirtzoglou.

"Environmental and health impacts of air pollution: a review." *Frontiers in public health* 8 (2020): 14.

¹⁹⁹ Kelly, Frank J., and Julia C. Fussell. "Improving indoor air quality, health and performance within environments where people live, travel, learn and work." *Atmospheric Environment* 200 (2019): 90-109.

²⁰⁰ Ahmad, Fayyaz, Muhammad Umar Draz, Lijuan Su, Ilhan Ozturk, and Abdul Rauf. "Tourism and environmental pollution: evidence from the one belt one road provinces of Western China." *Sustainability* 10, no. 10 (2018): 3520.

²⁰¹ Bizimana, E., Mutangana, D., & Mwesigye, A. (2022). Students' perceptions of the classroom learning environment and engagement in cooperative mastery learning-based biology classroom instruction. *Education Research International*, 2022.

²⁰² Kelly, Frank J., and Julia C. Fussell. "Improving indoor air quality, health and performance within environments where people live, travel, learn and work." *Atmospheric Environment* 200 (2019): 90-109.

12,571) in the region because of urbanization and competition for land. The Albertine region also faces a challenge of increased animal cases reported by 1,182 by 2020 from 1,047 in 2019; this has also further exacerbated loss in the number of tourists. The total tourist number declined from 75,360 in 2016 to 33,194 in 2020, this has indicated that oil drilling exercises in Albertine region have led to a reduction in the amount of income on the Albertine region has been receiving this is because oil drilling destroys the vegetation area.

Whereas heavy exploration in the Albertine Rift began in 2003, and boomed in 2006 when the National Environmental Management Authority of Uganda (NEMA) confirmed the presence of commercially viable amounts of oil in the Albertine area, Uganda's Oil industry has since transitioned from having only exploration, to new exploration, to preparation of discovered oil fields for production, and to putting in place infrastructure to both commercialize the discovered 6.5 billion barrels of oil and gas resources, and facilitate sectoral developments. New explorations are occurring in Kanywataba Exploration Area, Ntoroko district by Armour Energy Ltd, and in the Ngassa Exploration Area, Hoima district by Oranto Petroleum Ltd. Meanwhile the Tilenga and King Fisher projects-are each preparing discovered oil fields in Buliisa, Nwoya, Hoima and Kikuube districts. Construction of the 1443 km pipeline from Uganda to Tanzania bEast African Crude Oil Pipeline (EACOP) is on-going, the wildlife is threatened this has affected the animals since them as shelter.²⁰³

Improper solid waste management is a pressing environmental challenge in Albertine region. This has been exacerbated by oil and gas, waste collection and disposal systems, leading to littering, pollution, and public health risks.²⁰⁴ Effective environmental management requires robust policies and governance structures. The Government of Uganda has enacted environmental laws and regulations, such as the National Environment Act and the Environmental Impact Assessment

²⁰³ Agnes, Wazemwa Wabuyi. "Managing Environmental Risks in The Oil and Gas Industry A Case Study of Uganda's Oil Exploration and Production by Oil and Gas Companies in The Albertine Graben Region, Uganda." PhD diss., Institute of Petroleum Studies-Kampala, 2021.

²⁰⁴ Kipper, Liane Mahlmann, Sandra Iepsen, Ana Julia Dal Forno, Rejane Frozza, Leonardo Furstenau, Jéssica Agnes, and Danielli Cossul. "Scientific mapping to identify competencies required by industry 4.0." *Technology in Society* 64 (2021): 101454.

Regulations, to address environmental concerns.²⁰⁵ However, implementation challenges and enforcement gaps persist, hindering sustainable urban development.

Deforestation in Albertine, since its rich oil and gas is a complex and multifaceted issue that has garnered significant attention from researchers, policymakers, and environmentalists since the Albertine Rift is an area of great importance for conservation of biodiversity. It has been identified by Birdlife International as an Endemic Bird Area, by World Wildlife Fund as an Ecoregion and by Conservation International as a biodiversity hotspot. It also contains some of the richest areas in Africa for mammal and bird species²⁰⁶. The Albertine Rift has been defined by different people in several ways. In general, it extends from the northern end of Lake Albert down to the southern tip of Lake Tanganyika and encompasses the natural habitats within about 100 km of the Congolese border with Uganda, Rwanda, Burundi and Tanzania. The Uganda portion of the Albertine rift therefore extends from Budongo Forest/Murchison Falls National Park in the north down to Mgahinga National Park in the south. A total of 84 centrally managed forests occurs in the Albertine Rift in Uganda. Five of these are national parks and 79 are central forest reserves. In addition, there are 21 local forest reserves managed by the districts. Many of the forest reserves are small, however, and only nine of them exceed 50 km² in size, numerous studies have highlighted the detrimental impact of oil and gas activities on deforestation. Oil and gas exploration and extraction activities contribute directly to 860 km² forest loss through habitat destruction, fragmentation, and pollution²⁰⁷, These activities often involve land clearing, road construction, and infrastructure development, leading to significant forest degradation. Understanding the drivers of deforestation in oil and gas areas is crucial for developing effective conservation strategies²⁰⁸. Several studies have identified key drivers, including economic incentives, land use changes, population growth, and inadequate regulatory frameworks²⁰⁹,

²⁰⁵ Idambi, Kulu, and John Boniface. "An Assessment of Regulatory Compliance with International and Regional Obligations Relating to Environmental Health and Safety Standards." PhD diss., Institute of Petroleum Studies-Kampala, 2021.

²⁰⁶ Kazoora, Cornelius, Deziderius Irumba, Nikola Smith, Michael Mutamba, Premier Nkabiheebwa, Gladys Katumba, and Ephrance Nakiyingi. "A review of collaborative forest management in Uganda." *Kampala, Uganda: National Forestry Authority, Ministry of Water and Environment* (2020).

²⁰⁷ Fernando, N., Jayathilake, P., De Silva, M., Gunathilake, W., Devapura, N., & Wise, B. (2024). Built environment stakeholders and climate change adaptation: the case of Sri Lanka. *International Journal of Disaster Resilience in the Built Environment*.

²⁰⁸ Jayathilake, H. Manjari, Graham W. Prescott, L. Roman Carrasco, Madhu Rao, and William S. Symes. "Drivers of deforestation and degradation for 28 tropical conservation landscapes." *Ambio* 50, no. 1 (2021): 215-228.

²⁰⁹ Kumar, Rakesh, Nishita Ivy, Sayan Bhattacharya, Abhijit Dey, and Prabhakar Sharma. "Coupled effects of

additionally; the expansion of oil palm plantations and agricultural activities in these regions exacerbates deforestation²¹⁰.

The environmental and social impacts of deforestation in oil and gas areas are significant and wide-ranging. Deforestation disrupts ecosystems, leading to biodiversity loss, soil erosion, and altered water cycles²¹¹. Furthermore, indigenous communities and local populations often bear the brunt of these impacts, experiencing displacement, loss of livelihoods, and conflicts over land rights²¹².

Despite ongoing conservation efforts, several challenges persist in addressing deforestation in oil and gas areas. These include weak enforcement of environmental regulations, lack of transparency in supply chains, conflicting land-use priorities, and limited financial resources for conservation projects²¹³. The effectiveness of conservation strategies, integrating indigenous knowledge systems into conservation efforts, and developing innovative technologies for monitoring deforestation trends in real time²¹⁴. Deforestation in oil and gas areas remains a pressing environmental issue with profound implications for biodiversity, ecosystems, and local communities²¹⁵. Addressing this challenge requires a holistic approach that combines policy interventions, community engagement, and sustainable development practices. By fostering collaboration and knowledge sharing, stakeholders can work towards mitigating the impact of oil and gas activities on deforestation and promoting conservation efforts worldwide²¹⁶.

microplastics and heavy metals on plants: Uptake, bioaccumulation, and environmental health perspectives." *Science of the Total Environment* 836 (2022): 155619.

²¹⁰ Rahman, A., Dargusch, P., & Wadley, D. (2021). The political economy of oil supply in Indonesia and the implications for renewable energy development. *Renewable and Sustainable Energy Reviews*, 144, 111027.

²¹¹ Njora, B., & Yilmaz, H. (2022). analysis of the effects of deforestation on the environment and agriculture in Kenya. *International Journal of Water Management and Diplomacy*, 1(4), 91-110.

²¹² Arshad, Z., Robaina, M., & Botelho, A. (2020). The role of ICT in energy consumption and environment: an empirical investigation of Asian economies with cluster analysis. *Environmental Science and Pollution Research*, 27(26), 32913-32932.

²¹³ Zhao, H. N., Hu, X., Tian, Z., Gonzalez, M., Rideout, C. A., Peter, K. T., ... & Kolodziej, E. P. (2023).

Transformation products of tire rubber antioxidant 6PPD in heterogeneous gas-phase ozonation: identification and environmental occurrence. *Environmental Science & Technology*, 57(14), 5621-5632.

²¹⁴ Berenguer, Erika, Dolors Armenteras, Ane Alencar, Cláudio Almeida, Luiz Aragão, Jos Barlow, Bibiana Bilbao et al. "Drivers and ecological impacts of deforestation and Forest degradation." (2021): 19-1.

²¹⁵ Onyena, Amarachi Paschaline, and Kabari Sam. "A review of the threat of oil exploitation to mangrove ecosystem: Insights from Niger Delta, Nigeria." *Global ecology and conservation* 22 (2020): e00961.

²¹⁶ de França Barros, D., Petreire Jr, M., Lecours, V., Butturi-Gomes, D., Castello, L., & Isaac, V. J. (2020). Effects of deforestation and other environmental variables on floodplain fish catch in the Amazon. *Fisheries Research*, 230, 105643.

Urbanization in Uganda is intricately linked to environmental degradation, posing risks to public health, ecosystems, and overall sustainability. Addressing these challenges requires integrated approaches that prioritize environmental conservation, sustainable urban planning, infrastructure development, and effective policy implementation.²¹⁷ Urban areas in Uganda experience social inequalities in access to services, income disparities, and spatial segregation, leading to social tensions and disparities in living standards²¹⁸. Adopting integrated urban planning approaches that consider social, economic, and environmental dimensions can promote sustainable urban development, including mixed land-use planning, green infrastructure, and affordable housing initiatives²¹⁹.

The Albertine Region in Uganda, named after the Albertine Rift, has experienced significant urbanization over the years. Key factors driving this trend include economic opportunities, infrastructure development, and population growth. Cities like Hoima, Masindi, and Fort Portal have become hubs for commerce, industry, and services. The region's rich agricultural lands and natural resources, such as oil in the Albertine Graben, have attracted investments and led to the development of urban centers. Improved infrastructure, including roads, electricity, water supply, and telecommunications, has facilitated urban growth. Investments in infrastructure have connected previously isolated areas, making them more accessible for businesses and residents²²⁰. The region has seen a steady increase in population, driven by factors like rural-urban migration, natural population growth, and the expansion of economic activities. This influx of people has fueled the demand for urban services and amenities²²¹.

Government policies and initiatives have also played a role in urbanization. Efforts to decentralize services and promote regional development have encouraged growth in urban areas outside the

²¹⁷ Nuwagaba, Innocent, and Tshombe Lukamba-Muhiya. "The impact of the oil and gas exploitation projects on the environment in western Uganda." *African Renaissance* 2021, no. si1 (2021): 199-216.

²¹⁸ Bidandi, Fred, and John J. Williams. "Understanding urban land, politics, and planning: A critical appraisal of Kampala's urban sprawl." *Cities* 106 (2020): 102858.

²¹⁹ Byakagaba, Patrick, Frank Mugagga, and Dianah Nnakayima. "The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda." *The Extractive Industries and Society* 6, no. 2 (2019): 358-366.

²²⁰ Dodman, David, Bronwyn Hayward, Mark Pelling, Vanesa Castán Broto, and Winston TL Chow. "Cities, settlements and key infrastructure." (2022): 907.

²²¹ Bastos, L., Buist, P., Cefalo, R., Goncalves, J. A., Ivan, A., Magalhaes, A., ... & Snider, P. (2022). Kinematic Galileo and GPS Performances in Aerial, Terrestrial, and Maritime Environments. *Remote Sensing*, 14(14), 3414.

capital, Kampala²²². Urbanization in the Albertine Region has brought both opportunities and challenges. While it has spurred economic development, created jobs, and improved living standards for many, it has also led to issues like congestion, inadequate housing, and strains on infrastructure and services.²²³ The rapid urbanization has also raised concerns about environmental sustainability, particularly in areas like waste management, deforestation, and water pollution. Balancing economic growth with environmental conservation remains a key challenge²²⁴.

Urbanization in Albertine is manifest in the growth of its cities and towns. As ²²⁵observed, the conservation planning and practice increasingly need to account for direct and indirect impacts of the urbanization process²²⁶. The objective of our study is to pinpoint the outstanding challenges and opportunities afforded by the phenomenon of urbanization on environmental management²²⁷. While there have been many studies on the impacts of urbanization and development on environmental conservation in Africa, the studies don't entirely focus on environmental stewardship in Albertine region²²⁸. The current study explores how urbanization influences environmental degradation. Findings indicated that growing population in Albertine region has increased the surge for urban development that has impacted environmental management. The phenomenon of urbanization is seen to increase the strain on already insufficient infrastructure and resources in Albertine region. In that regard, have argues that rapid urbanization poses social,

²²² Bidandi, Fred, and John J. Williams. "The challenges facing urbanisation processes in Kampala." In *Urban Forum*, vol. 28, pp. 235-249. Springer Netherlands, 2017.

²²³ Nfitumukiza, Muhamed. "Decentralisation and Service Delivery in Urban Areas of Uganda." PhD diss., Uganda Martyrs University, 2018.

²²⁴ Gershon, A. (2018). Dynamics of Urban and Rural Linkages in Uganda.

²²⁵ Güneralp, B., Lwasa, S., Masundire, H., Parnell, S., & Seto, K. C. (2017). Urbanization in Africa: challenges and opportunities for conservation. *Environmental research letters*, 13(1), 015002.

²²⁶ David Jr, V. E., John, Y., & Hussain, S. (2020). Rethinking sustainability: a review of Liberia's municipal solid waste management systems, status, and challenges. *Journal of Material Cycles and Waste Management*, 22(5), 1299-1317.

²²⁷ Fatimah, Y. A., Govindan, K., Murniningsih, R., & Setiawan, A. (2020). Industry 4.0 based sustainable circular economy approach for smart waste management system to achieve sustainable development goals: A case study of Indonesia. *Journal of cleaner production*, 269, 122263.

²²⁸ Batista, Marcio, Rodrigo Goyannes Gusmão Caiado, Osvaldo Luiz Gonçalves Quelhas, Gilson Brito Alves Lima, Walter Leal Filho, and Ivany Terezinha Rocha Yparraguirre. "A framework for sustainable and integrated municipal solid waste management: Barriers and critical factors to developing countries." *Journal of Cleaner Production* 312 (2021): 127516.

institutional, and ecological challenges that emerge with the continued urbanization of African cities.

During the focus group interview one of the respondents stated that, our small village trading centers are now turning into towns something that is going to help us in creating jobs for our children and business opportunities for our people although it has come with the destruction of forests and wetlands in the region.
(FGD on 23rd May 2023)

This view was also shared by one of the participants who asserted that Urbanization does indeed bring about economic benefits, but it often does so at the cost of the environment. When cities grow rapidly, there's an increased demand for resources like land, water, and energy. This leads to deforestation, pollution, and habitat loss. Additionally, urban areas tend to generate more waste and carbon emissions compared to rural areas, it's important to note that urbanization can also lead to environmental improvements. For instance, denser cities can be more energy-efficient, and investments in public transportation can reduce reliance on cars and lower emissions. Moreover, urban areas can serve as hubs for innovation, leading to the development of sustainable technologies and practices, ultimately, the key lies in adopting policies and practices that balance economic growth with environmental protection. This includes promoting green infrastructure, investing in renewable energy sources, and implementing regulations to limit pollution and encourage sustainable development²²⁹. By doing so, we can harness the economic benefits of urbanization while minimizing its negative impact on the environment.

Urbanization and environmental degradation are intertwined phenomena that have garnered significant attention due to their far-reaching impacts on societies, ecosystems, and economies²³⁰. The process of urbanization involves the growth and expansion of cities, leading to increased population density, infrastructure development, and changes in land use. While urbanization

²²⁹Chen, Pengyu, and Yuanyuan Hao. "Digital transformation and corporate environmental performance: The moderating role of board characteristics." *Corporate Social Responsibility and Environmental Management* 29, no. 5 (2022): 1757-1767.

²³⁰ Wang, Xuan. "Urbanization Trends and Challenges in Developing Countries." *International Journal of Business Management and Visuals*, ISSN: 3006-2705 3, no. 1 (2020): 8-14.

brings about economic opportunities, improved access to services, and cultural exchange, it also exerts immense pressure on the environment, often resulting in various forms of degradation²³¹.

One of the primary environmental concerns associated with urbanization is the loss of natural habitats and biodiversity. As cities expand, they encroach upon nearby ecosystems such as forests, wetlands, and farmlands, leading to deforestation, habitat fragmentation, and loss of species diversity²³². This loss of biodiversity can have cascading effects on ecosystem services, including pollination, water purification, and climate regulation, thereby impacting human well-being and ecological stability²³³.

Another critical issue linked to urbanization is air and water pollution. The concentration of industries, vehicular emissions, and increased energy consumption in urban areas contribute significantly to air pollution, leading to respiratory diseases, cardiovascular problems, and environmental degradation²³⁴. Similarly, urbanization often leads to the degradation of water bodies through pollution from industrial effluents, sewage discharge, and runoff from urban surfaces, posing risks to aquatic life and human health²³⁵.

Urbanization contributes to the generation of solid waste and the depletion of natural resources. The rising consumption patterns in urban areas result in large volumes of waste production, challenging waste management systems and causing pollution of land and water bodies. Additionally, the demand for construction materials, water, energy, and other resources in urban areas leads to resource depletion, exacerbating environmental pressures and sustainability challenges.²³⁶ The impacts of urbanization on climate change also cannot be overlooked. Urban areas, with their concentration of buildings, transportation networks, and human activities,

²³¹ Sun, Li, Cha Wang, Chunwei Zhang, Zeyu Yang, Chuang Li, and Pizhong Qiao. "Experimental investigation on the bond performance of sea sand coral concrete with FRP bar reinforcement for marine environments." *Advances in Structural Engineering* 26, no. 3 (2023): 533-546.

²³² Inbit, Mohammed Jabar Odah, Ahmed Abd Ali Kazem, Hussain Hamza Hussein, and Raed Abd AL-kadum mageed Brism. "The Impact of Human Activities on Environmental Sustainability." *Journal of Medical Genetics and Clinical Biology* 1, no. 8 (2024): 119-141.

²³³ Quito, B., del Río-Rama, M. D. L. C., Álvarez-García, J., & Durán-Sánchez, A. (2023). Impacts of industrialization, renewable energy and urbanization on the global ecological footprint: A quantile regression approach. *Business Strategy and the Environment*, 32(4), 1529-1541.

²³⁴ Gerlofs, Ben A., and Chong Peng. "China's Urbanization."

²³⁵ Quito, B., del Río-Rama, M. D. L. C., Álvarez-García, J., & Durán-Sánchez, A. (2023). Impacts of industrialization, renewable energy and urbanization on the global ecological footprint: A quantile regression approach. *Business Strategy and the Environment*, 32(4), 1529-1541.

²³⁶ Bu, F., Mahmoud, H. A., Alzoubi, H. M., Ramazanovna, N. K., & Gao, Y. (2023). Do financial inclusion, natural resources and urbanization affect the sustainable environment in emerging economies. *Resources Policy*, 87, 104292.

significantly contribute to greenhouse gas emissions, exacerbating global warming and its associated effects such as extreme weather events, sea-level rise, and habitat disruptions²³⁷.

This view was also further shared by one of the participants in the interview who said that:

As a result of the increase in the number of industries in Buliisa, Wanseko, and other areas of kingfisher these places are very hot and now days the temperatures even reach more than 35⁰ C, this has made this place extremely hot specifically during the non-rainy seasons. Furthermore, it has been noted in this region that seasons have changed whereby the seasons we marked for the rain are no longer predictable. We experience a lot of sunshine with a lot of heat during the rainy seasons and during the sunshine season that is when we have little rain but still with hot environment. (Oral Interview, 5th July 2023).

Addressing the complex relationship between urbanization and environmental degradation requires holistic approaches that integrate urban planning, sustainable development strategies, and environmental conservation measures. Efforts to promote compact and efficient urban design, enhance public transportation systems, adopt clean technologies, and promote green spaces within cities can help mitigate the adverse environmental impacts of urbanization while fostering resilience and sustainable development²³⁸. In the same view one of the participants asserted that;

Due to the rapid urbanization in the Albertine region, the animals' drinking places which were previously protected have been destroyed and left animals nowhere to find water for drinking. This has affected our animals in the region and some of them have died. For those serving ones, we fetch water for them which is not an easy task and there is a severe challenge connected with water for animals as well as human beings in the area specifically due to construction of ridges and the construction of the new buildings. The traditional way

²³⁷ Kumar, R., Sharma, P., Sharma, P. K., Rose, P. K., Singh, R. K., Kumar, N., ... & Pandey, A. (2023). Rice husk biochar-A novel engineered bio-based material for transforming groundwater-mediated fluoride cycling in natural environments. *Journal of Environmental Management*, 343, 118222.

²³⁸ Bibri, S. E., Alexandre, A., Sharifi, A., & Krogstie J. Environmentally sustainable smart cities and their converging AI, IoT, and big data technologies and solutions: an integrated approach to an extensive literature review. *Energy Informatics*, 6(1), (2023) 9.

of giving animals water has been destroyed leaving the area residents with no choice but to fetch water from lake albert to give to the animals. (Oral Interview, 5th July 2023).

Uganda being a nation with majority of the population living in a low-income status, has led to poor livelihood and low stands of living. Sanusi and other scholars have associated this income status with poor access to clean water.²³⁹ In their report, over 25 percent of the population in Uganda don't access safe water for drinking. As a result, majority resort to sources of water from underground this often contaminated with chemicals under the surface. In the same capacity one of the participants in the focus group discussion further indicated that "my cows used to drink water from the wells but now I just have to fetch water from lake albert" (FGD, 5th July 2023).

Research in this area plays a crucial role in understanding the dynamics of urbanization and environmental degradation, identifying key drivers and patterns, assessing impacts, and developing effective policy interventions and management strategies. By promoting interdisciplinary research and collaboration among stakeholders, we can strive towards creating more sustainable and livable urban environments while safeguarding the natural resources and ecosystems that support life on Earth.²⁴⁰

Population Growth

In the previous section, the variable of urbanization was analyzed and discussed in relation to environmental degradation. This section builds on the previous section to explain how population growth has also contributed to environmental degradation. Although mentioned retrospectively, population growth is often a determinant of urbanization. In this study, population growth and urbanization are not compared, but rather they are measured on their contribution to environmental degradation²⁴¹. The variable of population growth is measured by the increase in the number of people in Albertine region. In Uganda, the population magnitude is determined by the census,

²³⁹ Sanusi, I.O., Olutona, G.O., Wawata, I.G. *et al.* Heavy metals pollution, distribution and associated human health risks in groundwater and surface water: a case of Kampala and Mbarara districts, Uganda. *Discov Water* 4, 27 (2024).

²⁴⁰ Shahzad, U., Ferraz, D., Nguyen, H. H., & Cui, L. (2022). Investigating the spill overs and connectedness between financial globalization, high-tech industries and environmental footprints: Fresh evidence in context of China. *Technological Forecasting and Social Change*, 174, 121205.

²⁴¹ Jedwab, Remi, and Dietrich Vollrath. "The urban mortality transition and poor-country urbanization." *American Economic Journal: Macroeconomics* 11, no. 1 (2019): 223-275.

carried out after every ten years through household census. Population growth is one of the most significant global trends of our time, with the world's population expected to reach 9.7 billion by 2050. Bunyoro Kitara diocese is a region in Uganda that is experiencing rapid population growth within the Albertine. Rural-urban migration is seen to contribute to higher population growth in Albertine region. In search of employment and good livelihood, the populace often moves to the cities, which results in high population growth.²⁴²

The study examined the implications of population growth on natural resources, the economy, and food security. These perceptions are not merely statistical outputs but expressions of lived environmental realities, as experienced and internalized by participants. A phenomenological approach centers on this subjective dimension of how individuals interpret, embody, and are affected by their surroundings. Ecotheology, in turn, provides a theological and ethical framework to interpret these experiences in the light of Scripture, doctrine, and creation care ethics.

Population growth is a fundamental driver of environmental change, impacting various aspects such as land use, resource consumption, pollution levels, and biodiversity loss²⁴³. Understanding the nexus between population growth and environmental degradation is crucial for sustainable development and policy formulation²⁴⁴. One of the primary consequences of population growth is increased demand for land. Expansion of agricultural activities, urbanization, and infrastructure development leads to habitat fragmentation, loss of biodiversity, and degradation of ecosystems.²⁴⁵ emphasize the role of population pressure in deforestation and loss of wilderness areas. This view was also further supported by one of the participants who asserted that:

²⁴² Amiraslani, F., & Cooper, A. (2022). Learning from the Past: Lessons from the First United Nations Report on Problems of the Human-Environment. *Challenges*, 13(2), 44.

²⁴³ Roy, Parth Sarathi, Reshma M. Ramachandran, Oscar Paul, Praveen K. Thakur, Shirish Ravan, Mukunda Dev Behera, Chandan Sarangi, and Vijay P. Kanawade. "Anthropogenic land use and land cover changes—A review on its environmental consequences and climate change." *Journal of the Indian Society of Remote Sensing* 50, no. 8 (2022): 1615-1640.

²⁴⁴ Maja, Mengistu M., and Samuel F. Ayano. "The impact of population growth on natural resources and farmers' capacity to adapt to climate change in low-income countries." *Earth Systems and Environment* 5, no. 2 (2021): 271-283.

²⁴⁵ Sirota, Marina, Gonneke Willemsen, Purnima Sundar, Steven J. Pitts, Shobha Potluri, Edi Prifti, Sean Kennedy et al. "Effect of genome and environment on metabolic and inflammatory profiles." *PLoS One* 10, no. 4 (2015): e0120898.

“The population in this area has increased and previously we used to have only Bangugngu and Alur, but now other tribes have come in for example we have Chinese, Indians, whites and all the other tribes of Uganda” (Oral Interview, 5th July 2023).

As populations grow, so does the demand for resources such as water, energy, and raw materials. This heightened consumption results in environmental stress, including water scarcity, air and water pollution, and greenhouse gas emissions. The concept of an ecological footprint underscores the impact of population size on resource depletion and environmental pollution.²⁴⁶ Climate change is intricately linked to population dynamics. Rising populations contribute to increased carbon emissions, exacerbating global warming and its associated impacts such as sea-level rise, extreme weather events, and altered precipitation patterns. ²⁴⁷ emphasize the need for considering population policies in climate change mitigation strategies.

The growing human population poses a significant threat to biodiversity through habitat destruction, overexploitation of species, introduction of invasive species, and pollution. Loss of biodiversity not only affects ecosystem resilience but also hampers vital ecosystem services essential for human well-being.²⁴⁸ Conservation efforts face challenges in balancing human needs with biodiversity conservation objectives. Addressing the environmental impacts of population growth requires integrated policy frameworks and effective governance mechanisms. Population policies play an important role in mitigating environmental degradation, especially those that focus on sustainable livelihood development, family planning, and education. However, implementation challenges and cultural contexts influence the effectiveness of such policies.

One of the most significant ways in which population growth contributes to environmental degradation in Bunyoro Kitara diocese is through increased demand for agricultural land. As the

²⁴⁶ Brioschi, L., M. Steinmann, E. Lucot, M. C. Pierret, P. Stille, J. Prunier, and Pierre-Marie Badot. "Transfer of rare earth elements (REE) from natural soil to plant systems: implications for the environmental availability of anthropogenic REE." *Plant and soil* 366 (2013): 143-163.

²⁴⁷ Van Vuuren, D. P., Riahi, K., Calvin, K., Dellink, R., Emmerling, J., Fujimori, S., ... & O'Neill, B. (2017). The Shared Socio-economic Pathways: Trajectories for human development and global environmental change. *Global Environmental Change*, 42, 148-152.

²⁴⁸ Hooper, D. U., Adair, E. C., Cardinale, B. J., Byrnes, J. E., Hungate, B. A., Matulich, K. L., ... & O'Connor, M. I. (2012). A global synthesis reveals biodiversity loss as a major driver of ecosystem change. *Nature*, 486(7401), 105-108.

population grows, there is a greater need for food, and this is leading to the clearing of forests and other natural areas for agriculture. Deforestation can lead to several environmental problems, including soil erosion, water pollution, and climate change. Another way in which population growth contributes to environmental degradation in Bunyoro Kitara diocese is through increased water pollution. As the population grows, there is also an increase in the production of sewage and other pollutants. This waste and pollution can pollute rivers, lakes, and other water resources, and can have a negative impact on human health and aquatic ecosystems. Based on the stewardship model ²⁴⁹when there is rise in population, there is also compromised of the values and ethics to protect the environment. The findings of this theme therefore reveal how population growth is associated with environmental degradation.

The findings on population growth reveal a widespread experiential awareness of resource pressure due to population increase. What was revealed the participants regarding the effects of population growth suggests that participants experience daily life challenges, such as water shortages, land scarcity, deforestation, or overcrowded spaces. This marks an embodied ecological anxiety, where land and resource limitations are experienced not as distant possibilities but immediate constraints. From an ecotheological standpoint, this perception resonates with concerns about human overreach and disharmony with creation. Moreover, land, in biblical theology, is not just a resource but a gift from God (cf. Deuteronomy 11:10–12), entrusted to humanity for care, not exploitation. Population pressure, when unmanaged, becomes a theological issue—indicating a broken relationship with both land and Creator.

According to the findings in table 2.3 below, a significant proportion acknowledged the strain of rising population demands on the available food stock, as 54% strongly agreed, 23% agreed, and 5% were undecided. Regarding population growth, most participants, 41% strongly agreed and 39% agreed, believed that increasing population strains natural resources and land. Furthermore, 40% strongly agreed, 20% agreed, and 29% were undecided about population growth leading to unemployment and economic challenges.

²⁴⁹ Quincey, Duncan J., A. Luckman, R. Hessel, R. Davies, P. L. Sankhayan, and M. K. Balla. "Fine-resolution remote-sensing and modelling of Himalayan catchment sustainability." *Remote sensing of environment* 107, no. 3 (2007): 430-439.

Table 2.3: Responses on how Population Growth has caused environmental degradation in Albertine Region, n=170

Variable	Category	Responses in Percent %					Total
		SA	A	NS	DA	SDA	
Population Growth	The increasing population strains natural resources and land	41	39	1	4	15	100
	Population growth leads to unemployment and economic challenges	40	20	29	0	11	100
	Rising population demands strain available food stock	54	23	5	25	15	100

Source: Field Data collected on 2nd July 2023

Here, 60% of participants agree, while 29% are neutral, suggesting a somewhat divided perception. A significant number experience or perceive unemployment and economic strain as directly related to population growth, but a notable portion appears uncertain—possibly due to differences in lived economic status or geographical context. This reveals a heterogeneous economic consciousness, reflecting the varied ways in which population pressure intersects with job access and poverty. In Christian ethics, human dignity is intimately tied to meaningful work (cf. Genesis 2:15; 2 Thessalonians 3:10). When population growth outpaces job creation, it leads to economic exclusion, violating the theological principle that each person is created *imago Dei* and thus has inherent worth and responsibility. Unemployment is recounted as an ecological injustice, arguing that environmental and economic justice must be pursued together. Thus, the connection between population growth and economic hardship becomes a moral imperative for church, state, and society.

Population growth is revealed as a critical factor that contributes to environmental degradation in the Albertine Region, as highlighted by the voices from the focus group discussions and supported by the study's findings. The increasing population exerted pressure on natural resources and land,

leading to deforestation, habitat loss, and depletion of biodiversity. The rise in population demand also strained essential resources like water and energy, resulting in water scarcity and power shortages. The voices from the discussions provided real-life perspectives on the challenges posed by population growth, reinforcing the need for integrated approaches that balance population control with sustainable resource management and economic development.

Table showing population growth rates in the Albertine regions (UBOS, 2020)

District	2017	2018	2019	2020	GR (17/20)
Nwoya	176,200	194,300	214,200	236,000	33.94
Kakumiro	370,300	402,100	436,500	473,400	27.84
Kibaale	166,500	176,600	187,200	198,200	19.04
Bullisa	129,000	136,000	142,500	149,300	15.20
Packwach	175,900	182,800	189,700	196,800	11.88
Kyenjojo	469,900	488,000	506,500	525,400	11.81
Hoima	337,500	349,600	361,800	374,500	10.96
Kagadi	387,800	401,700	415,800	430,200	10.93
Buhweju	131,600	135,700	139,900	144,100	9.5
Nebbi	259,300	267,000	274,800	282,600	8.99

Source: Albertine Grabben environment monitoring report, 2022

Districts which are located specifically in the oil areas of Nwoya, Kakumiro, Kibaale and Buliisa have experienced the highest population growth rates, for examples Nwoya at 33.94% of population growth rates and Buliisa 15.20% of population growth rates indicates that indeed people are going to these oil rich areas searching for opportunities for example Nwoya has Tangi oil drilling ridge and Buliisa has oil drilling ridge of Ngiri, I, Ngiri II and the drilling support Base to enhance oil production in the area this has completely lead to the construction of the road something that was not previously available in the area.

The increasing pressure on the environment has diverse effects on environmental.²⁵⁰ One of the most significant ways in which population growth contributes to environmental degradation is through increased demand for resources.²⁵¹ As the population grows, there is a greater demand for food, water, energy, and other resources. This finding is supported by the interview the researcher conducted with one of the participants, who stated that;

With the increasing population, there is a high demand for land for housing, agriculture, and infrastructure. We are now experiencing widespread environmental degradation, climate change, severe food and water shortages, and increased conflict. Deforestation, encroachment in protected areas, and loss of biodiversity are on high gear in this region (Oral Interview, 3rd July 2023).

Another participant highlighted that “population growth puts pressure on resources like water and energy. We see water scarcity and power shortages becoming more frequent as the population grows” (Oral Interview, July 2023).

Trends in the Number of Landing Sites on Lake Albert and Lake Edward and George for the period 2015 -2018 (NAFIRRI, 2018)

	2012	2016	2018
Lake Albert	78	72	107
Lake Edward & George	15	15	15
TOTAL	93	87	122

²⁵⁰ Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

²⁵¹ Mukanga, Emmanuel N. *The Discarded Brick Volume 2: An African Autobiography in 26 countries on 3 continents. A trilogy in 3 seasons*. Notion Press, 2021.

Source: Albertine Graben environment monitoring report, 2022

The results from the Albertine Graben environment monitoring report, 2022 indicates that there has been an increase in the number of landing sites for Lake Albert from 72 in 2016 to 107 in 2018; this indicates an increase in the number of economic activities in the area, something that has been brought due to population increase and demand for food. This aligns with most participants who recognized the strain of population growth on natural resources and land. Participants also acknowledged that increasing population leads to unemployment and economic challenges; as one stated, "More people mean more competition for jobs, and the limited availability of employment opportunities poses economic challenges for the region." They emphasize the direct impact of population growth on the environment, particularly regarding resource depletion, encroachment on natural habitats, and the socio-economic implications for local communities.

This finding also agrees with who revealed a clear correlation, indicating that as the population increased, the rate of deforestation also escalated. The study attributed this phenomenon to the expansion of agricultural activities and the increasing demand for land. Rapid population growth leads to increased land fragmentation, overgrazing, and soil erosion, contributing to the degradation of agricultural lands and natural habitats²⁵². The study emphasized the need for effective land-use planning and sustainable agricultural practices to mitigate the adverse impacts of population growth on the environment.

Another study by Kirik Aleli and Sowah revealed that population growth exerted pressure on water resources, leading to increased competition for water and reduced availability for domestic and agricultural purposes.²⁵³ The study emphasized the importance of water management strategies and efficient water-use practices to address the challenges posed by population growth. These studies highlight the interconnectedness between population dynamics and environmental factors

²⁵² Stroeken, Koen. *Medicinal Rule: a historical anthropology of kingship in East and Central Africa*. Vol. 35. Berghahn Books, 2018.

²⁵³ Kirikkaleli, D., & Sowah, J. K. (2020). A wavelet coherence analysis: nexus between urbanization and environmental sustainability. *Environmental Science and Pollution Research*, 27, 30295-30305.

such as deforestation, land degradation, and water scarcity. From the findings, it is clearly observed that population growth significantly impacts environmental management.

There has been a significant amount of research supports the findings of this study in “Population and the Environment,” agree that population growth is a major driver of environmental degradation.²⁵⁴ This indicates that whenever the population increases, it has subsequent impact on the environment and how it is managed. Writing about population growth and climate change,²⁵⁵ recounts how population growth can also have specific impacts on environmental stewardship in different regions and contexts. For example, in developing countries, population growth is often associated with higher levels of poverty and lack of access to basic services. This can lead to environmental degradation as people resort to unsustainable practices, such as deforestation and overgrazing, to meet their basic needs²⁵⁶. However, it is important to note that population growth does not inevitably lead to environmental degradation. With careful planning and management, it is possible to support a growing population while also protecting the environment. This includes investing in green infrastructure, promoting sustainable transportation options, and educating the public about environmental issues.

One of the participants in the study during the interviews indicated that;

In Buliisa, Wanseko and other towns around the Albertine region, we see trucks carrying food from other regions to our towns because of the high increase of the number of people in these areas leading to higher demand for food which was not the case before whereby our areas were well known of feeding other regions but now it has turned to be vice versa (Oral Interview, July 2023).

According to previous studies, population growth inseparable from environmental conditions in Uganda. Population growth is cited as a major contributing factor to shortages of agricultural land, the loss of forests and wetlands, and poverty. From what the researcher established, the growth of

²⁵⁴ Dasgupta, Purnamita, Samraj Sahay, Anjal Prakash, and Arthur Lutz. "Cost effective adaptation to flood: sanitation interventions in the Gandak river basin, India." *Climate and Development* 12, no. 8 (2020): 717-729.

²⁵⁵ Das Gupta, M., Bongaarts, J., & Cleland, J. (2011). Population, poverty, and sustainable development: A review of the evidence. *World Bank Policy Research Working Paper*, (5719).

²⁵⁶ Arts, J., Caldwell, P., & Morrison-Saunders, A. (2001). Environmental impact assessment follow-up: good practice and future directions—findings from a workshop at the IAIA 2000 conference. *Impact assessment and project appraisal*, 19(3), 175-185.

urban populations throughout the Albertine region exerts tension on the municipalities and Hoima city, which are already struggling with the infrastructure to meet the needs of the population. And according to what is also established, population is repeatedly highlighted as a main driver of declining availability of ecosystems services, loss of forests, wetland degradation, water pollution, and decreased food and fuel provisions. Considering what the researcher found out and what previous studies indicate, population growth significantly contributes to environmental pressures that are often due to unsustainable resources for livelihood²⁵⁷.

The phenomenon of population growth also consists of rise in population size that has influenced the resource distribution among the populace. In the study by Hunter, population size is linked to the environment since it leads to competition of natural resources and contribution to pollution.²⁵⁸ What is clearly observed, is that increase in population size have a direct impact on the environment. But as has been argued, the environmental implications of population size are ultimately determined by other factors such as technology, political and institutional contexts, and cultural factors. This explains why it is important to understand factors that may contribute to environmental degradation in addition to population growth. As has been argued above, population growth influences pollution levels in complex ways, and from what the findings established, population growth is important as a determinant of environmental management. The nature of how population is distributed across the Albertine region has implications on environmental changes and human development. This indicates that whenever the population size increases, the residents will have challenges of adapting to large population, which eventually creates scrambling for resources. According to the findings, population growth in Uganda has greatly contributed to degradation of natural resources such as wetlands and forests. And according to what the current study established, the failure to sustain a balance between population growth and distribution of natural resources will contribute more to poverty, conflict, economic and political instability and, migrations among other adverse effects like climate change and landslides²⁵⁹

²⁵⁷ Hannigan, J. (2022). *Environmental sociology*. Routledge.

²⁵⁸ Hunter, L. M. (2000). A comparison of the environmental attitudes, concern, and behaviors of native-born and foreign-born US residents. *Population and Environment*, 21(6), 565-580.

²⁵⁹ Henderson, K., & Loreau, M. (2023). A model of Sustainable Development Goals: Challenges and opportunities in promoting human well-being and environmental sustainability. *Ecological modelling*, 475, 110164.

A reflection on the urban population growth by Olaosegba Solihu and other scholars revealed similar results.²⁶⁰ The NPC report show that urban population will have adverse effects on the environment, when the population is not well managed, taking an example of Kampala, the green nature of flora and fauna are fading at an increasing rate mainly due to rural to urban migration in search of employment opportunities and better livelihoods. And given that available resources are not often commensurate with the population growth, the rapid growth will have enacted pressure on environment management, such as settlements in wetland areas.

The findings also established that population growth and environmental welfare are significantly associated. This is supported by a previous study²⁶¹ who recounted that population and environmental issues are two things that are not being separated from one another²⁶². Within a community, humankind and other living creatures are ecological elements that are in continuous interaction with the environment to form the ecosystem. Described how population density impacts social, economic and ecological aspects of changes in the developing areas of bay. This can be likened to Albertine region which is also a developing region. Comparing the current findings to the study of ²⁶³it can be deduced that changes in environment will often increase with change in population density in the region. As indicated by the findings and supported by previous literature, population growth has influence on environmental degradation, from rural-urban migration, hunger, unemployment and civil unrest.²⁶⁴ So, for every rise in population, there is emergence of environmental unrest. The increase in the population leads to pressures on land

²⁶⁰ Olaosegba, Solihu O., A. Alagbe, M. Okegbola, and B. Ajisafe. "Spatial expansion and population growth analysis of ogbomoso metropolis to forestall overwhelming available infrastructures." *International Journal of Environment and Geoinformatics* 9, no. 2 (2022): 9-17.

²⁶¹ Hamzah, A. H. P., Nurhasanah, N., & Soesanta, P. E. (2023). Population Growth and Environmental Damage Issues (A Review of Environmental Damage on Land Conversion Perspective in North Jakarta). *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 8(2), 804-813.

²⁶² Akpan, Sunday Brownson, and Victor O. Ebong. "Agricultural land use and population growth in Nigeria. The need for synergy for a sustainable agricultural production." *Journal of Agribusiness and Rural Development* 61, no. 3 (2021): 261-270.

²⁶³ Hamzah, A. H. P., Nurhasanah, N., & Soesanta, P. E. (2023). Population Growth and Environmental Damage Issues (A Review of Environmental Damage on Land Conversion Perspective in North Jakarta). *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 8(2), 804-813.

²⁶⁴ Essien, Etido. "Impacts of governance toward sustainable urbanization in a mid-sized city: A case study of Uyo, Nigeria." *Land* 11, no. 1 (2021): 37.

resources, which limits the amount of arable agricultural land and tends to worsen the situation of food supply and human reproduction.²⁶⁵

As already mentioned above, population growth is seen to result in the rising demand for food, which eventually impacts on how humanity manages the available resources. It is argued from the findings that rapid population growth is likely to impact how humanity interacts with their environment. This is why environment stewardship is important in the management of the environment and the population. Strategies that aim at addressing the vulnerability brought by population growth are arguably significant for environmental management. Some of the strategies should aim at population growth reduction for sustainable development and environmental stewardship.²⁶⁶

From the study findings, it is also observed that the rate of population growth has influence both on the demographic phenomenon and the livelihood of the people in society. Previous researchers agree with the relationship between population growth and economic growth.²⁶⁷ The increase in population tends to have a negative effect on the economy, while in the long run the opposite relationship is true. Although this relationship exists, the current study did not focus on it, rather on how both population growth and economic growth contributes to environmental degradation.²⁶⁸

The interaction between human population dynamics and the environment has significant implications for sustainability, resource management, and global well-being. Population growth has been a defining feature of human civilization, with significant increases occurring in the last few centuries due to advancements in medicine, agriculture, and technology.²⁶⁹

²⁶⁵ Hamzah, A. H. P., Nurhasanah, N., & Soesanta, P. E. (2023). Population Growth and Environmental Damage Issues (A Review of Environmental Damage on Land Conversion Perspective in North Jakarta). *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 8(2), 804-813.

²⁶⁶ Hariram, N. P., K. B. Mekha, Vipinraj Suganthan, and K. Sudhakar. "Sustainalism: An integrated socio-economic-environmental model to address sustainable development and sustainability." *Sustainability* 15, no. 13 (2023): 10682.

²⁶⁷ Hamzah, A. H. P., Nurhasanah, N., & Soesanta, P. E. (2023). Population Growth and Environmental Damage Issues (A Review of Environmental Damage on Land Conversion Perspective in North Jakarta). *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 8(2), 804-813.

²⁶⁸ Li, Yong, and Andreas Oberheitmann. "Challenges of rapid economic growth in China: Reconciling sustainable energy use, environmental stewardship and social development." *Energy Policy* 37, no. 4 (2009): 1412-1422.

²⁶⁹ Henderson, K., & Loreau, M. (2023). A model of Sustainable Development Goals: Challenges and opportunities in promoting human well-being and environmental sustainability. *Ecological modelling*, 475, 110164.

The Industrial Revolution marked a turning point, leading to accelerated population growth, urbanization, and increased consumption of natural resources²⁷⁰; Global population has grown exponentially, from around 1 billion in the early 19th century to over 7 billion by the 21st century. Projections indicate continued growth, albeit at a slower rate, with estimates ranging from 8 to 10 billion people by 2050²⁷¹, Human activities, driven by population growth and economic development, have led to widespread environmental degradation.²⁷²

Rapid population growth often leads to expansion of agricultural lands, urban sprawl, and habitat fragmentation, causing loss of forests, wetlands, and wildlife habitats, Land conversion for agriculture, infrastructure, and settlement alters ecosystems, disrupts ecological balances, and reduces biodiversity, the relationship between population growth and climate change is multifaceted, with population size, consumption levels, and technological factors influencing greenhouse gas emissions. Increased emissions from fossil fuel combustion, deforestation, and industrial activities contribute to global warming and climate variability, Population growth interacts with socio-economic factors such as poverty, inequality, education, and healthcare, influencing environmental impacts, Poorer populations often bear disproportionate environmental burdens and lack access to resources for sustainable living.²⁷³

The success of human societies depends intimately on the living components of natural and managed systems.²⁷⁴ Although the geographical range limits of species are dynamic and fluctuate over time, climate change is impelling a universal redistribution of life on Earth. For marine, freshwater, and terrestrial species alike, the first response to changing climate is often a shift in location, to stay within preferred environmental conditions.²⁷⁵. At the cooler extremes of their

²⁷⁰ Avtar, Ram, Saurabh Tripathi, Ashwani Kumar Aggarwal, and Pankaj Kumar. "Population–urbanization–energy nexus: a review." *Resources* 8, no. 3 (2019): 136.

²⁷¹ Weber, Hannes, and Jennifer Dabbs Sciubba. "The effect of population growth on the environment: evidence from European regions." *European Journal of population* 35 (2019): 379-402.

²⁷² Day, John W., Christopher F. D'Elia, Adrian RH Wiegman, Jeffrey S. Rutherford, Charles AS Hall, Robert R. Lane, and David E. Dismukes. "The energy pillars of society: Perverse interactions of human resource use, the economy, and environmental degradation." *Biophysical Economics and Resource Quality* 3 (2018): 1-16.

²⁷³ Pecl, G. T., Araújo, M. B., Bell, J. D., Blanchard, J., Bonebrake, T. C., Chen, I. C., ... & Williams, S. E. (2017). Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being. *Science*, 355(6332), eaai9214.

²⁷⁴ Schaafsma, Marije. "Natural environment and human well-Being." *Life on Land* (2021): 688-699.

²⁷⁵ Fine, Paul VA. "Ecological and evolutionary drivers of geographic variation in species diversity." *Annual Review of Ecology, Evolution, and Systematics* 46, no. 1 (2015): 369-392.

distributions, species are moving polewards, while range limits are contracting at the warmer range edge, where temperatures are no longer tolerable. On land, species are also moving to cooler, higher elevations, and, in the ocean, to colder water at greater depths.

One of the recurring narratives in socio-environmental discussions is that environmental degradation is caused by high human population densities resulting in resource scarcity, which leads to various crises such as biodiversity loss or the climate crisis.²⁷⁶ The solutions of this narrative focus on control-oriented management through restrictive demographic policies and the exclusion of human populations from certain areas (such as protected areas), which frequently undermines human rights and perpetuates neocolonialism in the name of conservation. This has been the case since Ehrlich's *The Population Bomb* and other writings by him and others in the 20th century that brought to the forefront the Environmental Malthusian ideology²⁷⁷. This argument that human population is the main cause of environmental degradation has been stated for decades, and is often used as an ideological justification to defend uneven development and structural racism in the context of environmental change, distracting from more proximate causes²⁷⁸

Globally scientists stress that it is time for conservation scientists and ecologists more broadly, to build on the critiques of Neo-Malthusianism that have emerged from the social, economic, historical, and environmental sciences²⁷⁹. For example, in West Africa, neo-Malthusian narratives strongly link population growth with deforestation but have seriously distorted real people–forest relationships by concealing significant sociological, historical, and ecological dynamics²⁸⁰. Such narratives badly misrepresent and oversimplify reality and ignore a large part of what social anthropology shows on the long-term preservation of biodiversity, vegetation, and landscapes

²⁷⁶ Hughes, Alice C., Kévin Tougeron, Dominic A. Martin, Filippo Menga, Bruno HP Rosado, Sebastian Villasante, Shweta Madgulkar et al. "Smaller human populations are neither a necessary nor sufficient condition for biodiversity conservation." *Biological Conservation* 277 (2023): 109841.

²⁷⁷ Bonebrake, T. C., Brown, C. J., Bell, J. D., Blanchard, J. L., Chauvenet, A., Champion, C., ... & Pecl, G. T. (2018). Managing consequences of climate-driven species redistribution requires integration of ecology, conservation and social science. *Biological Reviews*, 93(1), 284-305.

²⁷⁸ Merchant, E. K. (2022). Environmental Malthusianism and demography. *Social studies of science*, 52(4), 536-560.

²⁷⁹ Borrás Jr, S. M., Scoones, I., Baviskar, A., Edelman, M., Peluso, N. L., & Wolford, W. (2022). Climate change and agrarian struggles: an invitation to contribute to a JPS Forum. *The Journal of Peasant Studies*, 49(1), 1-28.

²⁸⁰ Fairhead, J., & Leach, M. (2000). Desiccation and domination: Science and struggles over environment and development in colonial Guinea. *The Journal of African History*, 41(1), 35-54.

through local practices. It is also crucial to recognize the importance of traditional management practices in conservation and sustainable development perspectives, which are largely ignored in neo-Malthusian perspectives. The case studies in Ghana and Guinea show that these narratives mainly serve the institutions and individuals who promote them and cannot be used as a basis to effectively protect local biodiversity, especially because the local populations have to be included in the effort²⁸¹.

Addressing the nexus of population growth and environmental degradation requires integrated approaches, including population policies, sustainable development strategies, conservation measures, and international cooperation. Effective governance, stakeholder engagement, and public awareness are crucial for implementing sustainable practices and mitigating environmental impacts.²⁸² Balancing demographic trends with environmental sustainability is a complex global challenge that requires innovative solutions, technological advancements, and behavioral changes.²⁸³ Opportunities exist for promoting sustainable lifestyles, green technologies, renewable energy, circular economies, and conservation initiatives to achieve a harmonious balance between human well-being and environmental stewardship.²⁸⁴

Economic Growth

Albertine region is a region in Uganda that is experiencing rapid economic growth. This economic growth is leading to several environmental problems, including deforestation, water pollution, and air pollution²⁸⁵. In this section, the findings are analyzed to indicate how economic growth is contributing to environmental degradation in the Albertine region. I also argue that it is necessary to manage economic growth in a sustainable way to protect the environment and ensure a sustainable future for all. This variable established the relationship between economic growth and

²⁸¹ Hoffmann, Samuel. "Challenges and opportunities of area-based conservation in reaching biodiversity and sustainability goals." *Biodiversity and Conservation* 31, no. 2 (2022): 325-352.

²⁸² Khan, Muhammad Kamran, Samreen Fahim Babar, Bahareh Oryani, Vishal Dagar, Abdul Rehman, Abdurashheed Zakari, and Muhammad Owais Khan. "Role of financial development, environmental-related technologies, research and development, energy intensity, natural resource depletion, and temperature in sustainable environment in Canada." *Environmental Science and Pollution Research* 29 (2022): 622-638.

²⁸³ Rodríguez-Rodríguez, David, and Javier Martínez-Vega. "Effectiveness of Protected Areas in Conserving Biodiversity." *A Worldwide Review. Cham, Switzerland: Springer* (2022).

²⁸⁴ Henderson, K., & Loreau, M. (2023). A model of Sustainable Development Goals: Challenges and opportunities in promoting human well-being and environmental sustainability. *Ecological modelling*, 475, 110164.

²⁸⁵ Ogwang, Tom, Frank Vanclay, and Arjan van den Assem. "Impacts of the oil boom on the lives of people living in the Albertine Graben region of Uganda." *The Extractive Industries and Society* 5, no. 1 (2018): 98-103.

environmental degradation in the Albertine region. The empirical findings are analyzed to discuss whether a positive and bi-directional causal association between economic development and environmental degradation is prevalent in the Albertine region. This analysis was based on the notion that economic growth to be achieved, several factors, which include environmental degradation, have been present²⁸⁶. Although economic growth and environmental degradation have a complex relationship, this study acknowledged that majority of the activities that aim at enhancing economic development often lead to environmental degradation in the Albertine region. This is the reason why the stewardship model was used to assess how economic development can be achieved within recommended stewardship practices²⁸⁷.

The Albertine Graben is the country's most diverse region and one of Africa's most naturally rich regions, and subsequently on planet earth. It represents nearly 30% of Africa's total mammal species, 51% of its bird species, 19% of its amphibian species and 14% of the continent's plant and reptile species, it also houses 10 of Uganda's 22 national parks and protected game reserves, as well as 60% of Uganda's water bodies, and numerous archaeological sites, establishing the Albertine region as Uganda's largest pull for tourism.²⁸⁸

Table 2.4: Responses on how Economic Growth has caused environmental degradation in Albertine Region, n=170

Variable	Category	Responses in Percent %					Total
		SA	A	NS	DA	SDA	
Economic Growth	Industrial output and economic expansion worsen environmental degradation	62	38	0	0	0	100
	Household spending patterns associated with economic growth	50	13	7	15	15	100
	Meeting wages and inflation targets may harm the environment	23	46	13	15	3	100

Source: Field Data collected on 2nd July 2023

²⁸⁶ Kassim, Wahab. "Land conservation in the albertine graben region of uganda: A critical analysis of the legal regimes." *Legal Instruments for Sustainable Soil Management in Africa* (2020): 79-99.

²⁸⁷ Kyosimire, Sylvia. "Analysing the effects of oil and gas exploration activities on people's livelihoods in the Albertine graben in western Uganda." PhD diss., Kyambogo University, 2021.

²⁸⁸ Guma, B. E., Owor, M., & Muwanga, A. (2019). Hydrogeological characteristics of the Albertine Graben, Uganda: Evidence from surface geophysics and hydraulic testing. *Journal of African Earth Sciences*, 150, 224-238.

When examining economic growth, the findings above indicate that a considerable percentage of participants, 62% strongly agreed and 38% agreed, recognized that industrial output and economic expansion worsened environmental degradation. The association of household spending patterns with environmental degradation was acknowledged by 50% strongly agreed, 13% agreed, and 7% undecided. Additionally, 23% strongly agreed, 46% agreed, and 13% were undecided about the potential environmental harm when meeting wage and inflation targets.

The study found that economic growth is another factor significantly contributing to the Albertine Region's environmental degradation. The participants provided valuable insights into the adverse environmental consequences associated with industrial output, household spending patterns, and the pursuit of economic expansion. These perspectives align with the study's findings, emphasizing the need to balance economic growth with environmental sustainability. One participant highlighted the impact of industrial activities, stating,

Industries in our region emit harmful pollutants and degrade our natural ecosystems. The increasing number of factories and inefficient waste management practices pose a significant environmental threat such as air pollution, water and soil contamination, noise and light pollution. If not careful, then we should expect long term environmental and health risks due to inadequate handling of hazardous waste (FGDs May 2023).

This sentiment echoes the study's findings, which identified industrial output as a major contributor to environmental degradation. The increase in economic activities also is witnessed by increased in commercial production in the area from 2005 to 2020 this is indicated by the increase in the number of people who are doing commercial activities in farmland as presented in the table below.

Acreage under Agriculture in 2005 to 2020 (NFA, 2020)

CLASS	2005	2010	2015	2020
Subsistence Farmland	2,202,170	2,549,674		3,979,369.67
Commercial Farmland	44,585	62,780		88,627.15

Source: Albertine Grabben Environment monitoring report.

The table above indicates that the level of economic activities has increased from having only 44,585 acreages under commercial agriculture in 2005 to 88,627.15 in 2020 this is an increase more than half of the total acreage, this indicates an increase economic activity in the Albertine area.

The Economic growth of Albertine was also further observed by the increase in the livestock population which is a result of economic growth in the Albertine region.

Livestock	2008	2017	2018
Cattle	11.4m	8.9m	12.1m
Goats	12.5m	10.8m	15.6m
Sheep	3.4m	2.1m	4.4m
Pigs	3.18	4.17m	4.5m
Poultry	37.4m	39.3m	35.4m

Source: UBOS, 2018

The findings indicate that there is an increase in the number of animals kept and this is mainly because of economic activities that have attracted many people in the area leading to increased markets for these domestic birds and animals. It has also led to the increasing desire by farmers to engage in economic activity and poultry is the only economic activity that has declined over the years in the area.

A participant remarked that,

Many households in our region have unsustainable consumption habits. Excessive use of resources, wasteful practices, and the disposal of non-biodegradable waste harm our environment. These habits cause biodiversity loss, pollution, and climate change. Therefore, we need to promote eco-friendly behaviors and responsible consumption” (Oral Interview, July 2023).

These voices align with the study's findings, which recognized the role of household consumption in contributing to environmental degradation. Another participant emphasized the consequences of pursuing economic growth without considering its environmental implications, stating,

We cannot prioritize economic development at the expense of our environment. The environment can exist without the economy, but not vice versa. Unregulated construction, deforestation, and pollution can have long-term detrimental effects on our ecosystems and our well-being (Oral Interview, 3rd July 2023).

On the same issue, another participant noted that:

As the economy expands in the region, land is cleared for agriculture, housing, roads and industry, destroying or fragmenting habitats and reducing the space available for wildlife (Oral Interview, 3rd July 2023).

In analysis of the economic status of Albertine region, it is essential to analyze that 25,513.69 of areas in the Albertine region is built up this indicates that there is an economic activity taking place in the areas as further indicated by the fact that commercial farmland is 88,627.15.

Grasslands cover a substantial portion of the area, supporting both wildlife and livestock grazing. This land cover type is crucial for maintaining biodiversity and providing pasture for domestic animals, which are integral to the local economy. Commercial farmland, although a minor

component compared to subsistence farmland, indicates the presence of market-oriented agricultural activities. This type of land use is important for economic growth and employment. This viewpoint supports the study's findings, highlighting the importance of adopting sustainable development strategies to mitigate the negative impacts of economic growth on the environment. The findings underscore the need for a holistic approach integrating economic growth with environmental conservation. This entails implementing stricter regulations and standards for industries to minimize pollution, promoting sustainable consumption patterns among households, and adopting green practices in various sectors of the economy. Balancing economic development and environmental stewardship, the Albertine Region can foster sustainable growth and protect its natural resources for future generations. The findings agree with²⁸⁹, who established that industrial expansion, driven by economic growth, led to increased pollution, habitat destruction, and resource depletion. Also, ²⁹⁰found that rising incomes and increased consumerism contributed to higher resource consumption and waste generation, leading to environmental degradation. While, ²⁹¹revealed that unregulated economic activities, such as deforestation, land degradation, and pollution, posed significant threats to ecosystems and biodiversity. This explains why pursuit of economic growth is a blessing or a curse in terms of environmental management. To elaborate this notion of environmental curse or blessing, previous scholars have also argued that in the context of oil and gas industrialization, resource blessings are linked to infrastructure development and positive socio-economic development, while resource curse is associated with the destruction of the environment²⁹¹. Since the goal of the study is to establish what the church can do to promote environmental stewardship, this study argues that environmental stewardship must be observed in the effort to develop the economic and social infrastructure. Socio-economic development will not be done at the expense of the environment if ecologic ethics are observed²⁹²

During the interview one of the participants asserted that;

²⁸⁹ Osuntuyi, B. V., & Lean, H. H. (2023). Environmental degradation, economic growth, and energy consumption: The role of education. *Sustainable Development*, 31(2), 1166-1177.

²⁹⁰ Rorato, A. C., Escada, M. I. S., Camara, G., Picoli, M. C., & Verstegen, J. A. (2022). Environmental vulnerability assessment of Brazilian Amazon indigenous lands. *Environmental Science & Policy*, 129, 19-36.

²⁹¹ Byakagaba, P., Mugagga, F., & Nnakayima, D. (2019). The socio-economic and environmental implications of oil and gas exploration: Perspectives at the micro level in the Albertine region of Uganda. *The Extractive Industries and Society*, 6(2), 358-366.

²⁹² Huo, J., & Peng, C. (2023). Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances. *Resources Policy*, 86, 104049.

The increased number of people in Buliisa, Kagadi, Kikuube and Hoima has put pressure on the already fragmented land most of these people want to get land to grow vegetables specifically they want practice urban farming in their compounds, and this has increased on the soil degradation and erosion. (Oral Interview, 3rd July 2023).

Uganda has experienced a substantial loss of forest cover over the years, leading to habitat destruction, soil erosion, loss of biodiversity, and disrupted water cycles. Forest degradation also contributes to climate change by reducing the capacity of forests to sequester carbon dioxide. Agricultural practices, while crucial for the economy, have also contributed to environmental degradation. The conversion of forests and wetlands into farmland, often through unsustainable methods such as slash-and-burn agriculture, has led to soil erosion, nutrient depletion, and water pollution from agrochemicals.

One of the participants in the study further highlighted that,

“Many industries have been set up at Wansenko industrial base mostly drilling machinery in Wanseko and Tangi” (Oral Interview, July 2023).

In another interview another interviewee asserted that,

“The challenges we are facing now is because of the spills from oil drilling companies all these are a result of oil drilling machinery and the vehicles which are involved in oil drilling” (Oral Interview, July 2023).

On the same notes during the focus group discussion, participants revealed that,

“Where we used to grave our cows from, we can no longer graze them because the place is now an industrial complex which is housing oil companies” (Oral Interview, July 2023).

Proscovia has recounted about the complex and multifaceted relationship exists between economic growth and environmental stewardship. On the one hand, economic growth can lead to a number of environmental problems, such as increased pollution, resource depletion, and climate change.²⁹³

²⁹³ Khanzila, Proscovia. "Implications of petroleum developments as drivers of land use change in the Albertine

On the other hand, economic growth can also create opportunities for environmental stewardship, such as investment in renewable energy, development of sustainable technologies, and improved environmental governance.²⁹⁴ The findings agree to the notion that economic growth can contribute to environmental degradation through increased demand for natural resources that eventually lead to overexploitation of natural resources, such as deforestation, overfishing, and depletion of aquifers.²⁹⁵

Economic growth was associated with industrial output, household consumption patterns, and the pursuit of economic expansion, which were identified as contributors to environmental degradation. These findings align with Gambrill, who argues that rapid urbanization and increasing population were major drivers of deforestation, habitat loss, and pollution.²⁹⁶ These findings align with the current study's results, which indicated that urbanization's economic benefits come at the expense of the environment and that population growth strains natural resources and land. Gambrill provides additional evidence and reinforces the need for sustainable urban development and population management strategies in the Albertine region to mitigate environmental degradation and promote ecological sustainability²⁹⁷.

According to the current findings and the previous studies, it can be argued that there is a direct and significant association between the growth of the economy and degradation of the environment.²⁹⁸ The curve for Kuznets on environment also offers valuable insights into the relationship between economic development and environmental degradation.²⁹⁹ What a positive relationship here means is that as society seeks to improve their economic growth, so do they

Graben." PhD diss., Busitema University, 2017.

²⁹⁴ Namakula, Mastulah. "Biodiversity in the petroleum rich albertine graben: an examination of the legal regime." PhD diss., Kampala International University, School of Law, 2015.

²⁹⁵ Jarkovský, J., Ráček, J., Némethová, D., Pavlis, P., Brabec, P., Hřebíček, J., & Hodovský, J. (2006). Information System of ARROW Project: Assessment of Ecological State of Surface Waters. In *EnviroInfo* (pp. 353-360).

²⁹⁶ Gambrill, E. (2019). The promotion of avoidable ignorance in the British Journal of Social Work. *Research on Social Work Practice*, 29(4), 455-469.

²⁹⁷ Muriisa, Roberts, and Specioza Twinamasiko. *Land Grabbing in the Albertine Graben: Implications for Women's Land Rights and the Oil Industry in Uganda*. No. 57. CRPD Working Paper, 2018.

²⁹⁸ Rabbani, Mohsen, Arman Hosseini, Mohammad Anwar Karim, Ario Fahimi, Keikhosro Karimi, and Ehsan Vahidi. "Environmental impact assessment of a novel third-generation biorefinery approach for astaxanthin and biofuel production." *Science of The Total Environment* 912 (2024): 168733.

²⁹⁹ Rawindran, Hemamalini, Kuan Shiong Khoo, Baranitharan Ethiraj, Jun Wei Lim, Chin Seng Liew, Pei Sean Goh, Ratchaprapa Raksasat et al. "Environmental impact assessment via life cycle analysis on ultrafiltration membrane fabricated from polyethylene terephthalate waste to treat microalgal cultivation wastewater for reusability." *Environmental Research* 251 (2024): 118687.

increase the level of environmental degradation³⁰⁰. This shows that economic activities that aim at improving socio-economic status of a community will always have effect on the environment³⁰¹. And since economic development is relevant to social livelihoods, economic activities cannot have halted for the sake of preserving environment. So, what is recommended is the positive environmental stewardship practices that can enhance both economic development as well as environmental conservation. Whereas economic activities are good for the economic growth of the Bunyoro Kitara Diocese and Albertine region, it ought to be balanced with environmental protection. This can be achieved through advocacy by the church and other relevant stakeholders through policies and legal instruments governing natural resources. But this is currently a nightmare in Albertine region, due to selective law enforcement, lack of political will and the silence of the church. This therefore implies that Church of Uganda has a critical and decisive role to support Albertine region in this transition to an industrial-based economy to adopt advanced and environmentally friendly technologies that have the potential to support in addressing environmental degradation³⁰².

The increasing human exploration of land and water resources has a whole lot of impact on their immediate environment as the human demands for the resources have totally overwhelmed the capacity of the earth to produce the resource and therefore leading to environmental degradation. In affirmative form, Ecological Footprint Atlas³⁰³ stated in their study that human beings generally have overstayed the ecological overshoot since the 1970s, which indicates that the demand for earth's resources is far ahead of the capacity of the earth to meet³⁰⁴. From 1961 to 2010, Ecological Footprint accounts show that human demand for renewable resources and ecological services

³⁰⁰ Kirikkaleli, Dervis. "New insights into an old issue: Exploring the nexus between economic growth and CO2 emissions in China." *Environmental Science and Pollution Research* 27, no. 32 (2020): 40777-40786.

³⁰¹ Fakher, Hossein-Ali, Mostafa Panahi, Karim Emami, Kambiz Peykarjou, and Seyed Yaghoub Zeraatkish. "New insights into development of an environmental-economic model based on a composite environmental quality index: a comparative analysis of economic growth and environmental quality trend." *Environmental energy and economic research* 5, no. 3 (2021): 1-24.

³⁰² Li, C., Coolen, J. W., Scherer, L., Mogollón, J. M., Braeckman, U., Vanaverbeke, J., ... & Steubing, B. (2023). Offshore wind energy and marine biodiversity in the North Sea: life cycle impact assessment for benthic communities. *Environmental Science & Technology*, 57(16), 6455-6464.

³⁰³ De Nazelle, A., Nieuwenhuijsen, M. J., Antó, J. M., Brauer, M., Briggs, D., Braun-Fahrlander, C., ... & Lebre, E. (2011). Improving health through policies that promote active travel: a review of evidence to support integrated health impact assessment. *Environment international*, 37(4), 766-777.

³⁰⁴ De Santoli, L., Albo, A., Garcia, D. A., Bruschi, D., & Cumo, F. (2014). A preliminary energy and environmental assessment of a micro wind turbine prototype in natural protected areas. *Sustainable Energy Technologies and Assessments*, 8, 42-56.

increased by more than 100%, getting to the point where the planet's bio capacity area is no longer sufficient to support the competing demands. However, the concept of Ecological footprint emerged to be an indicator to measure the overall impact of human pressure on the environment in terms of the area of lands and water that are produced biologically which are required to produce goods and services consumed and the management of waste generated³⁰⁵. The ecological footprint is now generally accepted all over the world as an indicator of environmental sustainability. It can be used to measure and put the use of resources under control throughout the economy, and it can also be used to manage and ensure the sustainability of healthy lifestyles for individuals, goods and services, organizations, industry sectors, neighborhoods, cities, regions, and nations. There are several practical benefits of examining the convergence of environmental indicators. The ecological footprint is seen as a key target of the efforts to curb environmental degradation³⁰⁶. The indicators like CO₂ emissions, oil spillage, soil, mining activities, and forest explorations are the reasons for the ubiquitous climatic changes and this challenge makes countries join to find a lasting solution to the increasing environmental threats³⁰⁷. The continuous climatic changes have caught the attention of economists and policymakers to evaluate the impact of environmental

Considering the obvious importance of the subject, several studies investigated the implications of economic development for environmental degradation.³⁰⁸ They reviewed the nexus between energy and growth and devised three principal viewpoints. First, highlights that energy is an input of production process and therefore it formulates a causal relationship between energy usage and growth of the economy³⁰⁹. Second, that the causality runs from the development of the economy to consumption of energy³¹⁰ and there prevails an EKC. That is when income level (a proxy of

³⁰⁵ Kumar, Suresh, Uday Chatterjee, and Anu David Raj. "Ecological Footprints in Changing Climate: An Overview." *Ecological Footprints of Climate Change: Adaptive Approaches and Sustainability* (2023): 3-30.

³⁰⁶ Lin, David, Laurel Hanscom, Adeline Murthy, Alessandro Galli, Mikel Evans, Evan Neill, Maria Serena Mancini et al. "Ecological footprint accounting for countries: updates and results of the National Footprint Accounts, 2012–2018." *Resources* 7, no. 3 (2018): 58.

³⁰⁷ Wackernagel, Mathis, and Bert Beyers. *Ecological footprint: Managing our biocapacity budget*. New Society Publishers, 2019.

³⁰⁸ Liu, J., Nathaniel, S. P., Chupradit, S., Hussain, A., Köksal, C., & Aziz, N. (2022). Environmental performance and international trade in China: the role of renewable energy and eco-innovation. *Integrated Environmental Assessment and Management*, 18(3), 813-823.

³⁰⁹ Venter, Oscar, Eric W. Sanderson, Ainhua Magrath, James R. Allan, Jutta Beher, Kendall R. Jones, Hugh P. Possingham et al. "Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation." *Nature communications* 7, no. 1 (2016): 12558.

³¹⁰ Aziz, N., Sharif, A., Raza, A., & Rong, K. (2020). Revisiting the role of forestry, agriculture, and renewable energy in testing environment Kuznets curve in Pakistan: evidence from Quantile ARDL approach. *Environmental Science*

economic development) increases, environmental pollution increases but then decreases after peaking a threshold³¹¹. Finally, the third point of view presents that the association is a bidirectional way, which means economic development's effect on consumption of energy and vice versa³¹². Existing literature fails to establish any consensus since there are several crucial contextual factors to account for as well as idiosyncratic characteristics of various countries.

According to Asif and Almagul rapid economic growth, particularly in industrializing countries, has often been associated with environmental degradation.³¹³ This includes issues such as deforestation, pollution (air, water, soil), habitat destruction, and loss of biodiversity. The year 2021 witnessed heightened awareness and action regarding climate change. The Intergovernmental Panel on Climate Change (IPCC) released its Sixth Assessment Report, highlighting the urgent need for global efforts to mitigate greenhouse gas emissions and adapt to the impacts of climate change. Economic activities, especially those reliant on fossil fuels, were under scrutiny for their role in driving climate change.

The United Nations' SDGs continued to be a focal point for international development efforts. These goals include targets related to environmental sustainability (e.g., clean energy, sustainable cities, responsible consumption, and production). Many countries and organizations emphasized the need to align economic growth with these SDGs to ensure a more sustainable and equitable future.³¹⁴

Amid environmental concerns, there was a growing emphasis on green technologies and innovations.³¹⁵ This included advancements in renewable energy (solar, wind, hydro, etc.),

and *Pollution Research*, 27, 10115-10128.

³¹¹ Ouyang, Xiao, Qinglong Shao, Xiang Zhu, Qingyun He, Chao Xiang, and Guoen Wei. "Environmental regulation, economic growth and air pollution: Panel threshold analysis for OECD countries." *Science of the total environment* 657 (2019): 234-241.

³¹² Aziz, N., Sharif, A., Raza, A., & Rong, K. (2020). Revisiting the role of forestry, agriculture, and renewable energy in testing environment Kuznets curve in Pakistan: evidence from Quantile ARDL approach. *Environmental Science and Pollution Research*, 27, 10115-10128.

³¹³ Raihan, Asif, and Almagul Tuspekova. "Toward a sustainable environment: Nexus between economic growth, renewable energy use, forested area, and carbon emissions in Malaysia." *Resources, Conservation & Recycling Advances* 15 (2022): 200096.

³¹⁴ Shahzadi, H. N., Sheikh, S. M., Sadiq, A., & Rahman, S. U. (2023). Effect of Financial Development, Economic Growth on Environment Pollution: Evidence from G-7 based ARDL Cointegration Approach. *Pakistan Journal of Humanities and Social Sciences*, 11(1), 68-79.

³¹⁵ Shao, Xuefeng, Yifan Zhong, Wei Liu, and Rita Yi Man Li. "Modeling the effect of green technology innovation and renewable energy on carbon neutrality in N-11 countries? Evidence from advance panel estimations." *Journal of*

sustainable agriculture practices, circular economy initiatives, and eco-friendly infrastructure development³¹⁶. Such innovations aimed to promote economic growth while minimizing negative environmental impacts³¹⁷

Governments and policymakers implemented various measures to address the environmental implications of economic growth³¹⁸. This ranged from regulatory frameworks and environmental standards to incentives for green investments and sustainable practices. International agreements like the Paris Agreement on climate change also influenced policy directions at national and global levels³¹⁹. Civil society, including environmental organizations, activists, and concerned citizens, played a crucial role in raising awareness about the links between economic growth and environmental sustainability³²⁰. Calls for more responsible and ethical approaches to development gained traction, influencing public discourse and policy agendas³²¹.

Environmental degradation is increasingly becoming a subject of debates among scholars in the literature and this is as a result of the threats the emissions of greenhouse gases (GHGs) are posing towards global sustainable development and ecological footprint which keeps on increasing, with the biggest amount and uppermost rate of increase affiliated to carbon emissions from the consumption of renewable resources³²². The ecological footprint measures the demand for nature by humans, which is also referred to as the number of natural resources humans use to support and

Environmental Management 296 (2021): 113189.

³¹⁶ Shafqat, Amna, Sadia Idrees, Sarfraz Zaman, and Muniba Ghaffar. "Eco-Friendly Transitions in Top Ten CO2 Producing Countries: A Dynamic Panel Investigation of Green Finance, Technology Transfer and Financial Development for Reducing Environmental Degradation." *iRASD Journal of Economics* 5, no. 3 (2023): 690-712.

³¹⁷ Bashir, M. A., Dengfeng, Z., Shahzadi, I., & Bashir, M. F. (2023). Does geothermal energy and natural resources affect environmental sustainability? Evidence in the lens of sustainable development. *Environmental Science and Pollution Research*, 30(8), 21769-21780.

³¹⁸ Yuan, Haoqiang. "Investigating the nexus between environmental information disclosure and green development efficiency: The intermediary role of green technology innovation—a PSM-DID Analysis." *Journal of the Knowledge Economy* 15, no. 3 (2024): 11653-11683.

³¹⁹ Liu, Tong, and Ali Imran. "Green Economy Advancement: Evaluating the Role of Digitalization, Technological Innovation, and Natural Resources in Shaping Environmental Quality Amid Globalizations." *Sustainability* 16, no. 23 (2024): 10673.

³²⁰ Kholaif, Moustafa Mohamed Nazief Haggag Kotb, Ming Xiao, and Ahmed Hamdy. "Covid-19's effect on green supply chains and environmental sustainability; innovative technologies moderation." *Journal of Cleaner Production* 406 (2023): 137083.

³²¹ Bashir, M. A., Dengfeng, Z., Shahzadi, I., & Bashir, M. F. (2023). Does geothermal energy and natural resources affect environmental sustainability? Evidence in the lens of sustainable development. *Environmental Science and Pollution Research*, 30(8), 21769-21780.

³²² Network, Global Footprint. "UAE National Footprint Accounts 2014 Data Organization and Management Report." (2015).

meet their needs. This demand follows using an ecological accounting system which takes into consideration the comparison of the quantity of biologically produced goods people take for their consumption and the biologically productive area of the location in question

Furthermore, ecological footprints as a measure of the impacts of humans on the earth's ecosystem show the dependence of the human economy on biologically produced resources produced by nature³²³. The point of call of Ecological footprint accounting is biological resources rather than non-renewable resources like oil or minerals because biological resources are the most limiting resource factor for human economic activity.³²⁴ For instance, while the amount of fossil fuel still underground is limited, even more limiting is the biosphere's ability to cope with the CO₂ emitted when burning it. This inherent prowess is one of the competing advantages of the earth's biocapacity. In the same vein, the limiting factors of the ability to renew biomass include water availability, climate, soil fertility, solar energy, technology, and management practices and the capacity to renew biomass is known as bio capacity.³²⁵

Table showing Number of animal species in MFNP and Bugungu Wildlife reserve (Source: UWA, 2018)

Species	Buligi	North Bank	South Bank	Bugungu	Total
Elephant	1,208	622	529	367	2,726
Buffalo	12,804	1,398	1,612	0	15,814
Giraffe	783	1,168	17	0	1,968
Heartbeests	8,439	2,400	3,579	298	14,716
Uganda Kob	78,670	47,814	17,190	2,577	146,251
Water buck	7,389	2,246	2,510	96	12,241
Oribi	12,188	7,173	2,545	43	21,949

³²³ Venter, Oscar, Eric W. Sanderson, Ainhua Magrach, James R. Allan, Jutta Beher, Kendall R. Jones, Hugh P. Possingham et al. "Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation." *Nature communications* 7, no. 1 (2016): 12558.

³²⁴ Kumar, Suresh, Uday Chatterjee, and Anu David Raj. "Ecological Footprints in Changing Climate: An Overview." *Ecological Footprints of Climate Change: Adaptive Approaches and Sustainability* (2023): 3-30.

³²⁵ Pulighe, Giuseppe, Guido Bonati, Marco Colangeli, Maria Michela Morese, Lorenzo Traverso, Flavio Lupia, Cosette Khawaja, Rainer Janssen, and Francesco Fava. "Ongoing and emerging issues for sustainable bioenergy production on marginal lands in the Mediterranean regions." *Renewable and Sustainable Energy Reviews* 103 (2019): 58-70.

Warthog	12,963	3,563	3,022	16	19,564
Hippo	1,237	870	500	0	2,607
Crocodile	333	26	26	0	385

Source: Albertine Grabben environment monitoring report 2020

Buligi consistently has the highest populations for nearly all species, highlighting it as a crucial area for wildlife within MFNP. North Bank also supports significant numbers, particularly for giraffes and Uganda Kob. South Bank has moderate populations, while Bugungu generally supports fewer animals, with no buffaloes, giraffes, hippos, or crocodiles recorded. This distribution data is essential for wildlife management and conservation strategies, allowing for targeted efforts to preserve these species and their habitats within MFNP and Bugungu Wildlife Reserve.

The economic diversification spurred by urbanization results in heightened industrial and household energy consumption³²⁶. This shift from agriculture to a more technologically driven industrial sector heavily reliant on energy inevitably leads to increased CO2 emissions.³²⁷ The relationship between urbanization and economic progress is complex, making it challenging to determine which drives the other. Nonetheless, urbanization can lead to heightened commercial energy consumption and CO2 emissions, contributing to environmental decline in both developing and developed nations. The environmental effects of urbanization vary, influenced by the degree to which it affects natural surroundings³²⁸. Energy adequacy plays a pivotal role in a nation's economic advancement, bolstering global competitiveness through increased capital and labor efficiency and fostering alternative energy solutions³²⁹. Given the perception of natural resources as vital economic catalysts, recent decades have seen a surge in empirical research exploring the

³²⁶ Sikder, Mukut, Chao Wang, Xiaoxia Yao, Xu Huai, Limin Wu, Frederick KwameYeboah, Jacob Wood, Yuelin Zhao, and Xuecheng Dou. "The integrated impact of GDP growth, industrialization, energy use, and urbanization on CO2 emissions in developing countries: evidence from the panel ARDL approach." *Science of the Total Environment* 837 (2022): 155795.

³²⁷ Yusuf, R., Kunu, P. J., Muhammad, I., Acheampong, K., & Mohammad, W. (2023). Environmental Sustainability in Technology: A Bibliometric Analysis of Green Innovation. *Journal of Technology Global*, 1(01), 64-72.

³²⁸ Aresta, Michele, and Angela Dibenedetto. "The Carbon Dioxide Revolution." *Carbon Dioxide Revolut* (2021): 31-43.

³²⁹ Elkhatat, Ahmed, and Shaheen Al-Muhtaseb. "Climate change and energy security: a comparative analysis of the role of energy policies in advancing environmental sustainability." *Energies* 17, no. 13 (2024): 3179.

links between energy types and economic development³³⁰. Natural gas, oil, coal, nuclear power, and other energy forms are being scrutinized as potential drivers of economic growth in both established and emerging economies³³¹.

2.3 Summary

This chapter analyzes the factors that contribute to environmental degradation in the Albertine Region. Urbanization, population growth, and economic growth were the main factors measured in relation to their impact on environmental management. The findings obtained provide valuable insights into the specific environmental challenges these factors pose. Urbanization was recognized as having economic benefits but at the expense of the environment, with concerns about habitat destruction, pollution, and loss of green spaces. Population growth was seen as straining natural resources and land, leading to deforestation, encroachment on protected areas, and increased pressure on water and energy resources. Based on the findings analyzed and discussed above, it is deduced that the findings have implications for the church regarding environmental management. First, religious teachings can be used to develop policies and programs that promote sustainable population growth and environmental management. For example, religious leaders can teach their congregations about the importance of caring for the environment and the need to manage population growth in a sustainable way.

Religious organizations can also support programs that provide access to family planning services and that promote sustainable agriculture and land use practices. By working together, religious leaders and organizations can play a significant role in promoting sustainable population growth and environmental management. In the practical sense, church can help to raise awareness of the environmental impacts of population growth, economic growth and the importance of environmental stewardship. This can be done through preaching, teaching, and community outreach programs. As Christians, we are called to care for God's creation. This includes working to protect the environment from the negative impacts of population growth. The church has a

³³⁰ Khan, Syed Abdul Rehman, Pablo Ponce, Zhang Yu, and Katerine Ponce. "Investigating economic growth and natural resource dependence: An asymmetric approach in developed and developing economies." *Resources Policy* 77 (2022): 102672.

³³¹ Arslan, Hafiz Muhammad, Irfan Khan, Muhammad Irfan Latif, Bushra Komal, and Songsheng Chen. "Understanding the dynamics of natural resources rents, environmental sustainability, and sustainable economic growth: new insights from China." *Environmental Science and Pollution Research* 29, no. 39 (2022): 58746-58761.

unique opportunity to play a leading role in promoting environmental stewardship in the context of population growth, economic growth and urbanization.

The findings from Table 2.2 highlight interviewee perceptions regarding how urbanization contributes to environmental degradation in the Albertine region. Most of participants agreed that urbanization leads to disease spread and poor health, as well as economic benefits at the expense of the environment. Technological advancements accompanying urbanization were also seen as contributing to environmental degradation. Focus group discussions echoed these concerns, citing habitat destruction, pollution, and resource strain due to rapid urban expansion and industrial activities. While some saw economic benefits, such as job creation, others noted the negative impacts on land use, wildlife habitats, and overall quality of life.

Studies confirm the correlation between urbanization and environmental degradation, including deforestation, pollution, and habitat loss. They also highlight the role of urbanization in increasing pollution levels, leading to health risks and ecosystem disruptions. The impact of urbanization varies based on factors like country development levels, city size, and economic activities. Challenges such as resource scarcity, housing issues, and urban poverty arise alongside economic opportunities brought by urbanization.

There are arguments for both the benefits and challenges of urbanization. While it can lead to economic growth and innovation, it also strains resources, increases pollution, and threatens ecosystems. Strategies for sustainable urban development and environmental management are crucial, including investments in renewable energy, green infrastructure, and waste management. Balancing economic growth with environmental protection is essential for long-term sustainability and quality of life in urban areas.

The study also examined how economic growth contributes to environmental degradation in the Albertine Region. It finds that a significant majority of participants agree that industrial output, household consumption patterns, and economic expansion contribute to environmental harm. Participants highlighted issues such as pollution from industries, unsustainable consumption habits, and the negative impacts of unregulated economic activities. The discussion above indicates that findings align with previous studies that investigated how economic growth affects the environment. The study underscores the need for a balanced approach that integrates economic

development with environmental sustainability. This includes implementing stricter regulations for industries, promoting sustainable consumption patterns, and adopting green practices across various sectors. The study also acknowledges the role of financial development in promoting economic growth but warns about its potential negative impact on the environment. Moreover, the study discusses the challenges posed by rapid urbanization, population growth, and climate change.

CHAPTER THREE

THE ROLE OF CHURCH OF UGANDA IN ENVIRONMENTAL STEWARDSHIP IN THE ALBERTINE REGION

3.1 Introduction

This chapter analyzes the findings on the role played by the Church of Uganda in promoting environmental stewardship within the Albertine region. As a religious institution deeply rooted in the community, the Church of Uganda has the potential to exert significant influence and inspire positive change in environmental practices. The participants were asked to give their views on the various initiatives, programs, and messages the Church uses to conserve the environment. The research question that was addressed sought to establish how the church has responded to the environmental challenges in Albertine region. The responses obtained are presented in Table 3.1. The findings discussed in this chapter provide the major insights into the general role of the church in teaching the community to address environmental challenges. Guided by ecclesial participation model, this study analyzes how the church has engaged in the activities that promote environmental stewardship. Considering the strategic position of the church, ecclesial participation framework illustrates how the church can use its unique position to promote environmental stewardship. As discussed in chapter two, some of the environmental challenges that the church has to address are: deforestation, environment degradation, climate change, pollution, and destruction of natural resources. This study analyzed how the church can address some of the above challenges because they threaten the well-being of the people, challenges the stewardship role of humankind as entrusted by God.

The findings presented in the following sections elaborate on what the church is doing and to emphasize what the church should do, to promote environmental stewardship. The dataset reveals a spectrum of perceptions about the Church of Uganda's role in environmental care. These perceptions express more than opinion. they embody lived realities and theological imaginations shaped by historical, doctrinal, and communal factors. Through the phenomenological approach, I examined how individuals experience the Church's environmental role in embodied and relational terms. Ecotheology brings a theological critique and vision, responding especially to Lynn White Jr.'s provocative thesis that Christianity bears deep historical responsibility for ecological degradation.

In this chapter, church of Uganda is regarded as a prominent institution with capacity to contribute towards environmental stewardship. In exploring the role of the church in environmental stewardship, this study established the complex relationship that exists between the church and environmental management in Bunyoro Kitara Diocese. The responses are argued to be relevant for understanding how the church contributes to sustainable environmental management practices. The motivation for this objective was based on the background that although the government and other organizations have made efforts to address the challenges of environmental management in Albertine region, the presence of the church in this matter has been limited. This chapter in particular aims at contributing empirical data to fill this gap by establishing the participation of the church in enhancing environmental stewardship in Albertine region. Special interest is put on establishing the initiatives and practices for environmental management that are church driven. This forms the main central focus of the chapter and contributes to the general study.

In response to environmental challenges of degradation and poor management, the ecclesial participation model mandates the church to recognize her stewardship role of influencing the theological principles of environmental management and teaching creation care to the congregation.³³² In a study by Koleayo and others, the role played by the church in environmental protection and promotion of initiatives for environmental stewardship is recounted as significant.³³³ Since the mandate for managing environment is biblical, this study considers the role of the church in regards to environmental stewardship as theologically imperative. This imperative call to manage the environment is based on the stewardship call God entrusted humanity with creation care.

³³² Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum et Ecclesia* 45, no. 1 (2024): 3140.

³³³ Omoyajowo, Koleayo, Mela Danjin, Kolawole Omoyajowo, Oluwaseun Odipe, Benjamin Mwadi, Andreas May, Amos Ogunyebi, and Mohamed Rabie. "Exploring the interplay of environmental conservation within spirituality and multicultural perspective: insights from a cross-sectional study." *Environment, Development and Sustainability* 26, no. 7 (2024): 16957-16985.

3.2 The Role played by Church of Uganda in Environmental Stewardship

Table 3.1: Responses on the role played by the Church of Uganda in environmental Stewardship, n=170

Variable	Category	Responses in Percent %					Total
		SA	A	NS	DA	SDA	
Role of the Church in Environmental Stewardship	The Church actively participates in small acts of protection and tree-planting efforts within the community	27	33	22	10	8	100
	Education on environmental stewardship is actively gathered and spread within this Church	40	30	10	15	5	100
	The Church of Uganda influences the implementation of environmental policies to foster environmental sustainability	11	19	20	25	15	100
	The primary responsibility of this Church is to proclaim the Gospel and lead sinners to Christ, with environmental stewardship as a secondary focus	12	18	31	24	15	100
	This Church works to preserve the environment as a means of coming to know God while simultaneously striving to lift people out of poverty	35	25	15	20	5	100
	The Church of Uganda owns large tracts of land and financial resources that are important for environmental management activities such as tree planting	30	40	15	10	5	100
	The Church has actively encouraged and supported communities in meeting their health and development needs	16	34	25	14	9	100
	Church leaders within this Church proclaim the green message and actively fight against environmental destruction.	22	38	15	23	2	100
	Cases of forest destruction are reported to the relevant authorities within this Church	8	9	36	27	20	100

Source: Field Data collected in May 2023

The findings from Table 3.1 above reveal the perceptions of participants regarding the involvement of the Church of Uganda in environmental stewardship. Regarding active participation in small acts of protection and tree planting efforts within the community, 27% of participants strongly

agreed, and 33% agreed with this statement. Furthermore, 22% expressed uncertainty, while 18% disagreed or strongly disagreed. Regarding education on environmental stewardship, the majority of 40% either strongly agreed or 30% agreed that the Church actively gathers and spreads knowledge on this subject. Conversely, 15% expressed disagreement, and only 5% strongly disagreed. The findings indicate mixed perceptions regarding the Church's influence on implementing environmental policies. While 11% either strongly agreed or 19% agreed that the Church contributes to fostering environmental sustainability, 40% expressed uncertainty or disagreed. The findings further show that the Church of Uganda views environmental stewardship as a fundamental part of their mission, grounded in biblical teachings about caring for God's creation.

This view that environmental stewardship is an integral part of the mission of the church is supported by the previous work of Edvardsson Karin and Mikael Karlsson on Faithful stewards of God's creation.³³⁴ The authors argue that the relationship between religion and environmental conservation is significant, because the church is strategically positioned as a global and influential institution, that should promote environmental stewardship.³³⁵ In her "Fostering environmental citizenship through faith," Rebekka Flam also recounts that this responsibility of the Church in environmental conservation stems from theological, ethical, and social considerations.³³⁶

Lynn White argued that Western Christianity desacralized nature by separating God from creation and asserting human dominion (Genesis 1:28) as license for exploitation.³³⁷ The acts reported here tree planting, protection can be seen as emerging correctives to this legacy. They embody a sacramental re-engagement with the Earth, showing that segments of the Church are attempting to heal what White saw as a deep theological rupture. White's critique directly addresses this: he argued that a Christianity focused exclusively on heavenly salvation led to disdain for the Earth. The divided response here shows that his critique remains relevant. However, growing disagreement (39%) also signals a theological shift toward a more holistic Gospel. Recent African

³³⁴ Edvardsson Björnberg, Karin, and Mikael Karlsson. "Faithful stewards of god's creation? Swedish evangelical denominations and climate change." *Religions* 13, no. 5 (2022): 465.

³³⁵ FAWENU, Bamidele Olusegun. "Eco-Theological Reading of Psalm 104: Implications for African Christians." *Abraka Journal of Religion and Philosophy* 4, no. 1 (2024): 203-257.

³³⁶ Flam, Rebekka. "Fostering Environmental Citizenship Through Faith: Exploring the practices of stewardship within the Green Anglicans Movement of Kenya." Master's thesis, 2022.

³³⁷ White, Lynn Jr. "The Historical Roots of Our Ecologic Crisis." *Science* 155, no. 3767 (1967): 1203–1207.

theologians like Bénézet Bujo and Laurent Magesa argue for a Gospel deeply integrated with the earth, land, and livelihood.

Tree planting, in particular, is often linked to themes of renewal, sustainability, and long-term impact on the health of ecosystems, as recommended by several verses that encourage environmental stewardship and care for God's creation³³⁸, Genesis 2:15, which states that, “The Lord God took the man and put him in the Garden of Eden to work it and take care of it” This verse highlights humanity's role as caretakers of the earth, emphasizing the responsibility to cultivate and preserve the environment³³⁹. In the book of Psalm 24:1 the bible further encourages environmental stewardship by specifically stating that “The earth is the Lord’s, and everything is in it, the world, and all who live in it, this verse further reminds us that the earth and its resources belong to God, encouraging respect and careful use of the environment.³⁴⁰ This view was also in line with the response from one of the religious leaders who asserted that:

The Church has always believed in the importance of stewardship, not just of our spiritual lives, but also of the world around us. Over the years, we've realized that protecting the environment and taking care of God's creation is not just an ecological issue but also a moral one. A few years ago, we started planting trees in the church grounds and organizing community clean-ups. From there, it grew into more widespread efforts, collaborating with local environmental groups and encouraging our members to take active roles in caring for our environment (KII, July 2023).

During the study, it was further revealed that tree-planting has been one of the most tangible ways for religious leaders to engage with the community. Through partnership with local schools, neighborhoods, and other faith-based organizations to plant trees in public spaces, along streets, and even in areas that have been deforested or affected by climate events. Each tree they plant represents hope for the future, providing shade, improving air quality, and contributing to

³³⁸ Kretzschmar, Louise. "A Christian ethical analysis of the importance of prophetic leadership for sustainable leadership." *Verbum et Ecclesia* 44, no. 1 (2023): 2685.

³³⁹ Ives, Christopher D., Clark Buys, Charles Ogunbode, Matilda Palmer, Aneira Rose, and Ruth Valerio. "Activating faith: pro-environmental responses to a Christian text on sustainability." *Sustainability Science* 18, no. 2 (2023): 877-890.

³⁴⁰ Chirongoma, Sophia, and Ven Scholar Wayua Kiilu, eds. *Mother Earth, Mother Africa: World Religions and Environmental Imagination*. Vol. 3. African Sun Media, 2022.

biodiversity. This practice of tree-planting connects the Christian communities to the environment and to each other. It was further indicated that the church host events where members of the community, including children, come together to plant and care for these trees. This practice fosters a sense of responsibility and care for the environment.

And on the same note another respondent further indicated that:

We host clean-up drives in the local community, organize tree-planting events, and even work with local farmers to promote sustainable agriculture. Our church also partners with organizations that focus on protecting the environment, so we make it a point to support projects such as wildlife conservation and renewable energy initiatives. Through these partnerships, our congregation can contribute to larger efforts and feel that they are part of a collective movement. We also encourage our members to adopt more sustainable practices in their personal lives, such as reducing their carbon footprint and supporting eco-conscious businesses (Oral Interviews, July 2023).

On the same note another participant further stressed that:

While the primary responsibility of the Church is, as we've discussed, the proclamation of the Gospel, environmental stewardship can be seen as a natural extension of our faith. The Bible teaches us that God created the world and entrusted it to humanity to care for and protect. In Genesis, God gave Adam the responsibility to tend the garden. In Psalm 24:1, it says, "The earth is the Lord's, and everything in it." Our stewardship of the earth, therefore, becomes an expression of our gratitude to God and our recognition of His ownership over all creation. Environmental issues such as climate change, pollution, and the loss of biodiversity are real, and they affect the well-being of God's creation, as well as the most vulnerable among us. While not the central mission of the Church, caring for the environment is an important aspect of living out our Christian faith, that show love for our neighbors and honoring God by preserving the world He made (Oral Interviews, July 2023).

According to the findings obtained, I know that there can be a tension in the church fulfilling its mission, but I believe it's a tension that can be resolved when we remember that both

evangelism and stewardship flow from the same source God's love. The two are not mutually exclusive. In fact, they complement each other. By caring for creation and advocating for environmental justice, the Church can demonstrate God's love for all His creation and show the world that we care about the well-being of others not just spiritually but physically as well.

The findings are in line with previous studies that show how reforestation and afforestation are among the most cost-effective strategies for climate change mitigation, forests are responsible for approximately 30% of the global terrestrial carbon sink, illustrating the importance of tree planting in carbon sequestration.³⁴¹ Trees and forests are home to a vast array of plant and animal species. Tree planting can help restore habitats and contribute to biodiversity conservation³⁴². Well-designed tree planting initiatives can support the regeneration of native species and increase ecosystem resilience, especially in areas impacted by deforestation and habitat fragmentation. According to Psistaki and other scholars, tree planting is one of the best ways to restore degraded ecosystems and facilitate species migration in response to climate change.³⁴³

The concept of environmental stewardship in the Bible is deeply rooted in a theological understanding of humanity's relationship to the earth and its Creator. The Bible presents a framework where humans are seen as caretakers of the earth, tasked with a sacred responsibility to care for creation. This idea is strongly reinforced in scriptures such as Psalm 24:1, which show how the earth belongs to the Lord, with everything that exists. This verse not only establishes God's ownership over all creation but also serves as a foundational text for understanding the Christian duty toward environmental stewardship, this verse also concurs with Rahim, Abdur and others, who indicates that Rural communities do not have a single belief system and common set of perceptions and behavior.³⁴⁴ Though individuals share an environment, they compete for natural resources: they have well defined personal interests as well as group concerns. People are in different situations, with different opportunities for enhancing their own status and accessing

³⁴¹ Hof, Anouschka R., Caren C. Dymond, and David J. Mladenoff. "Climate change mitigation through adaptation: the effectiveness of forest diversification by novel tree planting regimes." *Ecosphere* 8, no. 11 (2017): e01981.

³⁴² Chirongoma, Sophia, and Ven Scholar Wayua Kiilu, eds. *Mother Earth, Mother Africa: World Religions and Environmental Imagination*. Vol. 3. African Sun Media, 2022.

³⁴³ Psistaki, Kyriaki, Georgios Tsantopoulos, and Anastasia K. Paschalidou. "An Overview of the role of forests in climate change mitigation." *Sustainability* 16, no. 14 (2024): 6089.

³⁴⁴ Rahim, Abdur, Janas Khan, Sumia Inayat, Nosheen Bibi, and Muhammad Usman Khalid. "Importance of Environmental Elements and Natural Resources in the Teachings of Divine (Elhāmī) Religions: A Comparative Study." *Webology* 19, no. 2 (2022).

resources. Chiefs, lineage elders, the young and old, rich and poor, men and women all try to manipulate the supposedly shared belief system to their own advantage.³⁴⁵ Individuals' arguments about what should be done based on 'traditional' values, were not the same as what they appeared to believe and practice themselves, Chiefs, for example, have shaped the whole concept of 'conservation' to their own advantage: rather than acting as the humble guardians of society's common interests, they have sought personal gain through preferential access to rural resources. This is not to suggest that rural society is completely dominated by selfish political and economic motives, but rather that indigenous conservation institutions should be regarded as centers of environmental conservation starters.

The religious leaders further revealed that:

We've started several programs to engage our members and the broader community. For instance, we hold regular "Creation Care" seminars where experts in environmental science and theology discuss how stewardship of the Earth is an integral part of Christian faith. These seminars emphasize the biblical foundation for environmental care. Additionally, we've organized hands-on workshops focused on practical action, such as composting, reducing waste, and sustainable gardening. Another major initiative is our Sunday school curriculum, which now includes lessons on how young people can participate in taking care of the Earth from a spiritual perspective (Oral Interviews, July 2023).

When asked about how the church practically promotes environment stewardship, the religious leaders indicated that:

We try to integrate environmental messages into all aspects of church life. For example, our Sunday sermons often touch on the idea of caring for the planet as an extension of loving our neighbors. We also include environmental tips in the church bulletin, on our social media platforms, and through our newsletters. In addition, our church has created a "Green Team" of volunteers who are committed to implementing eco-friendly practices within the church itself everything from reducing energy use to

³⁴⁵ Flannery, Kent, and Joyce Marcus. *The creation of inequality: how our prehistoric ancestors set the stage for monarchy, slavery, and empire*. Harvard University Press, 2012.

organizing recycling programs. We really encourage our congregation to think about how they can take these lessons into their daily lives outside of the church (Oral Interviews, July 2023).

The findings established by this study address contemporary discourse on environmental management. The integration of environmental messages into church life has become an increasingly significant area of study, as both ecological concerns and the role of faith communities in shaping social attitudes toward environmental stewardship have gained prominence.³⁴⁶ Previous scholars, such as Omoyajawo and others also argue that the Churches with the wide-reaching influence and deep communal roots, has a unique platform to advocate for environmental awareness and action.³⁴⁷

According to the findings from the interviews, the situation in Albertine region is related to the global concerns of ecological challenges. For instance, the study findings align with Nightingale, Andrea Joslyn and others, who asserts that despite three decades of international negotiations under the United Nations Framework Convention on Climate Change, along with extensive actions at transnational, national, and sub-national levels, climate change continues to be a growing obstacle to sustainable development.³⁴⁸ In underscoring the reasons why persistent ecological challenges, Ian Scoones argues that the prevailing incremental policy approaches have proven insufficient, failing to achieve the necessary rate, scale, or depth of action.³⁴⁹ As a result, the narrow focus has limited opportunities for more profound changes that address the underlying causes of the problem.

A balanced approach means keeping the proclamation of the Gospel as the top priority, while also being good stewards of the environment, for example, a church might host events to raise

³⁴⁶ Ives, Christopher D., Clark Buys, Charles Ogunbode, Matilda Palmer, Aneira Rose, and Ruth Valerio. "Activating faith: pro-environmental responses to a Christian text on sustainability." *Sustainability Science* 18, no. 2 (2023): 877-890.

³⁴⁷ Omoyajawo, Koleayo, Mela Danjin, Kolawole Omoyajowo, Oluwaseun Odipe, Benjamin Mwadi, Andreas May, Amos Ogunyebi, and Mohamed Rabie. "Exploring the interplay of environmental conservation within spirituality and multicultural perspective: insights from a cross-sectional study." *Environment, Development and Sustainability* 26, no. 7 (2024): 16957-16985.

³⁴⁸ Nightingale, Andrea Joslyn, Siri Eriksen, Marcus Taylor, Timothy Forsyth, Mark Pelling, Andrew Newsham, Emily Boyd et al. "Beyond technical fixes: Climate solutions and the great derangement." *Climate and development* 12, no. 4 (2020): 343-352.

³⁴⁹ Scoones, I. (2023). Confronting uncertainties in pastoral areas: transforming development from control to care. *Social Anthropology/Anthropologie Sociale*, 31(4), 57-75.

awareness about environmental issues, but always with the understanding that their goal is to point people to Christ. This could be done through integrating the Gospel message into environmental outreach programs, ensuring that efforts to care for the world around us are framed within the larger narrative of God's plan for salvation³⁵⁰.

According to churches can begin by leading by example adopting sustainable practices within the church building, such as reducing waste, conserving energy, and recycling.³⁵¹ They could also organize events that combine environmental education with Gospel-centered teaching.³⁵² For instance, a church might host a community cleanup day or an educational forum on climate change, and use the opportunity to also talk about God's plan for the world and the importance of living in harmony with His creation in, churches can partner with local environmental organizations to address both the spiritual and physical needs of a community, a church might support projects that aim to provide clean water or food security to impoverished areas connecting the care for the earth with the mission to love our neighbors.³⁵³

In another interviewee with one of the local leaders, they strongly encouraged churches to always keep the Gospel at the center of everything they do, but also to be mindful that the message of Christ is not just a spiritual message it's a message of restoration for the whole of creation. As the Church works to spread the Gospel, it should also show the world the love of Christ through actions that care for both people and the planet, he further stated that it's important for churches to be guided by the teachings of Scripture and the example of Christ, who cared for the physical needs of people while also addressing their spiritual needs. By doing so, churches can effectively navigate the balance, ensuring that they remain faithful to their core mission while also being a light to the world in terms of caring for creation.

These responses above also align with Ogar, Michael Benson, who recounts about the complex interactions between religion, politics, and historical movements that can be observed around the

³⁵⁰ Horcea-Milcu, Andra-Ioana, Ine Dorresteijn, Julia Leventon, Milutin Stojanovic, David PM Lam, Daniel J. Lang, Angela Moriggi et al. "Transformative research for sustainability: characteristics, tensions, and moving forward." *Global Sustainability* 7 (2024): e14.

³⁵¹ Campbell, Katelyn. "Sustainability in the Sanctuary: An Analysis of the Relationship Between Christian Churches and the Environment." (2019).

³⁵² Shattuck, Cybelle Tenaya. "Pathways to Sustainability: The Greening of US Faith Communities." PhD diss., 2016.

³⁵³ Shattuck, Cybelle Tenaya. "Pathways to Sustainability: The Greening of US Faith Communities." PhD diss., 2016.

world.³⁵⁴ Studies on the relationship between religion and sustainable behaviors found that the inconsistency in the findings often result from methodological differences, such as variations in defining and operationalizing religion. Additionally, factors like beliefs in dominion or stewardship, political orientation, and life satisfaction often moderate these relationships.³⁵⁵

The participants further indicated that caring for the environment is not just a practical responsibility but a spiritual one. They believe that God's creation is a sacred gift, and by preserving it, we honor the Creator. The more they care for the Earth whether it's through planting trees, reducing waste, or using sustainable resources the more we become attuned to the presence of God in all things. Caring for the environment constructs a deeper connection to the divine by recognizing God's handiwork in the world around us.

During the interview one of the church leaders, it was revealed that they have workshops, Bible studies, and sermon series focused on the theology of creation care. The Church leader stressed that:

We help our members understand that living sustainably is not just a matter of ethics, but it's part of our calling as stewards of the Earth. Then, we translate that understanding into practical action. For instance, we have a community garden where people grow their own food, and we offer resources on how to reduce personal consumption. It's all about creating spaces where people can live out their faith through action because God is the creator, the earth and all its creatures belong to Him, placing a responsibility on people to act as caretakers (Oral Interviews, July 2023).

This response from the interviewee is consistent with the works of previous scholars, such as Kanu, Ikechukwu, who stressed about the link between environmental conservation and spiritual growth is increasingly emphasized in Christian thought.³⁵⁶ The preservation of the natural world is not just seen as a practical need but as a way to encounter God more deeply.³⁵⁷ The Earth itself can be

³⁵⁴ Ogar, Michael Benson. "Sacred Forests and Rivers: The Role of Indigenous Religion in Promoting Environmental Sustainability in Abanyom, Cross River State, Nigeria." Master's thesis, University of Johannesburg (South Africa), 2023.

³⁵⁵ Ngweni, Patricia Dudu. "African eco-theology: land, ecology, and indigenous wisdom in the works of samson gitau, kopya kaoma and jesse mugambi." *Master of Theology. University of South Africa* (2020).

³⁵⁶ Kanu, Ikechukwu Anthony. *African Eco-Theology: Meaning, Forms and Expressions*. AuthorHouse, 2022.

³⁵⁷ Otieno, George Lawi. "Mission, identity, and ecology: sustainability among the Luo of Tanzania." PhD diss.,

understood as a metaphor for God's presence and that caring for the environment allows individuals to engage with the divine in a tangible way. This perspective invites Christians to view their environmental actions as part of their spiritual practice recognizing that, through caring for the Earth, they are drawing closer to the Creator.³⁵⁸

Moreover, churches and faith communities are seen as places where individuals can reconcile their spiritual beliefs with the urgent need to protect the planet. As such, churches often integrate environmental stewardship into their ministries, from sustainable practices in church buildings to community engagement projects aimed at environmental justice³⁵⁹. Faith-based organizations, particularly churches, have long been involved in poverty alleviation efforts, recognizing the spiritual duty to care for the marginalized. The intersection of poverty and environmental degradation is a significant concern in both theological and practical realms. Poor communities often suffer disproportionately from environmental degradation, such as deforestation, pollution, and climate change, as they lack the resources to protect themselves or recover from environmental harm, in this context, churches are increasingly embracing environmental sustainability as a means of addressing both ecological and social justice.³⁶⁰

Several faith-based organizations, like the Evangelical Environmental Network (EEN) and the Catholic Campaign for Human Development (CCHD), have pioneered projects that integrate environmental sustainability with poverty alleviation.³⁶¹ These projects often focus on empowering impoverished communities to become more self-sufficient through sustainable agriculture, eco-friendly housing, and green energy initiatives, creating a sustainable livelihood while also contributing to the well-being of the planet.³⁶² Churches worldwide are demonstrating that the goals of environmental sustainability and poverty alleviation are not mutually exclusive

University of Leeds, 2017.

³⁵⁸ Ayayia, Gabriel. "The Concept of ubuntu in African Environmental Ethics Vis-a-Vis the Problem of Climate Change." (2022).

³⁵⁹ Sadiqa, U., & ul Rafi, D. A. (2022). Exploring the Intersection of Cosmology, Environmentalism and Eco-Theology: A Historical Context.

³⁶⁰ Green, M. Christian, and Muhammed Haron, eds. *Law, religion and the environment in Africa*. Vol. 7. African Sun Media, 2020.

³⁶¹ Ogar, Michael Benson. "Sacred Forests and Rivers: The Role of Indigenous Religion in Promoting Environmental Sustainability in Abanyom, Cross River State, Nigeria." Master's thesis, University of Johannesburg (South Africa), 2023.

³⁶² Diaz-Reyes, Taina M. "Ecological Relationality and Models of Sustainability: Towards a Social, Intergenerational, Multi-Species Environmental Ethic through the Evaluation of Cultural-Spiritual Ecosystem Services." Master's thesis, Wake Forest University, 2019.

but can be pursued simultaneously through thoughtful, integrated initiatives. One prominent example is the "green church" movement, which seeks to reduce the environmental footprint of churches and promote eco-consciousness within their communities³⁶³. Many churches engage in projects that directly address poverty by equipping individuals with skills for sustainable living.³⁶⁴ Church-led environmental and poverty-reduction projects foster long-term economic stability. Church-run microfinance programs, which provide loans for sustainable agricultural ventures or eco-businesses, are examples of initiatives that blend economic development with environmental care. In these cases, participants not only receive financial support but are also educated on sustainable practices that help mitigate environmental harm³⁶⁵.

According to what this study found out, one of the critical aspects of our mission is to integrate economic empowerment with environmental stewardship. It was observed that many of the poor communities the church serves are often disproportionately impacted by environmental degradation. The limited access to clean water, sustainable agriculture, or safe housing shows that environmental issues directly affect their quality of life.

This view was also further in line with Kanu, Ikechukwu, who asserts that, Christian environmental ethics are deeply rooted in biblical teachings that emphasize the sacredness of creation and the human responsibility to care for it.³⁶⁶ Genesis 2:15, for instance, presents the idea of humans as stewards of the earth, tasked with cultivating and keeping the garden of creation. Christianity has historically played a role in the environmental crisis, partly because of a misunderstanding of biblical teachings.³⁶⁷ However, more recent scholarship has highlighted a growing movement within Christianity to reinterpret these teachings as a call to active environmental stewardship.³⁶⁸

³⁶³ Unuigbo, Ngozi F. "The Significance of the Stewardship Ethic of the Indigenous Peoples of Nigeria's Niger Delta Region on Biodiversity Conservation." In *Sustainability and the Rights of Nature in Practice*, pp. 167-190. CRC Press, 2019.

³⁶⁴ Golo, Ben-Willie Kwaku, Hasskei Mohammed Majeed, and Nancy Oppongwaa Myles. "Akan Religious Ontology and Environmental Sustainability in Ghana." *Worldviews: Global Religions, Culture, and Ecology* 27, no. 1-2 (2022): 86-114.

³⁶⁵ Okafor, EMMANUEL NWEKE. "The concept of peaceful environment in Igbo spirituality." *MA diss., Siam University, Bangkok, Thailand* (2018).

³⁶⁶ Kanu, Ikechukwu Anthony. *African Eco-Theology: Meaning, Forms and Expressions*. AuthorHouse, 2022.

³⁶⁷ Otieno, George Lawi. "Mission, identity, and ecology: sustainability among the Luo of Tanzania." PhD diss., University of Leeds, 2017.

³⁶⁸ Ogar, Michael Benson. "Sacred Forests and Rivers: The Role of Indigenous Religion in Promoting Environmental Sustainability in Abanyom, Cross River State, Nigeria." Master's thesis, University of Johannesburg (South Africa), 2023.

The biblical theological basis for environmental responsibility begins with the account of creation in Genesis. God in Genesis 1:26-28 grants humanity the dominion over all creation. This has been interpreted in different ways over time. Some traditional readings of "dominion" were understood as permission for exploitation, but contemporary theological perspectives emphasize that this dominion is not a license for destruction but rather a mandate for stewardship defined as responsible management and care of the natural world, this biblical teaching is also in line with Gairola Uniyal, who indicates that the concept of dharma (moral duty) extends to the environment in Hindu teachings.³⁶⁹ Many sacred texts, such as the Bhagavad Gita and Vedas, stress the sanctity of all life forms. Nature is seen as imbued with divine presence, and practices like pilgrimage to sacred rivers (such as the Ganges) reflect a deep respect for natural elements. Environmental movements in India, such as the Chipko movement, have been inspired by these religious ideals., the book further notes that Buddhist environmental ethics draw on the principles of interdependence and compassion for all living beings. The Buddhist concept of Pratityasamutpada (all things exist and change only because of other causes and conditions) emphasizes the interconnectedness of all things, leading to an ethical stance that promotes care for the environment as part of spiritual practice. Prominent figures like Thich Nhat Hanh and the Dalai Lama have also promoted environmentalism as an integral part of Buddhist teachings on mindfulness and non-violence and Taoism (views humanity as a small part of a vast, living ecosystem). Environmental stewardship is a sacred duty based on living simply, avoiding excess, and treating the natural world with deep respect rather than trying to control it. This worldview encourages a simple, sustainable lifestyle that respects natural processes. Taoist texts like the Tao Te Ching emphasize the importance of aligning human behavior with the rhythms of nature.

During the interview another participant further indicated that,

Education on environmental stewardship is actively gathered and spread within this Church. During the beginning of the mass the preachers usually encourage members to elect local leaders who care about the environment to guarantee the future of the community. We also use the pulpit sermons, Bible studies, and youth programs to teach about environmental stewardship and its biblical basis. Other

³⁶⁹ Gairola, Shikha Uniyal. "Review article on relation between Hinduism and environment-a Vedic approach." *Asian Journal of Environment & Ecology* 13, no. 3 (2020): 19-25.

things we have done are hosting local cleanup, workshops, and nature focused events to promote collective responsibility (KII, July 2023).

This view was also further in line with the findings of Awasthi, Ashutosh, who indicates that indigenous and animistic traditions often exhibit a deep spiritual connection to the land and its ecosystems.³⁷⁰ These worldviews tend to see humans as part of a larger ecological system, with obligations to maintain balance and respect for other life forms.³⁷¹ Many Native American spiritualities, such as the Lakota, Ojibwe, and Navajo traditions, center on the belief that all aspects of nature are alive and possess spiritual significance. Rituals, storytelling, and seasonal practices reinforce the idea that humans must live in reciprocal relationships with the land.³⁷² African environmental ethics, rooted in the cosmologies of various ethnic groups, often stress the interrelatedness of nature, ancestors, and spirits.³⁷³ Land and natural resources are seen as communal and sacred, with responsibilities to protect them for future generations and while in Japan, Shinto practices emphasize the reverence for kami (spiritual beings or gods) that inhabit natural features like mountains, rivers, and trees. Shinto festivals and rituals often involve paying respects to these spirits, promoting a view of nature as sacred and deserving of protection.

Moreover, religious leaders have reinforced this biblical ethic by calling for an "integral ecology" where environmental, social, and economic justice are interconnected. The encyclical draws upon biblical principles to argue that humanity's failure to care for the earth is a moral failing that dishonors God's creation. Thus, caring for the environment is not only an ecological issue but also a moral and spiritual one. Despite the strong biblical basis for environmental stewardship, there have been challenges in promoting this view within certain Christian communities. Historically, some have argued that the Bible's promise of a new creation (as in Revelation 21:1) diminishes the importance of caring for the present world. However, contemporary Christian environmentalists reject this interpretation, insisting that the eschatological hope of a new heaven

³⁷⁰ Awasthi, Ashutosh. "A reinterpretation of hindu spirituality for addressing environmental problems." *Religions* 12, no. 5 (2021): 358.

³⁷¹ Ngwena, Patricia Dudu. "African eco-theology: land, ecology, and indigenous wisdom in the works of samson Gitau, Kopya Kaoma and Jesse Mugambi." *Master of Theology. University of South Africa* (2020).

³⁷² Lyakurwa, Michael F. "Towards an approach to environmental ethics responsive to environmental challenges on the slopes of Mount Kilimanjaro." PhD diss., Stellenbosch: Stellenbosch University, 2019.

³⁷³ Appiah-Kubi, Francis, and Gregory Aabaa. "African Traditional Worldview: Indigenous Resource for Re-Thinking Global Faith and Eco-Cultic Spirituality." *Horizons* 13, no. 2 (2019).

and earth does not absolve believers from their responsibility to care for the current one and additionally, Lynn White's 1967 essay "The Historical Roots of Our Ecologic Crisis" famously criticized Christianity for contributing to the environmental crisis by promoting human superiority over nature. In response, many scholars have revisited biblical texts, including Psalm 24:1, to counter this claim, arguing that the biblical tradition promotes humility and respect toward creation rather than exploitation.

The Bible's message in verses like Psalm 24:1 serves as a powerful reminder that the earth and all its resources belong to God, which establishes a clear theological mandate for environmental stewardship. Christian thought, from early Church teachings to modern environmental movements, has drawn on this understanding to advocate for responsible and sustainable care of the environment. Theological frameworks like creation care, rooted in the Bible, provide a compelling basis for Christians to engage in environmental action, not only as a moral obligation but as a form of spiritual worship and reverence for God's creation, his findings is also by the fact that the bible further encourages environmental stewardship as indicated in Numbers 35:33-34, which states that "Do not pollute the land where you are... Do not defile the land where you live and where I dwell, for I, the Lord, dwell among the Israelites". By this message the Bible directly addresses the issue of pollution, calling for the protection and purity of the land.

The Church's in Albertine region has made significant efforts in protection and tree planting by promotion of community involvement.³⁷⁴ These initiatives by the church in Albertine region has provided a platform for the congregation and local residents to work together towards a shared goal, some of these activities have fostered social cohesion and help raise awareness about the importance of environmental conservation.³⁷⁵ In the areas of Ngwedo in Buliisa district people in the area have become more environmentally friendly and they are involved in tree planting³⁷⁶.

During the church services the church leaders encourage Community tree-planting events often, these have become educational opportunities where people learn about the benefits of trees, including air purification and erosion control, this view was also further elaborated in the bible in

³⁷⁴ Onyango, Leah, Joash Mango, C. Bukenya, Zena Kurui, B. Wamubeyi, P. Birungi, and V. Barongo. "Village Baseline Study: Site Analysis Report for Albertine Rift–Hoima, Uganda." (2012).

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³⁷⁶ Anena, Lillian. "Sociocultural Resilience of Rural Communities to Extractive Industries in Uganda's Albertine Graben."

the book of Jeremiah 2:7, which states that “*I brought you into a fertile land to eat its fruit and rich produce. But you came and defiled my land and made my inheritance detestable*”. This verse serves as a warning against exploiting or damaging the environment, urging accountability in how we treat the earth.

The bible further in Leviticus 25:23-24 indicates that “The land must not be sold permanently, because the land is mine and you reside in my land as foreigners and strangers. Throughout the land that you hold as a possession; you must provide for the redemption of the land”. This bible verse further stresses that the temporary stewardship humanity holds over the earth, emphasizing care and restoration of the land. By engaging in these small acts, churches demonstrate their commitment to preserving the environment for future generations.

Small acts of tree planting contribute to broader climate change mitigation efforts by sequestering carbon dioxide, reducing the community's carbon footprint, and creating green spaces that mitigate urban heat effects.³⁷⁷ The Albertine Church’s role in encouraging the planting of trees reflects its understanding of the pressing global and local challenge in Albertine of climate change and its willingness to be part of local solutions³⁷⁸.

The act of tree planting encouraged by the church is highly emphasized by Xi, Yi and others, who emphasized that tree planting has emerged as a significant environmental conservation practice, primarily due to its role in mitigating climate change, enhancing biodiversity, and promoting ecosystem health.³⁷⁹ The importance of forests and individual trees in sequestering carbon, reducing air and water pollution, and preventing soil erosion has been widely recognized in ecological, social, and economic studies.³⁸⁰ One of the most frequently discussed benefits of tree planting is its capacity to sequester atmospheric carbon dioxide (CO₂), a critical factor in combating global climate change. According to studies by Bastin, Jean-Francois and others, large-

³⁷⁷ Anena, Lillian. "Sociocultural Resilience of Rural Communities to Extractive Industries in Uganda’s Albertine Graben."

³⁷⁸ Peter, Moses Eguny Lillian M. Tamale, and Bogere Aisha K. Maso Koyi. "Local Government Councils ‘performance and Public Service Delivery in Uganda."

³⁷⁹ Xi, Yi, Shushi Peng, Gang Liu, Agnès Ducharme, Philippe Ciais, Catherine Prigent, Xinyu Li, and Xueta Tang. "Trade-off between tree planting and wetland conservation in China." *Nature Communications* 13, no. 1 (2022): 1967.

³⁸⁰ Kassim, Wahab. "Land conservation in the Albertine graben region of Uganda: A critical analysis of the legal regimes." *Legal Instruments for Sustainable Soil Management in Africa* (2020): 79-99.

scale tree planting could potentially remove up to 205 gigatons of carbon from the atmosphere, representing a significant portion of anthropogenic CO₂ emissions.³⁸¹ Trees absorb carbon during the process of photosynthesis and store it in biomass and soils, thus reducing the overall concentration of greenhouse gases.

However, the efficacy of tree planting as a carbon sequestration strategy varies depending on species, location, and forest management practices as indicated by Lewis, Simon and others, who argues that while reforestation and afforestation offer potential benefits, these efforts must be combined with protecting existing forests to maximize carbon storage.³⁸² Fast-growing species like Eucalyptus and Acacia may sequester carbon quickly but may not always be suited to long-term ecological health, as some species can disrupt local biodiversity and water systems.³⁸³

The Church's involvement in these efforts also carries ethical and spiritual dimensions. It speaks to a responsibility to protect vulnerable ecosystems and communities that depend on them, particularly in regions facing deforestation, land degradation, and climate-related disasters³⁸⁴. For many congregations, planting trees and promoting environmental protection are seen as acts of worship, gratitude, and reverence for the Earth as God's creation³⁸⁵.

The findings in the study further indicated that in the Albertine region churches collaborate with government institutions, this view was also further indicated by the findings from one of the participants who asserted that;

Normally when church leaders are organizing a campaign to plant trees, they involve the members of the political cycle like normally even the L.C 5 of Hoima district is involved; this gives the district and the region more boost of tree planting and enhance on environmental protection. Involving government agencies provide us with technical support all through to identifying the

³⁸¹ Bastin, Jean-Francois, Yelena Finegold, Claude Garcia, Danilo Mollicone, Marcelo Rezende, Devin Routh, Constantin M. Zohner, and Thomas W. Crowther. "The global tree restoration potential." *Science* 365, no. 6448 (2019): 76-79.

³⁸² Lewis, Simon L., Charlotte E. Wheeler, Edward TA Mitchard, and Alexander Koch. "Restoring natural forests is the best way to remove atmospheric carbon." (2019): 25-28.

³⁸³ Ogar, Michael Benson. "Sacred Forests and Rivers: The Role of Indigenous Religion in Promoting Environmental Sustainability in Abanyom, Cross River State, Nigeria." Master's thesis, University of Johannesburg (South Africa), 2023.

³⁸⁴ Mo, Yalin, Junyu Zhao, and Thomas Li-Ping Tang. "Religious beliefs inspire sustainable HOPE (Help Ourselves Protect the Environment): Culture, religion, dogma, and liturgy—The Matthew Effect in religious social responsibility." *Journal of Business Ethics* 184, no. 3 (2023): 665-685.

³⁸⁵ Carroll, John E., and Paul Brockelman, eds. *The greening of faith: God, the environment, and the good life*. University of New Hampshire Press, 2016.

right trees for different areas The findings in the study further indicated that in the Albertine region churches collaborate with government institutions, this view was also further indicated by the findings from one of the participants who asserted that;

Normally when church leaders are organizing a campaign to plant trees, they involve the members of the political cycle like normally even the L.C 5 of Hoima district is involved; this gives the district and the region more boost of tree planting and enhance on environmental protection. Involving government agencies provide us with technical support all through to identifying the right trees for different areas and purposes such as near water schemes and previously cleared forests. Again, by partnering, the church and government create a responsible church model that fosters both spiritual growth and tangible ecological transformation (FGD, May 2023).

In the Albertine region the churches often collaborate with government bodies, non-governmental organizations (NGOs), and environmental groups to amplify their impact, the environmental protection groups always indicate that, such partnerships with local governments and NGOs to some extent they provide resources, technical expertise, and a wider platform to address environmental issues more effectively.³⁸⁶ By doing so, the Church helps to bridge the gap between religious teachings and practical environmental activism, since the church in the Albertine region is one of the important platforms that the people can voice their concerns. In the Albertine region the Church's participation in small acts of protection and tree-planting efforts within the community of Albertine region not only act as an expression of faith but also a significant contribution to environmental sustainability and community resilience.³⁸⁷ Through these initiatives, the Church plays a crucial role in educating, mobilizing, and empowering communities to take action for the protection of the environment.³⁸⁸

³⁸⁶ Oguzie, Kenneth Ujunwa. "Rooted in the Earth: An Igbo Sacramental Nature of the Universe, a Model for Igbo Christian Ecological Ethics." PhD diss., Duquesne University, 2022.

³⁸⁷ Le Duc, Anthony. "Interreligious dialogue to promote environmental flourishing: An ongoing imperative." *Available at SSRN* 4490844 (2023).

³⁸⁸ Gravino, Federico. "Environmental sustainability, protection of creation, and possible contribution of canon law." In *Prospects of Sustainability: Yesterday, Today and Tomorrow*, pp. 155-166. Virtus Interpress, 2024.

According to the empirical findings, diverse views on the primary responsibility of the church were established. The findings revealed 18% agreeing, 12% strongly agreeing, 55% expressing uncertainty or disagreement, and 24% remaining undecided on the primary responsibility of the church being the proclamation of the gospel to lead sinners to Christ, and the environmental stewardship is secondary. Based on the findings, a considerable majority of participants (60%) recognized the Church's efforts to preserve the environment as a means of coming to know God while simultaneously striving to lift people out of poverty. However, 25% disagreed or strongly disagreed with this statement. The Church's ownership of large tracts of land and financial resources important for environmental management activities such as tree planting was acknowledged by 70% of participants, who either strongly agreed or agreed. Meanwhile, 20% expressed uncertainty or disagreement with this statement.

According to the Village baseline study conducted in Albertine region, the church is found to be amongst other religious organizations increasingly recognizes environmental care as a spiritual responsibility, rooted in their teachings about creation, compassion, and social justice.³⁸⁹ The Bible encourages believers to care for the poor and address poverty in many verses. The church's active involvement in the fight against poverty in the Albertine region is primarily in line with the teachings of the bible, as indicated in the Isaiah 58:6-7, which states that, "Is not this the kind of fasting I have chosen: to lose the chains of injustice and untie the cords of the yoke, to set the oppressed free and break every yoke? Is it not to share your food with the hungry and to provide the poor wanderer with shelter when you see the naked, to clothe them, and not to turn away from your own flesh and blood". The bible verses challenge believers to address social injustices and poverty, showing that true worship includes fighting for the oppressed and helping those in need.

The book of James 2:15-17 stresses the need to practice faith which is practical. It reads: "Suppose a brother or a sister is without clothes and daily food. If one of you says to them, 'Go in peace; keep warm and well fed,' but does nothing about their physical needs, what good is it? In the same way, faith by itself, if it is not accompanied by action, is dead." The principle brought out in this text is in line with the work of Elizabeth Lewis and other scholars, who recounted those global

³⁸⁹ Onyango, Leah, Joash Mango, C. Bukenya, Zena Kurui, B. Wamubeyi, P. Birungi, and V. Barongo. "Village Baseline Study: Site Analysis Report for Albertine Rift–Hoima, Uganda." (2012).

issues such as deforestation, climate change, and poverty cut across secular and religious lines and are providing an opportunity for religious and conservation communities to work together.³⁹⁰

During the study, another respondent further indicated that;

The Church, at its core, has always been a beacon of compassion, service, and support. Our mission is rooted in the teachings of Jesus Christ, who emphasized love for one another, caring for the sick, feeding the hungry, and being a source of hope and comfort. When we speak about health and development, we're really talking about the holistic well-being of individuals and communities' bodies, mind, and spirit. The Church has a long history of being involved in these areas, whether through establishing hospitals, running educational programs, or organizing community health initiatives (Oral Interviews, July 2023).

The findings on the involvement of the church in environmental management are also in line with some of the participants, who recount that the intersection of faith and environmentalism has garnered increasing attention. This has made religious leaders and faith-based organizations becoming significant proponents of environmental activism.³⁹¹ The assertion that church leaders are actively engaged in promoting environmental consciousness and combating ecological destruction has grown in importance, as environmental issues such as climate change, deforestation, and resource depletion pose critical challenges to humanity.³⁹²

During the interviews, I established that *sustainability and effectiveness are key. The Church doesn't just want to provide a temporary fix to a problem; we aim for long-term, lasting impact. First and foremost, we engage local communities in the planning and execution of programs. This ensures that solutions are culturally appropriate, meet the actual needs of people, and are embraced by the community.*

The religious leaders indicated that:

³⁹⁰ Lewis, Elizabeth, Hayley Fowler, Lisa Alexander, Robert Dunn, Fergus McClean, Renaud Barbero, Selma Guerreiro, Xiao-Feng Li, and Stephen Blenkinsop. "GSDR: a global sub-daily rainfall dataset." *Journal of Climate* 32, no. 15 (2019): 4715-4729.

³⁹¹ Byakagaba, Patrick, Bashir Twesigye, and Leslie E. Ruyle. "Dialectics of conservation, extractives, and Uganda's 'land rush'." In *Conservation and Development in Uganda*, pp. 226-246. Routledge, 2018.

³⁹² Kassim, Wahab. "Land conservation in the Albertine graben region of Uganda: A critical analysis of the legal regimes." *Legal Instruments for Sustainable Soil Management in Africa* (2020): 79-99.

We also partner with other organizations whether they're governments, NGOs, or other faith groups to pool resources and expertise. In many cases, we've seen that empowering local leaders and volunteers within the church community to take charge of health initiatives helps ensure that these programs can be sustained even after the initial church involvement. Additionally, the Church emphasizes education. We believe that when people understand why certain health practices are important whether they are sanitation, nutrition, or disease prevention they are more likely to adopt and maintain them (Oral Interviews, July 2023).

The above findings show that educational components are a crucial part of the approach, by the church to foster independence and resilience in communities. Given that communities are different, the challenges are indeed different depending on the context, and that's why the work of the church is so dynamic. Empowerment is another central to approach by the church to promote stewardship of the environment. The Anglican Church of Uganda is self-supporting, and so, empowering the laity to address environment challenge is crucial.

The practice of empowering is scholarly supported by Ullah, Ayat and others, who asserts that, religious leaders, particularly within Christianity, have historically been seen as spiritual guides, but their influence is expanding into social and political domains, including environmental activism.³⁹³ The theological basis for environmental responsibility in Christianity, noting the profound connection between faith and stewardship of God's creation. Sider emphasizes that Christianity, in its traditional form, has often been interpreted as advocating for the dominion of humanity over nature. However, many contemporary religious leaders are reclaiming an alternative interpretation that emphasizes stewardship and care for the environment as a central part of faith practice, the author further asserts that human beings are separate from or above nature, suggesting that religious ideologies, particularly those in Western Christianity, have contributed to the ecological crisis by fostering attitudes of exploitation. This historical critique has prompted a shift in many religious circles towards a more ecological perspective, where environmental advocacy is seen as an essential aspect of Christian ministry.³⁹⁴

³⁹³ Ullah, Ayat, Anu Susan Sam, Archana Raghavan Sathyan, Nasir Mahmood, Alam Zeb, and Harald Kächele. "Role of local communities in forest landscape restoration: Key lessons from the Billion Trees Afforestation Project, Pakistan." *Science of The Total Environment* 772 (2021): 145613.

³⁹⁴ Mawikere, Marde Christian Stenly, Sudiria Hura, Jean Calvin Riedel Mawikere, and Daniella Beauty Melanesia

Christian leaders need to promote an ecological conversion, a fundamental change in attitudes towards nature, promoting the care for the environment as part of moral responsibility. This landmark encyclical has sparked a renewed commitment among church leaders worldwide to actively engage in environmental activism, promoting sustainable practices and advocating for systemic changes that prioritize the protection of God's creation.³⁹⁵ The theological grounding for such activism is rooted in the biblical teachings that emphasize the interconnectedness of all creation. Church leaders, informed by this theology, advocate for environmental stewardship as an essential component of discipleship. Theology promotes a deep respect for the Earth, with church leaders calling on their congregations to align their practices with environmental sustainability.³⁹⁶

The environmental message in Christianity encourages believers to view the Earth as a sacred gift, thus challenging destructive patterns of consumption and promoting alternative, more sustainable lifestyles. Beyond theological support, church leaders are increasingly engaging in practical environmental action within their congregations and local communities.³⁹⁷ Church leaders are fostering environmental awareness through educational programs, sermons, and eco-friendly initiatives. Church-based environmental organizations such as A Rocha and Green Faith provide platforms for church leaders to collaborate on projects ranging from community gardens to renewable energy initiatives, aiming to integrate environmental justice into the church's mission.³⁹⁸

Environmental stewardship refers to the responsible management and care of the environment, ensuring that natural resources are protected and used sustainably. In many Christian contexts, this idea aligns with the biblical principle of humans as caretakers of the Earth, as seen in Genesis 2:15, which calls people to "tend and keep" the Earth. The Albertine church is actively involved in environmental stewardship education is actively gathered and spread in the Church; this

Mawikere. "The Essence of the Church and Its Presence for Societal Transformation." *Hospitalitas: Jurnal Pengabdian Kepada Masyarakat* 1, no. 1 (2024): 1-14.

³⁹⁵ Petrov, Anna, and Fatima Rahman. "Religion and Environmental Ethics: Towards Sustainable Development and Ecological Responsibility." *International Journal of Religion and Humanities* 1, no. 02 (2023): 67-87.

³⁹⁶ Nanthambwe, Patrick. "Church partnerships: A holistic approach to addressing social issues in South Africa." *HTS Teologiese Studies/Theological Studies* 80, no. 1 (2024): 9.

³⁹⁷ Shahida. "From micro-rituals to macro-impacts: mapping eco-ethics via religious/spiritual teachings into higher education." *Ethics and Education* (2024): 1-22.

³⁹⁸ Tilson, Donn J. "All creatures great and small: Faith, spirituality, environmental-animal rights activism and public relations as covenantal stewardship." *Public Relations Inquiry* 13, no. 2 (2024): 137-160.

suggests an intentional effort to raise awareness about ecological issues, promote sustainable practices, and foster a deeper connection between faith and environmental action. In the study during the interview some of the participants alluded that the church is on some occasions involved with the NGO's and some government bodies in holding workshops to educate the Albertine region's locals on environmental protection to limit the effects of climate change.

The collaboration between the church and environmental groups further shows the church's commitment towards Education on environmental stewardship is actively gathered and spread within this Church, this education could involve collaboration with environmental organizations, utilizing resources like articles, guides, or curriculum materials that integrate theological perspectives with practical environmental actions. By spreading such education, the Church plays a role in shaping members' attitudes and behaviors, encouraging a culture of sustainability that extends beyond the congregation into wider community engagement. The Albertine church also engages in planting the trees within the church compound to act as a role model for the people in the community to understand that planting trees is important for the community to fight against climate change. The overall impact of the church's initiatives has inspired individual and collective action toward environmental sustainability, guided by faith-based values, and contributing positively to local and global efforts in addressing environmental challenges.

Regarding the Church actively encouraging and supporting communities in meeting their health and development needs, a majority of 50% either strongly agreed or agreed. However, 23% disagreed or strongly disagreed, and 25% expressed uncertainty. Church leaders within the Church of Uganda were seen as proclaiming the green message and actively fighting against environmental destruction by 60% of participants who either strongly agreed or agreed. However, 25% disagreed or strongly disagreed, and 15% expressed uncertainty. When it comes to reporting cases of forest destruction to the relevant authorities, the responses were varied. While 17% either strongly agreed or agreed with this statement, 47% expressed uncertainty, and 47% disagreed or strongly disagreed.

There are several bible verses that encourage the church of Uganda to influence the implementation of environmental policies for sustainability. Some of these verses reflect a theological perspective on stewardship of the earth, creation care, and the responsibility to preserve God's creation for future generations. Genesis 1:26-28 as mentioned earlier highlight

humanity's role as stewards of God's creation. This command to "rule" over creation is an indication that the responsibility to care for and sustain the environment, not exploit or harm it, is the duty of the Church of Uganda and it has leveraged this mandate to advocate for sustainable environmental policies, reminding people of their duty to manage natural resources responsibly. This is also further highlighted by one of the participants in the focus group interview who indicated that:

The church of Uganda usually participates in government programs of conserving the environment by encouraging the Albertine residents to desist from destroying the wetlands. A united front allows the church to amplify calls for environmental justice, particularly in marginalized communities disproportionately affected by climate change. Church leaders speak on behalf of communities on environmental issues, such as illegal logging, which strengthens the government's efforts to enforce the rule of law (FGD, May 2023)

In the focus group discussion one of the participants indicated that after church normal service agenda the reverend further takes us through the benefits of environmental conservation, in the 5. Isaiah 24:4-6 – Consequences of Environmental Neglect, the earth dries up and withers, the world languishes and withers, the heavens languish with the earth. The earth is defiled by its people; they have disobeyed the laws, violated the statutes and broken the everlasting covenant. This scripture speaks about the environmental consequences of human actions. The Church of Uganda in Albertine region utilizes this passage to underscore the urgency of implementing and enforcing environmental policies. By neglecting environmental care, communities may face the detrimental consequences of deforestation, soil degradation, and loss of biodiversity, which align with the warnings in this passage. Some of the other ways in which, church of Uganda Albertine region engages in environmental protection include organizing community tree-planting events, where the congregants are encouraged to plant trees in church grounds, homes, and public spaces. Partnering with local environmental organizations or government programs, these also amplify these efforts. Church of Uganda leaders teach the theological basis for environmental care, emphasizing stewardship of God's creation. Sermons, Bible studies, and workshops are one of the ways they focus on the importance of protecting the environment.

Church of Uganda in Albertine region sometimes Engages the Youth and Sunday School Programs in teaching the youth involving children and youth in environmental activities, such as tree planting and clean-up drives, instills a sense of responsibility for the environment at a young age. The Church of Uganda in Albertine region also collaborates with local governments to promote and support policies that encourage environmental protection and reforestation efforts.

This advocacy aligns the Church with broader social responsibilities, this is evidenced in most of the responses from the interviews, were one of the participants asserted that: “During Sunday services the young children are also taught how to care for the environment by planting trees and not to unnecessary cut down the trees” (Oral Interview, July 2023). In the book of Romans 8:19-22, we read about the redemption that creation awaits. For the creation was subjected to frustration, in hope that the creation itself will be liberated from its bondage to decay and brought into the freedom and glory of the children of God. This verse emphasizes that creation itself is longing for restoration, which aligns with the idea of environmental sustainability. This bible verse therefore indicates that the Church has a call to action, promoting policies that aim to restore and protect the environment, aligning human actions with the well-being of creation.

The book of Proverbs 12:10 further advocates for the “Righteous Treatment of Creation” "The righteous care for the needs of their animals, but the kindest acts of the wicked are cruel." This verse advocates compassion towards all of creation, including animals and the natural world. It encourages ethical treatment of all living things and can serve as a foundation for advocating for policies that protect wildlife and preserve ecosystems in a country like Uganda.

The book of Revelation 11:18 recounts the accountability for environmental harm that humanity will give before God. The time has come to judge the dead and for rewarding your servants the prophets... and for destroying those who destroy the earth. This passage warns of consequences for those who harm the earth, suggesting a moral responsibility to care for the environment. The Church of Uganda regularly invokes this scripture in its environmental advocacy, framing sustainability as a matter of justice and divine accountability. The Bible provides a rich foundation for encouraging the Church of Uganda to influence environmental policies. Through the lens of stewardship, accountability, and care for creation, these scriptures offer a moral and theological imperative for the Church to actively participate in environmental sustainability efforts. By

advocating for responsible policies and engaging communities in eco-friendly practices, the Church plays a pivotal role in fostering a sustainable future.

3.2.1 Tree-planting for Environmental protection

The findings revealed that one of the main roles of the Church of Uganda is organizing tree-planting initiatives to promote environmental stewardship in the Albertine Region. Trees are vital in mitigating climate change, improving air quality, and conserving soil and water resources. Through these initiatives, the Church encourages community members to actively participate in reforestation efforts and emphasizes preserving our natural resources. In one of the Focus Group Discussions, the significance of these initiatives was explained that

The tree planting activities organized by the Church of Uganda have helped to restore our degraded landscapes. Trees provide shade, prevent soil erosion, improve air quality by absorbing pollutants, reducing urban heat, sequestering carbon and creating habitats for wildlife. He further noted that spending time around trees reduces stress, anxiety, and depression while improving mood. Trees reduce the heart effect, providing shade and creating more livable comfortable homes. Trees are also good because they create jobs in the forestry, maintenance, and research for further studies. Tree root systems stabilize soil, reducing erosion especially on slop areas, reduce runoff and manage stormwater (FGD, May 2023).

The views obtained during the discussions stressed that the Church's tree-planting initiatives restore ecological balance and preserve biodiversity. During the interviews with church leaders, it was revealed that "Church of Uganda has actively organized tree-planting initiatives in our community. They have encouraged us to participate in these activities and emphasized preserving our natural resources. Through their efforts, we have seen the restoration of green spaces and a renewed sense of responsibility towards the environment" (KII May 2023). This idea of tree planting has also been advocated for by ³⁹⁹ who asserts that afforestation and reforestation have been proposed as effective, safe, and affordable natural climate solutions to sequester carbon and

³⁹⁹ Donovan, Geoffrey H., Jeffrey P. Prestemon, Demetrios Gatzliolis, Yvonne L. Michael, Abigail R. Kaminski, and Payam Dadvand. "The association between tree planting and mortality: A natural experiment and cost-benefit analysis." *Environment international* 170 (2022): 107609.

mitigate climate change. Since the 1990s, many countries, especially China, have widely implemented afforestation efforts. In response to national priorities of protecting ecological services and ensuring land system sustainability amidst rapid economic growth, China has introduced large-scale afforestation and forest protection initiatives, such as the Three-North Shelterbelt Program, the Natural Forest Conservation Program, and the Grain for Green Program, over the past four decades. According to China's ninth National Forest Inventory (NFI) from 2014 to 2018, the total forest area increased by approximately 50% (~0.6 million km²) compared to the 1980s, with most of the expansion driven by plantation forests. While this significant rise in forest cover has successfully reduced soil erosion, dust storms, desertification, and improved flood mitigation, it has also led to increased evapotranspiration (ET), decreased runoff (Q), and reduced soil moisture (SM), particularly in the drylands of northern China.

Most of the participants acknowledged that the primary responsibility of the Church is to proclaim the Gospel and lead sinners to Christ, aligning with its core mission of spiritual guidance and salvation. This focus on evangelism and discipleship reflects the biblical mandate to make disciples of all nations, helping individuals to transform their lives through faith in Jesus Christ. The Church exists to address the spiritual needs of people, pointing them toward eternal salvation and nurturing their personal relationship with God; However, the Church also has a secondary responsibility to care for God's creation, which includes environmental stewardship. While the proclamation of the Gospel remains paramount, the Bible also speaks of humanity's role as caretakers of the Earth. In Genesis 2:15, humans are commanded to "work and take care of" the Earth, establishing the theological foundation for environmental responsibility. This stewardship involves protecting and preserving the environment, ensuring its sustainability for future generations. Balancing these responsibilities requires the Church to recognize that environmental care is not separate from its spiritual mission but complementary to it. By promoting responsible stewardship of the Earth, the Church can witness the integrity of its teachings and reflect God's care for all of creation. However, environmental issues should be approached in a way that does not detract from the Church's primary calling of leading souls to Christ. Instead, they should be integrated as part of a broader witness to God's love for both humanity and the world He created, while the Church's central mission remains focused on the salvation of souls, environmental stewardship has been embraced by the church as a reflection of Christian values. It complements

the Church's spiritual message by acknowledging the interdependence of creation and highlighting the importance of living responsibly in God's world.

According to the findings, the relevance of tree planting for environmental protection cannot be overestimated as a major role the church has played to promote environmental sustainability. When the church participates in green ministry, environmental protection can be guaranteed. The church initiatives of tree planting are part of the environmental stewardship practices. And according to the ecclesial participation model, tree planting initiative is one of the practical ways the church can secure the environment from destruction. In the ecclesial participation framework,⁴⁰⁰ stresses the role of the church in promoting human activities that aim at protecting the environment. The tree planting initiative by the church is one of the human activities that this study considers are essential to environmental protection.

The Bible encourages tree planting specifically in the book of Genesis 2:15, the role of human beings in tending and caring for the earth, which can be linked to sustainable practices like tree planting is emphasized. In Isaiah 41:19-20, the Lord said: I will plant in the wilderness the cedar, the acacia tree, the myrtle, and the olive tree; I will set in the desert the cypress tree and the pine and the box tree together, that they may see and know, and consider and understand together, that the hand of the Lord has done this, and the Holy One of Israel has created it.

The church of Uganda has also encouraged most of the people in the Albertine region to conserve their environment planting trees as this does not contradict the teachings of the scripture, this evidenced in the Jeremiah 17:7-8 which states that "But blessed is the one who trusts in the Lord, whose confidence is in him. They will be like a tree planted by the water that sends out its roots by the stream. It does not fear when heat comes; its leaves are always green. It has no worries in a year of drought and never fails to bear fruit."

This verse likens a faithful person to a healthy, well-nourished tree, encouraging resilience and growth, "For six years you shall sow your field, and for six years you shall prune your vineyard

⁴⁰⁰ Lewis, Simon L., Charlotte E. Wheeler, Edward TA Mitchard, and Alexander Koch. "Restoring natural forests is the best way to remove atmospheric carbon." (2019): 25-28.

and gather in its fruits, but in the seventh year there shall be a Sabbath of solemn rest for the land, a Sabbath to the Lord. You shall not sow your field or prune your vineyard.”

This law of letting the land rest encourages sustainable land use, aligning with environmental protection principles, “And on the banks, on both sides of the river, there will grow all kinds of trees for food. Their leaves will not wither, nor their fruit fail, but they will bear fresh fruit every month, because the water for them flows from the sanctuary. Their fruit will be for food, and their leaves for healing.”

In the effort to promote the campaign for tree planting, Church of Uganda sought Partnership with NWSC, to promote to environmental conservation. The tree planting campaign should replace the human activities such as tree cutting for the environmental protection⁴⁰¹. By partnering with the Church of Uganda, NWSC supported the church to further steps in promoting environmental conservation and creating awareness about the importance of protecting the planet. As part of this campaign, the church has also encouraged the attitudes and behaviors of people towards environmental conservation. In another partnership with UNOC, church of Uganda offered land to promote the tree planting initiatives that can be used to foster environmental protection⁴⁰². So, as part of the campaign for environmental protection, the church also has a role in contributing land for development regarding tree planting projects. The commitment to conservation is indeed the divine mandate for the church. Reports indicate that tree planting partnerships are significant practices that can contribute to addressing the estimated 13% reduction in the green forest cover from 2002 to 2023.

These findings align with Odongo, Janes Ouma, who established that reforestation efforts led by religious institutions have positive impacts on ecosystems, including the restoration of degraded areas and the creation of wildlife habitats.⁴⁰³ Previous studies have strongly agreed that the activity of tree planting is one of the main environmental conversation practices. In SESDO project recount

⁴⁰¹ Nabafu, Robinah, Musa Bukoma Moya, and Geoffrey Mayoka Kituyi. "Political Institutions, ICT Infrastructure, and Social Networks Impact on Citizens' Policy Formulation E-participation Engagement Behavior in Uganda." *University of Dar es Salaam Library Journal* 18, no. 1 (2023): 22-42.

⁴⁰² Öhlmann, Philipp, and Ignatius Swart. "Religion and Environment: Exploring the Ecological Turn in Religious Traditions, the Religion and Development Debate and Beyond." *Religion and Theology* 29, no. 3-4 (2022): 292-321.

⁴⁰³ Odongo, Janes Ouma. "Achieving information safety in a disaster environment: the way forward for Africa." *Regional Journal of Information and Knowledge Management* 3, no. 1 (2018): 15-29.

the necessity of tree planting as a practical strategy for combating climate change.⁴⁰⁴ It has been shown that among the most pleasant and ecologically sustainable activities is planting trees. In addition to being attractive, they reduce the chance of flooding, enhance the quality of the air, and lower the impact of the urban heat island by reflecting light and providing shade. Trees are essential in sustainability of the ecosystem. Considering the current findings, it can be argued that plantations are crucial for both the environment and humankind.

Although tree planting is regarded as one of the significant activities regarding environmental protection, it has been faced with several challenges. According to the findings, unwillingness has been presented as a limiting factor. Although the church advocates tree planting, interview findings revealed that some landowners have a negative attitude towards this campaign. In other findings, participants indicated that their income is low to start and sustain tree planting projects. In study by Duguma, Lalisa and others, it was found out that the negative attitude reduced planting responsibility for property owners.⁴⁰⁵ In support of this Danquah, Jones Abrefa and other scholars also argued that perceptions of landowners and homeowners significantly impacts the uptake of tree planting project.⁴⁰⁶ According to, tree planting can be hampered by various challenges, such as poor maintenance, lack of emphasis on tree planting and lack of tree tenure⁴⁰⁷ within institutions. It is hence critical to forge ways of addressing such challenges. This emphasizes what the church as to do regarding the campaign of tree planting. And as Duguma, Lalisa and others put it, tackling these challenges and changing mindsets is crucial if restoration through tree-based interventions is to yield the intended outcomes of reversing ecosystem degradation.⁴⁰⁸ The church

⁴⁰⁴ Sayem, Md Abu. "Eco-religious teachings and environmental sustainability: An analysis of workability of Seyyed Hossein Nasr's 'eco-spirituality' in the context of Bangladesh." *Australian Journal of Islamic Studies* 6, no. 3 (2021): 69-83.

⁴⁰⁵ Duguma, Lalisa A., Peter A. Minang, B. E. Aynekulu, Sammy Carsan, Judith Nzyoka, Alagie Bah, and Ramni H. Jamnadass. "From tree planting to tree growing: Rethinking ecosystem restoration through tree." *World Agroforestry Working Paper* (2020).

⁴⁰⁶ Danquah, Jones Abrefa, Ari Pappinen, and Frank Berninger. "Determinants of tree planting and retention behaviour of homeowners in built-up urban areas of Ghana." *Trees, Forests and People* 13 (2023): 100410.

⁴⁰⁷ Duguma, Lalisa A., Peter A. Minang, B. E. Aynekulu, Sammy Carsan, Judith Nzyoka, Alagie Bah, and Ramni H. Jamnadass. "From tree planting to tree growing: Rethinking ecosystem restoration through tree." *World Agroforestry Working Paper* (2020).

⁴⁰⁸ Duguma, Lalisa A., Peter A. Minang, B. E. Aynekulu, Sammy Carsan, Judith Nzyoka, Alagie Bah, and Ramni H. Jamnadass. "From tree planting to tree growing: Rethinking ecosystem restoration through tree." *World Agroforestry Working Paper* (2020).

can make efforts to understand the perception of landowners and the Christians in order to sensitize them on the advantages of tree planting as the basis for environmental protection.

Given that religious convictions shape human attitudes and worldview in very profound ways, leaders of the mainline churches in Uganda have awakened people's concern on environmental issues and climate change. The leadership of these churches have taken discourse on environmental sustainability and climate change seriously. Drawing from biblical principles, that the advocates are greatly impacting knowledge on environmental sustainability has compelled the church leaders to see the need for sensitization and awareness creation based on biblical principles, especially on stewardship of natural resources. Since the Bible is awash with principles of conservation and effective use of resources (Gen 1:12, Gen 2:15, Exod. 16:4, Exod. 23:10) and God has empowered people to preach and speak about conservation (1 Kings 4:33), some church leaders use every available opportunity at their disposal to do so. Consequently, they take this up and share the same with the masses so that they are aware of the impact of being bad stewards. To them the concept of Christian Stewardship requires human beings to be responsible for the world and take care of the environment so that through that they will be able to feed themselves and leave the world a safer place for the generations to come ⁴⁰⁹. In his charge to the 20th Diocesan synod, Bishop Samuel Kahuma, the successor of Bishop Nathan in the Church of Uganda, called upon everyone "to avoid encroaching on wetlands and conversion of the same for agricultural activities," knowing that God gave humans authority to utilize the natural resources but to be stewards over the same (Gen 2:15)⁴¹⁰. Partly, the zeal of the mainline churches' participation in matters of environmental sustainability and climate change stems from the fact that environmental degradation and climate change pose a serious challenge by exacerbating communities' fragility and increased resource-based conflicts.

Bunyoro Kitara Diocese has developed a policy that emphasized tree planting on empty church lands since the Diocesan Anthem itself emphasizes "wise use of natural endowments to build and develop the church"⁴¹¹. Bishop Nathan Kyamanywa, during his tenure as a diocesan bishop of

⁴⁰⁹ Danquah, Jones Abrefa, Ari Pappinen, and Frank Berninger. "Determinants of tree planting and retention behaviour of homeowners in built-up urban areas of Ghana." *Trees, Forests and People* 13 (2023): 100410.

⁴¹⁰ Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

⁴¹¹ Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

Bunyoro Kitara Diocese in the early 2000s, made it a point to champion climate mitigation. He oversaw the growing of Pine trees on church lands, encouraged tree planting by every confirmation candidate, and preached the same at every church function. He had fallen in love with trees even before he became a diocesan bishop. Then, on the day of his consecration, he made the need to plant trees as part of his charge by calling all Christians to embrace tree growing. On that very day, he demonstrated the need to plant trees practically by handing every clergy a tree seedling to go and plant⁴¹². Even after retiring from active church service, Bishop Kyamanywa has continued campaigning for sustainable use of the environment and has planted trees on vast lands. This commitment has earned him the title of ACT Alliance Climate Ambassador. By the time he handed over office to the new bishop, more than 100,000 trees were planted, and the 19th Synod endorsed his proposal to “observe an annual Diocesan Climate Change Day,” thus affording an opportunity to participate in climate-friendly activities on that day⁴¹³. That aside, in one of the five-year Development Plan of Bunyoro Kitara, the diocese put emphasis on the promotion of a sustainable environment for holistic development in all its parishes and churches. The strategy for achieving this was through promoting livelihood support and sustainable environment programs such as community afforestation program, sustainable agriculture at household levels, promoting horticulture, zero grazing, milk processing, apiary, and promotion of energy-saving technologies, such as stoves as initiatives towards that direction and use of solar lighting for a clean environment⁴¹⁴. In a bid to walk the talk, the diocese has planted over 67,343 pine trees and the parishes had planted 567,327 trees at the time of writing. Following this lead, the diocese of Kitgum had started planting trees to secure church land from land grabbers. The leadership of the Roman Catholic Church in Uganda had also encouraged the planting of trees and sustainable agriculture at various fora. When elected as a new Bishop of Soroti Catholic Diocese, Bishop Joseph Eciru Oliach urged all Ugandans to embark on tree planting as a way of combating global warming⁴¹⁵. Even before this call had been made, as a way of mitigating climate change, some

⁴¹² Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

⁴¹³ Ahimbisibwe, Frank. "The refugee dilemma: Refugee rights versus state security in Uganda." (2013).

⁴¹⁴ Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

⁴¹⁵ Ojok, Patrick, and Junior B. Musenze. "A defence of identity for persons with disability: Reflections from religion and philosophy versus ancient African culture." *African Journal of Disability* 8, no. 1 (2019): 1-6.

church leaders had joined the campaign of tree planting on open lands⁴¹⁶ by ensuring all candidates who are to take part in sacraments would plant at least a tree on church land before they participated in such a ritual. Through such campaigns, reforestation has been achieved in areas that had once been rendered wasteland. At the time of writing, a growing number of mainline church leaders were mainstreaming environmental sustainability and climate change in both development programs and theological education. There were a sizeable number of climate change projects in Uganda that the mainline churches were overseeing. These projects help to create awareness on environment degradation and climate change.⁴¹⁷ The organizations carry out campaigns to sensitize the communities about environmental concerns through undertaking advocacy activities, organizing workshops and seminars, and establishing orchards and plantations. Some churches combine climate change initiatives with other programmatic areas such as peacebuilding, HIV and AIDS, gender, water, and sanitation, and others. Furthermore, in some theological colleges and seminaries, and church-founded schools, there has been a deliberate inclusion of climate change in the curriculum in order to equip the future church leaders and theologians with the required skills so that they are able to draw the attention of their congregations on the dangers of climate change and environmental degradation. Scholars have asserted that this helps to integrate values, activities and principles that are inherently linked to sustainable development into all forms of education and learning and help usher in a change in attitudes, behaviors and values to ensure a more sustainable future in social, environmental and economic terms. Further, since much of the environmental degradation that leads to climate change is due to human activities, like agriculture, members of the mainline churches are encouraging a new form of farming code named “Farming God’s Way” (FGW), where people are taught how to make use of small pieces of land productively. While expounding on the concept of Farming God’s Way, Farming God’s Way (FGW) is a type of conservation agriculture (CA) that re-interprets the CA principles of no tillage, mulching and crop rotation using biblical metaphors such as God doesn’t plow, God’s blanket, and the Garden of Eden. Through faith-based networks, FGW has spread throughout Sub-Saharan Africa, and beyond, as a development intervention for improving food security, adapting to climate change, and restoring soil productivity for resource-poor farming

⁴¹⁶ Ahimbisibwe, Frank. "The refugee dilemma: Refugee rights versus state security in Uganda." (2013).

⁴¹⁷ Olike, Daniel. "The Role of the Law in Achieving Sustainable Urban Development Through Fiscal Incentives in Nigeria." *McGill GLSA Research Series*, <https://doi.org/10.26443/glsars.v1i1.139> (2022).

households. From the above assertion, we could deduce that the principle of Framing God's Way is a multi-pronged approach.

3.2.2 The church Education on Environmental Stewardship

Education on environmental stewardship is another significant role played by the Church of Uganda in the Albertine Region. The Church recognizes the importance of raising awareness and changing attitudes toward the environment to promote sustainable living. Through workshops, seminars, and awareness campaigns, community members are educated about environmental conservation, sustainable practices, and outcomes of human activities on the environment. The Church empowers individuals to make informed decisions and take responsibility for their environmental footprint by disseminating knowledge and understanding.

Religious education by the church regarding environmental stewardship is an important role in environmental management. Churches can use their religious teachings and values to promote environmental awareness and stewardship among their members. Based on the theoretical framework of this study, religious education is one way of the church getting engaged in environmental stewardship. And through the stewardship model, the religious teachings of the church should aim at imparting environmental ethics regarding stewardship of the environment. And according to findings obtained, religious education can contribute to environmental management in the following ways. First promoting the lessons on the sacredness of creation. Many religions teach that the Earth and all living things are sacred creations of God. By the church embracing this teaching, the congregation can be inspired and challenged to care for the environment and to protect it from harm. In the qualitative interviews, the researcher was also informed that through the church teaching them, many Christians have embarked on promoting environmental values. This confirms that religious teachings are necessary to emphasize values such as compassion, justice, and responsibility. These values are significant when it comes to addressing environmental issues, such as climate change, pollution, and biodiversity loss. However, it has been argued that majority of the Christians are ignorant regarding environmental stewardship. In ⁴¹⁸, it was also established that the concept of

⁴¹⁸ Frank, Ahimbisibwe. "The 2006 Refugees Act at 15 in Uganda: An Appraisal." *-19 ISIL YB Int'l Human. & Refugee L.* 18 (2018): 220.

environmental literacy is relatively poorly understood. Several Christians confess their uncertainty concerning environmental stewardship. This shows that church has great work to play.

It was further indicated that promoting religious education regarding disability is the most pragmatic way religious institutions can encourage environmental action. By actively being involved in educating the Christians on environmental stewardship, the church can help people to see their environmental responsibility as a part of their religious faith. This has a significant impact on the motivation of congregants to take part in protecting the environment and to lead more sustainable lifestyle. Studies have indicated that environmentally literate citizens can be easily motivated and empowered to make informed decisions and ensure environmental quality and sustainability⁴¹⁹. What this means is that the church cannot afford to have a congregation that is illiterate regarding environmental management. This is because, religious education on the environment is a biblical way the Christians can understand their biblical responsibility to care for the creation because of God's own love for His creation⁴²⁰. Through such education, the Christians can shape their religious beliefs that inform environmental beliefs and actions⁴²¹. Since beliefs play a critical role in shaping the understanding of our world, then educating Christians to shape their beliefs regarding environmental management is a crucial role for the church.

According to findings, environmental education awareness is indicated as a religious role of the church. For case of church of Uganda, the extensive network of churches, schools, and other institutions to have been used educate Ugandans about the importance of environmental stewardship and the dangers of environmental degradation. In addition, the researcher discovered that the church produces and distributes educational materials on environmental issues. This has enabled the Churches to use religious education to teach their members about specific environmental issues and how to address them. Part of this religious education is teaching their members about the causes and consequences of climate change, and how to reduce their carbon

⁴¹⁹ Arli, Denni, Patrick Van Esch, and Yuanyuan Cui. "Who cares more about the environment, those with an intrinsic, an extrinsic, a quest, or an atheistic religious orientation? Investigating the effect of religious ad appeals on attitudes toward the environment." *Journal of Business Ethics* 185, no. 2 (2023): 427-448.

⁴²⁰ Ferguson, Todd W., and Jeffrey A. Tamburello. "The natural environment as a spiritual resource: A theory of regional variation in religious adherence." *Sociology of Religion* 76, no. 3 (2015): 295-314.

⁴²¹ Sherkat, Darren E., and Christopher G. Ellison. "Structuring the religion-environment connection: Identifying religious influences on environmental concern and activism." *Journal for the scientific study of religion* 46, no. 1 (2007): 71-85.

footprint. Another content that the Churches can also teach their members is the ways to reduce their consumption of resources, recycle and compost, and support sustainable businesses. On this note, one participant expressed that “the Church of Uganda's efforts in educating the community about environmental stewardship have been eye-opening. We have learned the importance of waste management, water conservation, and reducing our carbon footprint” (*FGD May 2023*).

The religious role of the church in educating the members on environmental management highlights the Church's role in shaping attitudes and behaviors towards the environment. They have organized workshops and awareness campaigns where they teach us about the importance of sustainable living and how our actions can impact the environment. This has helped raise awareness and change the community's environmental attitudes. These findings emphasize the importance of environmental education by religious institutions in promoting sustainable practices and nurturing a sense of environmental responsibility among individuals. Educating the congregation concerning the environment is indeed an imperative role for the church. It is considered as “very crucial to expose youth to Environmental Education so that they acquire the essential values, attitudes, commitment and skills needed to preserve and protect the environment.”

⁴²² This of course depends on the learning environment that the church provides to the community for everyone to engage in actions that deepens the understanding of Christian's doctrinal position with regards to humanity's relationship to the environment.

As a religious institution, the church serves as the lifeline of society, and so must champion the work of inspiring the transformation of people's mindset and behaviors regarding environmental protection. Studies indicate that “religious communities provide powerful communication channels: interpersonal relationships friends, family, and community members—which are considered the 'gold standard' for encouraging behavior change” ⁴²³. This implies that the church has a grand opportunity to develop a social network with common beliefs and norms that are relevant to promoting environmental stewardship. The congregations can be educated within this religious community to provide supportive and accessible forums for considering and adopting pro

⁴²² Sayem, Md Abu. "Eco-religious teachings and environmental sustainability: An analysis of workability of Seyyed Hossein Nasr's 'eco-spirituality' in the context of Bangladesh." *Australian Journal of Islamic Studies* 6, no. 3 (2021): 69-83.

⁴²³ Seifert, Jenny Marie, and Bret R. Shaw. "Tending our patch of creation: Engaging Christians in environmental stewardship through sense of place." *Journal for the Study of Religion, Nature and Culture* 7, no. 3 (2013): 265-288.

environmental attitudes and behavior. By the church using the religious environment to create appropriate channels for educating the public on environmental issues, it is possible to address “one of the greatest challenges to inspiring environmental behavior change through communication is navigating and aligning with existing belief systems. According to what is discussed above, the widespread failure of the Church to seize the significance of the God's creation, in its approach for its mission can be improved. This indicates that the church needs to embrace biblical hermeneutics that addresses the question of environmental stewardship. By considering the hermeneutical perspective that shifts from a human to an earth focus, possible ways of promoting environmental stewardship can be achieved.

In advocating for sustainable use of the environment, church leaders can address conflicts, especially pertaining to water and other natural resources. Some of the mainline churches that are members of the All-Africa Conference of Churches (AACC) have tried to pursue the recommendations of the 2008 AACC's Nairobi declaration. This declaration calls upon “Christian leaders from across the continent to call on governments and donors to make environmental sustainability a priority and take necessary measures to promote adaptation and mitigation efforts to the governments and the NGOs ⁴²⁴. Cognizant of this call, many mainline church leaders in Uganda have been sensitizing their congregations about environmental protection and encouraging tree planting as a way of mitigating climate change. To this end, some religious organizations have set up tree nurseries, from which they supply communities with seedlings to encourage tree planting.

The Church of Uganda in its strategic plan has emphasized the need to curb the effects and impacts of climate change. Through this, retired archbishop Stanley Ntagali says, the Church of Uganda “seeks to be at the forefront of mitigating the adverse impact of climate change in our country”. To actualize this, the Church of Uganda Provincial Assembly mandated the development of a policy on climate change to help her promote environmental stewardship ⁴²⁵. This is because it has been identified to be one of the threats to spreading the holistic gospel and therefore needs attention in addition to having it as a critical intervention area through

⁴²⁴ Seifert, Christine, Curtis Newbold, and Richard Chapman. "Put me in coach: Self-regulated directed learning as tactical power." *International Journal of Self-directed Learning* 13, no. 1 (2016): 1-11.

⁴²⁵ Hu, Xiaodan. "Enrollment Challenges at Liberal Arts Colleges: A Literature Review." *Higher Education in Review* (2017).

identifying and forming climate change teams at all levels of the church. As a result, at the lower levels, some dioceses within the province of the Church of Uganda have headed to the concern seriously. For example, Kigezi Diocese has come up with the Kigezi Water Project that aimed at providing access to water resources to households.

3.2.3 Implementation of Environmental Policies

The Church of Uganda also plays a crucial role in advocating for implementing environmental policies to foster environmental sustainability. The Church recognizes the need for robust policies protecting natural resources and ensuring sustainable development. The Church advocates for incorporating environmental considerations in policy decisions through its influence and engagement with policymakers. This includes land management, wildlife conservation, and sustainable resource use. By actively participating in policy discussions, the Church seeks to create an enabling environment for sustainable practices and ensure the long-term preservation of the environment. In the oral interviews, it revealed that "Church of Uganda has been instrumental in raising environmental concerns with relevant authorities. They have been vocal in pushing for policies that protect our forests, wetlands, and natural habitats." (KII July 2023).

The church is indeed positioned to advocate for policy that can promote environmental protection. Church Uganda can surely use its moral authority and influence to advocate for environmental protection policies at the local, national, and international levels. The findings indicate that church of Uganda has worked successfully to lobby the Ugandan government to adopt and implement several environmental policies, such as the National Environment Management Authority Act and the National Forestry and Tree Planting Act. This is indicated by the partnerships that church has established with the National Forestry Authority and other organizations to advocate for environmental protection. The partnerships have enabled the church to support environmental organizations and programs through donation of land, volunteerism, and advocacy. The advocacy role is arguably possible by contacting elected officials, writing letters to the editor, and organizing rallies and protests concern environmental management.

These findings are consistent with the research of ⁴²⁶, who highlighted the important role of religious institutions in advocating for environmental policies and promoting sustainable development. Advocacy is a strategic way of addressing the root causes of environmental degradation and development of programs for promoting environmental justice. Advocacy can tackle the root cause of the problem as it can bring changes in policies and practices of those with power and can even change the balance of power in each situation⁴²⁷. According to the ecclesial participation model, by fulfilling the advocacy role, the church can fulfill the responsibility of being the steward of God's creation. This includes responsibility for how we use the skills, time, money and other resources he has at our disposal. Advocacy work can effectively support the church to achieve the mission of caring for the environment. Advocacy as changing the context and supporting development work Advocacy work can be effective in changing the context in which we do some of our other work. The role of the church according to the findings should not be limited to preaching good news of salvation only but also advocating for the salvation of the environment.

Participation in the implementation of environmental policies requires the church to also pay attention the biblical principles that should guide the development of environmental policies. As it is well known, the task of contributing towards policy making may bring compromise of the theological basis for environmental management. And given that biblical principles are pure and are reflections of God's character, the government agencies and other stakeholders involved in environmental management should recognize that there are God's instruments to advocate for environmental conservation. But however, since the environmental policies are often based on scientific discoveries rather scriptural tenets, the church has a great challenge to overcome. But it should be noted that different contexts and the nature of the community significantly influences how the church approach the policy formulation for environmental protection. In the context of

⁴²⁶ Mucunguzi, Boaz, Walker Guti, Moreen Tumwine, Aloysius G. Mubuuke, Ian Munabi, Arild Raaheim, and Sarah Kiguli. "Ugandan optometry students' experiences of their clinical training: a qualitative study." *BMC Research Notes* 17, no. 1 (2024): 296.

⁴²⁷ Rahim, Abdur, Janas Khan, Sumia Inayat, Nosheen Bibi, and Muhammad Usman Khalid. "Importance Of Environmental Elements and Natural Resources in the Teachings of Divine (Elhāmī) Religions: A Comparative Study." *Webology* 19, no. 2 (2022).

Bunyoro Kitara Diocese, the diverse role and nature of the church is its strength towards the environmental management.

From the previous literature, it is noted that the government of Uganda has formulated the number of policies to regulate land use and impacts on the environment. These policy frameworks seek to integrate environmental concerns in the socioeconomic development planning of the country. Environmental conservation has been linked to poverty eradication. So, the environmental policies, such the Sector Wide Approach to Planning for Water and Sanitation Sector (2002), the National Wetlands Policies (1995), the Environmental Impact Assessment Resolutions (1998), the National Environment Management Policy (MLWE 1994), the National Environment Statute (MLWE 1995), the Constitution of the Republic of Uganda (GOU 1995), and the current draft of the National Land and Land Use Policy are very significant, if the church is to advocate for environmental management. The government has also enacted the National Environmental Management Statute, which led to the establishment of the National Environmental Management Authority (NEMA) as well as providing for a broad range of issues pertaining to the functions of NEMA and measures for environmental protection including water resource management. So, the church of Uganda is encouraged to partner with NEMA to promote environmental conservation through policy implementation.

But however, this study discovered that although Uganda has formulated environmental policies, the country is currently experiencing rapid depletion of water resources, which, in addition to ecological challenges, is leading to conflicts in some parts of the country⁴²⁸. This explains that despite the existence of laws and regulations, the reality of implementation on the ground needs more attention from the church. Religious leaders can be powerful advocates for environmental protection. Religious leaders can use their moral authority to speak out on environmental issues and to encourage their followers to act. They can also lobby government officials and advocate environmental policies and legislation.

⁴²⁸ Rahim, Abdur, Janas Khan, Sumia Inayat, Nosheen Bibi, and Muhammad Usman Khalid. "Importance of Environmental Elements and Natural Resources in The Teachings of Divine (Elhāmī) Religions: A Comparative Study." *Webology* 19, no. 2 (2022).

3.2.4 Green Ministry for Environmental Sustainability

The findings also indicate that the church has a great role to play through green ministry for environmental sustainability and conservation. Through green ministry, the church can both preserve the environment and at the same time enhance the socio-economic well-being of the Christians. This is a unique role of the Church of Uganda to recognition of the interconnectedness between environmental conservation and socio-economic well-being. The Church understands that caring for the environment is about preserving nature, improving lives, and reducing poverty. The Church embraces a holistic approach by implementing projects to lift people from poverty while promoting environmental sustainability. These initiatives address environmental and socio-economic challenges, inspiring individuals to participate actively in sustainable practices.

During focus group discussions, one participant stressed that the Church of Uganda's initiatives to empower communities economically while promoting environmental conservation has had a positive impact. The Christians have witnessed an improvement in livelihoods while preserving our natural resources. From findings, the Church of Uganda understands that caring for the environment is about preserving nature and improving people's lives. They have implemented projects to lift people from poverty while promoting environmental sustainability. This holistic approach is inspiring and encourages the community to strive for a better future. These findings are consistent with the research of ⁴²⁹, who emphasized the importance of holistic approaches that integrate environmental and socio-economic considerations for sustainable development.

Establishing networks within the community that promote environmental evangelism is central to green ministry. Through eco-preaching, the Anglican Church in Albertine region can provide resources and training to the clergy on how to preach about environmental issues. Also, establishing faith-based centers responsible for environmental sustainability is a strategic way the church can promote environmental stewardship. The eco-evangelism as argued in this current study can also support the church to engage the community on issues of environmental management. For example, the researcher observed that the Church organizes and participates in environmental projects in communities across Uganda. These projects include tree planting, river

⁴²⁹ Mucunguzi, Boaz, Walker Guti, Moreen Tumwine, Aloysius G. Mubuuke, Ian Munabi, Arild Raaheim, and Sarah Kiguli. "Ugandan optometry students' experiences of their clinical training: a qualitative study." *BMC Research Notes* 17, no. 1 (2024): 296.

cleanups, and environmental education programs. The COU also partners with other organizations, such as environmental groups and non-profits, to work on environmental issues. Through partnerships, the year 2020 saw COU launch a program called "The Green Church Initiative" to promote sustainable practices in churches across Uganda. The program has helped churches to reduce their energy and water consumption, and to generate their own renewable energy and conserve the environment.

3.2.5 Church Committee for Environmental Issues

To promote environmental stewardship, this study discovered that some churches have environmental committees. Given the complex relationship between religion and environmental stewardship, it is the mandate of the church to ensure that there is leadership for overseeing environmental issues. The Christian traditions place a strong emphasis on stewardship of the Earth and its resources. For example, the Bible teaches that God created the world and entrusted humans with the responsibility to care for it (Genesis 1:26-28). However, the concept of "dominion over the Earth" has been interpreted by some to mean that humans have the right to exploit the planet's resources without regard for the consequences. This kind of interpretation justifies environmental exploitation. But even with this prevailing interpretation, most religious leaders and scholars today recognize that environmental stewardship is a religious imperative. They argue that our moral and ethical obligations to God and to each other require us to care for the Earth and protect its resources for future generations. According to the findings, religion can play a significant role in promoting environmental stewardship. Church's teachings, communities, and leaders can inspire people to care for the Earth and to take action to protect it for future generations⁴³⁰.

Previous literature indicates that the religious role of the church regarding environmental conservation is a historical one. The church's engagement with environmental issues increased in the 19th and 20th centuries⁴³¹. This was due in part to the growing awareness of environmental problems, such as pollution and deforestation⁴³². It was also due to the rise of social movements, such as the conservation movement and the environmental movement, which advocated

⁴³⁰ Thomas Massaro, S. J. *Living justice: Catholic social teaching in action*. Rowman & Littlefield, 2023.

⁴³¹ Tornow, Svenja. "The Potential of Combining Christian Faith and Nature Conservation." (2023).

⁴³² Sangma, Dipty D., and M. Bharani. "Spiritual Values In Buddhism And Christianity: A Philosophical Study." *Journal of Advanced Zoology* 45, no. 2 (2024).

environmental protection. For example, in the 1970s, the National Council of Churches in the United States issued a statement calling for Christians to be stewards of the Earth. The statement said that "Christians have a responsibility to care for the Earth and its resources, and to protect them from harm." This confirms the argument made by the current study. It is indeed recognized that the church's engagement with environmental issues is global and biblical responsibility that the church cannot ignore⁴³³. Church of Uganda has joined this campaign by developing environmental programs and initiatives. This is aimed at converting the church into green church, with a committee committed to reducing their negative environmental practices and promoting sustainable practices⁴³⁴.

The church's engagement with environmental issues is based on several theological principles. The stewardship principle for environment employs the church to participate fully in the management of the environment. Given that humanity cannot be separated from nature, the church leadership should strengthen the environmental committees that recognize the need to protect the environment for the well-being of humanity. This is based on the conviction that all people have a right to a clean and healthy environment. This is a matter of environmental justice. The church has a responsibility to speak out against environmental injustices and to advocate for policies that protect the environment for all people. This can be practically done when the church committees for environmental management are active. The committees are responsible for designing environment education programs for the church members. According to the findings, Bunyoro Kitara diocese is still lacking in church environmental programs. So, the study implores the church leadership to advocate for inclusion of environmental education in religious teachings within the church. By educating its members, implementing sustainable practices, supporting environmental organizations, and advocating for environmental policies, the church can make a significant difference in protecting the Earth for future generations.

⁴³³ Jewdokimow, Marcin, Stefania Palmisano, Marco Castagnetto, and Wojciech Sadłoń. "Catholic Ecological Organizations in Poland and Italy: History, Actions, and Organizational Challenges." *Religions* 15, no. 9 (2024): 1071.

⁴³⁴ Solomon, Iguru. "A critical analysis of environmental law in achieving sustainable development in Uganda." (2018).

3.3 Summary

This chapter was written from the study findings that sought to understand the role of the church in environmental stewardship. According to the findings, it is demonstrated that the Church of Uganda plays multiple significant roles in environmental stewardship within the Albertine Region. The Church catalyzes positive change through its tree-planting initiatives, education on environmental stewardship, advocacy for policy implementation, and holistic approach to addressing environmental and socio-economic challenges. Using the ecclesial participation model, this chapter analyzed the activities that the church in Albertine region carries out to promote environmental stewardship. The study established that the church is positioned strategically to influence the behavior and practices of the followers to promote environmental stewardship. The discussions presented in this chapter provide valuable findings for the place of religion in environmental conservation. This has a global relevance regarding environmental stewardship. It also contributes to a deeper understanding of the substantial influence of the church towards environmental stewardship.

CHAPTER FOUR

THE RELATIONSHIP OF CHURCH'S TEACHINGS AND ETHICAL PRACTICES FOR ENVIRONMENTAL STEWARDSHIP.

4.1 Introduction

This chapter examines the relationship between religious teachings and ethical practices for environmental stewardship. It highlights the role of religious teachings in promoting sustainable practices, conservation efforts, and responsible resource management. In the previous chapter (three), the role of the church in environmental management was analyzed and discussed to include religious teachings and environmental stewardship. As discussed in chapter three, the role of the church consists in stewardship role, promoting ecological ethics, religious education on environmental management and integration of green evangelism. Building on this discussion, the current chapter (4) explores the interplay between religion, ethics, and environmental stewardship, to uncover the significant impact of religious teachings on fostering a harmonious coexistence between humans and nature. Participants were asked to give their views on the relationship between religious teachings and ethical practices responsible for environmental stewardship. The responses obtained are presented in frequency table 4.1 by percentages. This study argues that Christian teachings that prioritizes measures of prevention, preservation and conservation are important for environmental management. Through Christian tradition, faith, morality and ethics, the Christian community can enforce environmental conservation in society.

Using the ecclesial participation model by Daniel Kipkemboi,⁴³⁵ this chapter analyses the influence of conservation ethics and attitudes on environmental stewardship. The ecclesial participation model also emphasizes that the church members should embrace and practice environmental ethics, because, as religious people, they are emulated by others in the community. Therefore, they need to show good morals through good behavior toward the environment so that they can be an exemplary person for others in caring for the environment. By encouraging participation in programs or organizing programs related to the environment, the church can to a certain extent help address environmental issues. Religious teachings can play a significant role in environmental management by providing a moral and ethical framework for decision-making,

⁴³⁵ Kipkemboi, Lagat Daniel. "Environmental Stewardship: Biblical Theology as a Basis for Ecclesial Participation." *African Multidisciplinary Journal of Research* 2, no. 1 (2017).

encouraging people to adopt sustainable lifestyles, and promoting environmental stewardship and responsibility. Religious organizations can also play a leading role in environmental management by educating their members, implementing sustainable practices, and advocating for environmental protection.

Becoming role models by conducting cleaning activities together or communally, creating a green environment, instilling awareness of the importance of environmental management through daily activities, through teaching or education can influence the development of environmental ethics. Promoting ethical practices also depends on how the church embraces stewardship principles that shape the ethics of humanity towards environmental management. The church has an imperative call to teach environmental ethics that emphasize environmental stewardship, since it is a divine duty that God entrusted humanity with creation care. And since the church is mandated to manage the environment in a sustainable way, establishing how religious teachings influence ethical practices for environmental stewardship is necessary. The findings presented in the following sections elaborate on how religious teachings shape the ethical practices that are relevant in promotion of environmental stewardship.

4.2 .0 Relationship of religious teachings and ethical practices for environmental Stewardship

According to the findings in table 4.1, it is indicated that 42% of the participants strongly agreed, and 32% agreed that the religious community actively incorporates environmental ethics into its practices. A small percentage (11%) remained undecided, while 7% disagreed and 8% strongly disagreed with this statement. These results highlight a significant agreement among the participants regarding integrating environmental ethics within religious activities. Also, 48% of the participants strongly agreed, and 35% agreed that religious teachings provide clear guidance on the responsible use of natural resources. Only 12% expressed their undecided stance, 3% disagreed, and 2% strongly disagreed. This indicates widespread recognition among participants of the role of religious teachings in promoting responsible resource management.

Table 4.1. Relationship of church’s teachings and ethical practices for environmental Stewardship, n=170

Assertion on religious teachings & ethical practices	5	4	3	2	1	Total
The church’s community actively incorporates environmental ethics into its practices.	42	32	11	7	8	100
The church’s teachings provide clear guidance on the responsible use of natural resources.	48	35	12	3	2	100
Ethical practices influenced by religious teaching promote sustainable living.	38	37	16	4	5	100
The church’s community encourages its members to participate actively in environmental conservation efforts.	55	28	12	3	2	100
The church’s teachings emphasize the interconnectedness between environmental well-being and spiritual fulfillment.	31	45	14	1	9	100
The church’s community promotes awareness and understanding of environmental issues among its members.	41	42	13	3	1	100
Ethical practices inspired by religious teachings reduce environmental degradation and preserve biodiversity	50	27	7	8	8	100
The church’s teachings inspire a sense of responsibility for environmental stewardship among individuals	46	39	9	0	6	100

Source: *Primary Data collected May 2023*

During the study, one of the religious leaders explained that,

Environmental ethics, from a religious perspective, refers to the moral principles that guide our interaction with nature, grounded in our beliefs about creation and our responsibility as stewards of the Earth. It’s about recognizing the sacredness of

the natural world and our duty to protect and preserve it for future generations, as many scriptures emphasize care for God's creation. Therefore, we need to put into consideration of the environmental principles such as nature knows best, all life is important, everything is connected, everything changes, waste goes somewhere, resources are finite, and humans are stewards of nature (Parish Priest, Oral interviews, July 2023).

The findings are in line with Van der Linden and others, who argued that due to its high public visibility, *Laudato Si'* generated significant expectations of a major societal and ecclesial shift.⁴³⁶ Instead of fostering a unified environmental agenda, the document exposed internal divisions over the Church's environmental stance, various segments of the Church (such as Bishops, local parishes, and congregants) differed in their support for Pope Francis' environmental agenda, questioning the relevance of *Laudato Si'* and backing it to varying extents.

The study established that the church has adopted several initiatives to train our congressional members and one of the most significant steps is integrating environmental stewardship into our religious teachings, this we normally have mentorship for both the senior members and youths by adding environmental awareness sermons, reminding our congregation about their spiritual duty to protect the environment. It was further established the church also encourages the Christians to adopt better rainwater harvesting systems. The participants further asserted that:

As a religion we don't only stop at talking about the green practices that our church members and the community members must do to ensure that the green practices are enforced, we also go ahead to plant trees in open spaces to enforce the green practices in the area. We also established Green Awards to foster competition among our parishes to see who can best keep their environment green. As part of a long-term commitment, candidates for confirmation and Baptism are required to plant trees (FGD, May 2023).

⁴³⁶ Van der Linden, Sander L., Anthony A. Leiserowitz, Geoffrey D. Feinberg, and Edward W. Maibach. "The scientific consensus on climate change as a gateway belief: Experimental evidence." *PloS one* 10, no. 2 (2015): e0118489.

The religious leader also further indicated that;

Beyond that, we have also implemented green practices in our religious institutions, as a church we are also inline to purchase solar panels to power our building and we also encourage members to use solar as a better source of electricity during our religious prayers. We also provide sustainable energy to underserved areas with the aim of promoting solar lamps to replace paraffin lamps, which improve health, safety and wealth in our communities. (Canon, Oral Interview, July 2023).

The findings are consistent with what Morariu, who indicates that under the Kyoto Protocol's Clean Development Mechanism (CDM), industrialized nations could buy certified carbon offsets from developing countries by funding projects that reduce CO₂ emissions beyond normal levels in those countries.⁴³⁷ Similarly, emission reduction units can be generated through Joint Implementation (JI) projects in nations with transitioning economies. Projects that prevent or delay deforestation, land-use change, or establish plantation forests qualify under both the CDM and JI. Industrialized nations may also implement domestic Land Use, Change, and Forestry (LUCF) projects, which benefits countries with large land areas and low population densities. For example, Canada aims to meet 22% of its Kyoto targets through terrestrial carbon sinks.

This view was also in line with previous studies that assert that the role of religious institutions in addressing environmental issues has garnered increasing attention in recent years. Among the various aspects of environmental sustainability, water conservation and management are paramount, particularly in regions facing water scarcity⁴³⁸. Rainwater harvesting, a practice that involves collecting and storing rainwater for future use, has emerged as an important strategy in water conservation. The Church has taken steps to encourage the adoption of rainwater harvesting systems as part of its broader commitment to environmental stewardship⁴³⁹.

⁴³⁷ Morariu, Iuliu-Marius. "Sociological relevance of the ecological thought of Ecumenical Patriarch Bartholomew." *European Journal of Science and Theology* 15, no. 5 (2019): 19-25.

⁴³⁸ Nya, Esther Laurentine, Tulinave Burton Mwamila, Lydie Komguem-Poncabo, Emma Laureane Njomou-Ngounou, Junior Fangang-Fanseu, Raoul Rodrigue Tchoumbe, Raoul Tepong-Tsindé, Willis Gwenzi, and Chicgoua Noubactep. "Integrated water management in mountain communities: The case of Feutap in the Municipality of Bangangté, Cameroon." *Water* 15, no. 8 (2023): 1467.

⁴³⁹ Mercer, Nicholas, and Maura Hanrahan. "'Straight from the heavens into your bucket': domestic rainwater harvesting as a measure to improve water security in a subarctic indigenous community." *International journal of circumpolar health* 76, no. 1 (2017): 1312223

The call for environmental responsibility, including the promotion of rainwater harvesting, finds its roots in theological principles⁴⁴⁰. Christian theology has long emphasized the concept of stewardship, with believers called to care for creation as part of their divine mandate. The Bible provides numerous references to God's creation, with passages such as Genesis 2:15, where humans are commanded to "work and take care of" the Garden of Eden, highlighting the importance of stewardship. In recent years, the Church has broadened the understanding of stewardship to include the preservation of natural resources, acknowledging that the environment is not only a gift from God but also a shared responsibility of humanity⁴⁴¹. In the document *Laudato Si'*, Pope Francis advocates for the care of our common home, urging all people, regardless of faith, to recognize the environmental crisis and act. He highlights water as a critical resource that is often taken for granted and encourages a renewed respect for the planet's water systems. By promoting practices such as rainwater harvesting, the Church is emphasizing its theological commitment to responsible water usage and conservation, aligning with broader ecological and ethical concerns⁴⁴².

Churches and religious organizations have increasingly recognized the need for practical measures to combat water scarcity and have adopted rainwater harvesting systems on their properties⁴⁴³. The implementation of these systems not only provides a model for local communities but also serves as a tangible expression of faith-based environmental stewardship. For instance, several Catholic dioceses around the world have initiated rainwater harvesting projects, equipping church buildings and schools with systems that capture rainwater for use in irrigation, sanitation, and other non-potable purposes.⁴⁴⁴ This initiative serves as both a practical and symbolic demonstration of the Church's commitment to sustainable water management practices. Other faith-based organizations, such as the Evangelical Lutheran Church in America, have similarly undertaken

⁴⁴⁰ López-Felices, Belén, Juan Francisco Velasco-Muñoz, J. A. Aznar-Sánchez, and Isabel María Román-Sánchez. "Factors influencing the use of rainwater for agricultural irrigation: the case of greenhouse agriculture in southeast Spain." *AQUA—Water Infrastructure, Ecosystems and Society* 72, no. 2 (2023): 185-201.

⁴⁴¹ Radwan, Farid, and Abdulrahman Ali Alazba. "Suitable sites identification for potential rainwater harvesting (PRWH) using a multi-criteria decision support system (MCDSS)." *Acta Geophysica* 71, no. 1 (2023): 449-468.

⁴⁴² Kathanzu, Moses K. "Contributions of Governance to Water Availability in Mwingi Town." PhD diss., University of Nairobi, 2023.

⁴⁴³ Gitonga, Sarah Kagendo, Dickson Nkonge Kagema, and Jonathan Kathenge. "Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya." *Journal of Pastoral and Practical Theology (JPPT)* 3, no. 1 (2024): 34-43.

⁴⁴⁴ Rugyendo, M. "Critical Role and Place of the Church as a Response to Environmental Crisis." *Journal of African Interdisciplinary Studies* 8, no. 10 (2024): 321-331.

water conservation efforts, incorporating rainwater harvesting as part of their broader environmental stewardship programs.⁴⁴⁵

The Church's encouragement of rainwater harvesting is particularly significant in developing countries, where water scarcity is a major concern. The implementation of rainwater harvesting systems can provide much-needed access to clean water in rural and marginalized communities. In sub-Saharan Africa, for example, the Catholic Church has been involved in projects that equip schools, churches, and community centers with rainwater harvesting systems, addressing both the spiritual and material needs of the local population.⁴⁴⁶ A study by the United Nations Development Program (UNDP) has highlighted the effectiveness of rainwater harvesting in providing reliable water sources in areas with limited access to centralized water systems⁴⁴⁷. The Church's advocacy for such systems is seen as a moral imperative in these contexts, where the provision of water is not only an environmental issue but also a matter of justice and equity. By adopting rainwater harvesting systems, religious institutions are not only addressing practical water needs but also fulfilling their mission of caring for the marginalized.⁴⁴⁸

Another religious leader gave another example of the existing projects. They revealed that:

One project we're proud of is our "Tree of Life" initiative. It's a large-scale tree-planting program that involves not just our congregation, but also the surrounding community. We've partnered with local schools and environmental organizations to plant thousands of trees in deforested areas. This not only aligns with our faith's message of renewal but also serves to combat climate change and soil erosion. These initiatives are aimed at focusing on rehabilitating degraded land and damaged river bodies, strengthening overall ecosystem services. The aim is to raise awareness on

⁴⁴⁵ Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum et Ecclesia* 45, no. 1 (2024): 3140.

⁴⁴⁶ Gozum, Ivan Efreaim A., Abelardo E. Garcia Jr, and John Lu Allan M. Nucum. "Laudato si and the Role of the Church in Promoting Environmental Awareness Toward a Better Health-Related Quality of Life." *Journal of Religion and Health* 62, no. 4 (2023): 2532-2546.

⁴⁴⁷ Gozum, Ivan Efreaim A., Abelardo E. Garcia Jr, and John Lu Allan M. Nucum. "Laudato si and the Role of the Church in Promoting Environmental Awareness Toward a Better Health-Related Quality of Life." *Journal of Religion and Health* 62, no. 4 (2023): 2532-2546.

⁴⁴⁸ Gozum, Ivan Efreaim A., Abelardo E. Garcia Jr, and John Lu Allan M. Nucum. "Laudato si and the Role of the Church in Promoting Environmental Awareness Toward a Better Health-Related Quality of Life." *Journal of Religion and Health* 62, no. 4 (2023): 2532-2546.

environmental protection, foster environmental stewardship and promote the use of cleaner technologies like biodigesters (Canon, Oral Interview, July 2023).

This shows the essential role of the church, which other scholars have also attested. For instance, Kabongo and Juliane attest that faith-based networks play an essential role in promoting sustainable practices, including rainwater harvesting.⁴⁴⁹ These networks are well-positioned to mobilize communities and influence policy through their extensive outreach and educational programs⁴⁵⁰. The Church's global presence enables it to advocate systemic changes in water management at both local and international levels⁴⁵¹. Through collaboration with environmental organizations, governments, and NGOs, the Church can amplify its message and support the adoption of rainwater harvesting systems in both urban and rural contexts⁴⁵². Religious institutions are trusted sources of information and guidance, and their involvement in environmental advocacy can be pivotal in changing attitudes toward water conservation⁴⁵³. Church leaders and clergy can leverage their influence to educate congregants on the importance of water conservation and encourage the adoption of rainwater harvesting systems at the household and community levels⁴⁵⁴.

While the Church's promotion of rainwater harvesting is an important step toward environmental sustainability, challenges remain in terms of widespread adoption. In many regions, particularly in urban areas, infrastructure and regulatory frameworks may not be conducive to the easy installation of rainwater harvesting systems. Additionally, there may be a lack of awareness or reluctance to adopt such systems, particularly in communities that are not traditionally engaged in water conservation practices. To overcome these challenges, the Church can play a key role in advocating for policy changes that support the implementation of rainwater harvesting systems.

⁴⁴⁹ Kabongo, Kasebwe TL, and Juliane Stork. "African-initiated churches and environmental care in Limpopo, South Africa: A missional enquiry." *Verbum et Ecclesia* 43, no. 1 (2022): 1-6.

⁴⁵⁰ Gozum, Ivan Efreaim A., Abelardo E. Garcia Jr, and John Lu Allan M. Nucum. "Laudato si and the Role of the Church in Promoting Environmental Awareness Toward a Better Health-Related Quality of Life." *Journal of Religion and Health* 62, no. 4 (2023): 2532-2546.

⁴⁵¹ Wangge, Gregorius Loudowick Lenggga, and Rafael Isharianto. "The Church as an ecological community." *Mysterium Fidei: Journal of Asian Empirical Theology* 2, no. 2 (2024): 113-123.

⁴⁵²⁴⁵² Mbuthi, Peter Maithya. "The Role of Catholic Church in Environmental Conservation: A Case Study of Makindu Sub-County, Makueni County-Kenya." PhD diss., Machakos University Press, 2024.

⁴⁵³ Gitonga, S. K., Kagemu, D. N., & Kathenge, J. (2024). Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya. *Journal of Pastoral and Practical Theology (JPPT)*, 3(1), 34-43.

⁴⁵⁴ Rugyendo, M. "Critical Role and Place of the Church as a Response to Environmental Crisis." *Journal of African Interdisciplinary Studies* 8, no. 10 (2024): 321-331.

This could include lobbying for government incentives, educating the public about the benefits of rainwater harvesting, and providing technical support for installation and maintenance. Furthermore, the Church can continue to model best practices by expanding its own use of rainwater harvesting and promoting these systems within its institutions.

In another statement one of the participants further indicated that;

We've also launched recycling programs at our religious centers, where we encourage members to bring their recyclable materials. We make a conscious effort to reduce waste by avoiding single-use plastics during our events. Our religious festivals are becoming more eco-friendly, where we use biodegradable materials instead of plastics, we further also encourage our members to limit the use of plastics by for example they should not over put everything on plastics since plastics take long to decompose. Plastics contain additives such as phthalates and bisphenol which can leach into soil and water hence causing reproductive, developmental, and neurological problems in wildlife (Canon, Oral Interviews, July 2023).

According to what the study found out, environmental degradation is one of the most pressing issues of the contemporary world, with human activities accelerating climate change, deforestation, pollution, and biodiversity loss. In response to this crisis, religious institutions, particularly the Christian Church, have increasingly become involved in advocating for environmental preservation.⁴⁵⁵ A major body of work on the involvement of the Church in environmental preservation is rooted in theological discourse. Christian teachings have long emphasized the moral duty of humans to care for God's creation⁴⁵⁶. The concept of "stewardship" is central to this argument, grounded in the Bible. Early Christian leaders, such as St. Francis of Assisi, demonstrated a profound reverence for nature, often referring to animals, plants, and natural elements as "brothers" and "sisters". The modern environmental movement within Christianity is closely linked to the Ecological Theology highlights the intrinsic connection

⁴⁵⁵ Durito, Peter. "Environmental Justice and the Church in the Post-COVID-19 Era." *The African Church and COVID-19: Human Security, the Church, and Society in Kenya* (2022): 45.

⁴⁵⁶ Church, Presbyterian. "Investing in a Green Future: A Vision for a Renewed Creation An action of the 225th General Assembly (2022)."

between humanity, God, and the Earth, where humanity has the responsibility to protect the environment as an act of worship and faithfulness to God.⁴⁵⁷

These theological positions encourage an understanding of environmental preservation not just as a social or political issue but as a religious duty⁴⁵⁸. Despite the growing recognition of the Church's role in environmental preservation, there are challenges and criticisms to consider. One concern is the sometimes-fragmented approach within the Christian community⁴⁵⁹. While some denominations and leaders are vocal about environmental issues, others remain indifferent or skeptical, often due to theological or doctrinal differences on human dominion over nature⁴⁶⁰, critics argue that the Church's advocacy may not always result in tangible environmental change, particularly in regions where religious influence is waning or where church leadership does not prioritize environmental issues⁴⁶¹. Some also point to the Church's historical involvement in practices that contributed to environmental degradation, such as land exploitation during colonial periods, as a factor that complicates its modern-day environmental advocacy.⁴⁶²

The role of the Church in environmental preservation has evolved over time from a theological reflection on creation care to active engagement in environmental advocacy and practical conservation efforts. While challenges remain, including internal divisions and the complexity of translating moral imperatives into global policy, the engagement of the church in environmental issues has proven to be a powerful force for awareness, advocacy, and action.⁴⁶³ As the ecological

⁴⁵⁷ Edvardsson Björnberg, Karin, and Mikael Karlsson. "Faithful stewards of god's creation? Swedish evangelical denominations and climate change." *Religions* 13, no. 5 (2022): 465.

⁴⁵⁸ Okyere-Manu, Beatrice, and Stephen Nkansah Morgan. "Putting words into action: The role of the Church in addressing climate change in Ghana." In *African Perspectives on Religion and Climate Change*, pp. 91-103. Routledge, 2022.

⁴⁵⁹ Sihombing, Batara, and Desri Maria Sumbayak. "Ecological Disaster and the Role of the Church in Indonesia." *Religion and Social Communication Journal of the* (2022): 320.

⁴⁶⁰ Colella, Luigi. "Integral Ecology and Environmental Law in the Anthropocene: The Perspective of the Catholic Church." In *Environmental Constitutionalism in the Anthropocene*, pp. 13-28. Routledge, 2022.

⁴⁶¹ Jawabreh, Omar AA, Emad Al Dein Al Fahmawee, Ehab Alshatnawi, and Omar Alananzeh. "The importance of religious tourism for development of sustainable tourism: The case of the baptism site in Jordan." *Journal of Environmental Management & Tourism* 13, no. 4 (2022): 909-924.

⁴⁶² Ottuh, John Arierhi. "Christianity and Environmental Care in Nigeria: The Role of Christians in Addressing Indiscriminate Refuse Disposal." *Pharos Journal of Theology* 103, no. 1 (2022).

⁴⁶³ Pangihutan, Posman, and Demy Jura. "Ecotheology and Analysis of Christian Education in Overcoming Ecological Problems." *International Journal of Science and Society* 5, no. 1 (2022): 18.

crisis intensifies, the continuous involvement in environmental preservation by the church remains crucial for fostering a more sustainable and just world.⁴⁶⁴

In another interview the participants further indicated that;

Initially, there was some resistance, as with any significant change, but most of our community members have embraced these practices. By linking environmental ethics to religious teachings, it resonates deeply with their faith, making the transition more meaningful. We've noticed a growing sense of pride in being part of a faith community that not only preaches but also practices care for the environment. Younger members, have been very enthusiastic, often leading initiatives and educating others. It promotes ecological responsibility as a form of devotion and recognizes the intrinsic value of creation, which groans for protection (FGD, May 2023).

*This view was also in line with,*⁴⁶⁵ *the dedication to ecological preservation and environmental protection as a means of preventing an ecological crisis began to take shape through practical actions in the mid-1980s. These efforts included organizing conferences and similar initiatives. Since becoming Patriarch, he has convened various meetings and conferences with leaders of other Orthodox Churches, theologians, businesspeople, politicians, and scholars to emphasize the importance of resource management and responsible stewardship of Creation. Among his notable achievements at the pan-Orthodox level is the establishment of September 1st as the World Day of Environment across the Orthodox Church. This initiative, built on a proposal from 1988 by his predecessor, Patriarch Demetrios, was also endorsed by the World Council of Churches. Furthermore, he contributed to adding ecology and environmental crisis discussions to the agenda of the Pan-Orthodox Council of Crete, as outlined in the document on the Orthodox Church's mission in the modern world. To address the above ecological crisis, afforestation and reforestation are key strategies for addressing climate change, as trees absorb carbon dioxide (CO₂) from the atmosphere during growth, storing carbon in their biomass, dead organic matter, and soils. This makes forestation an effective method for achieving negative emissions.*

⁴⁶⁴ Pogue, Neall W. *The nature of the religious right: The struggle between conservative evangelicals and the environmental movement*. Cornell University Press, 2022.

⁴⁶⁵ Osman, Ahmed I., Samer Fawzy, Eric Lichtfouse, and David W. Rooney. "Planting trees to combat global warming." *Environmental Chemistry Letters* 21, no. 6 (2023): 3041-3044.

Afforestation refers to creating new forests, while reforestation focuses on restoring existing ones, although carbon storage in forests can significantly reduce greenhouse gas emissions, it is susceptible to both natural and human disturbances. Natural events like wildfires, droughts, and diseases, as well as deforestation caused by human activities, can threaten the stability of this carbon storage. Unlike geological carbon storage, which is more permanent, biogenic carbon storage in forests is shorter-lived, emphasizing the need for sustainable forest management and protection. Additionally, forestation projects require large land areas, which can compete with other land uses.

During the interview another religious leader further stated that;

We reach large audiences and have the moral authority to inspire action. By integrating environmental ethics into our faith practices, we foster a culture of responsibility and compassion for the Earth. Our faith teaches us about interconnectivity not just among humans, but between all living beings and the planet. Addressing global challenges like climate change and biodiversity loss requires a spiritual awakening, one that religious communities are uniquely positioned to lead. In our setting, we incorporate ecological themes into liturgies, sermons, and educational programs, with the aim of raising awareness of ecological sins and virtues. It helps us to cultivate a spiritual perspective that views all of nature as a gift from God and interconnected with human being, fostering a sense of reverence and awe (Canon, Oral Interview, July 2023).

During the focus group discussions, one of the participants asserted that;

We're currently exploring ways to make our religious pilgrimages eco-friendlier. We're working on partnerships with sustainable travel organizations to reduce the carbon footprint of these journeys, in this way as church leaders though we cars in places where we can walk by foot, we don't use cars. Another project we're excited about is creating community gardens to promote local, organic food production, which aligns with both environmental sustainability and food security. We engage residents for input to ensure the garden meets community needs. Organize volunteer workdays and educational events (FGD, May 2023).

The study further established that, the church also plans to engage more with policymakers, specifically NEMA top officials but currently the church is preaching environmental protection to with the help of the Buliisa and Hoima leadership team both the politicians and technical team are aware of the church work by advocating for environmentally friendly legislation, we hope to extend the reach of our religious community's environmental efforts beyond our immediate congregation. Amidst climate change and other environmental degradation, research suggests that the world's major religious traditions are increasingly concerned about the natural world. This trend is often described as the "greening" of religions, which is evident in eco-theologies and spiritual practices focused on the environment, the environmental advocacy of local religious communities, and the public statements of religious leaders highlighting ecological issues and supporting pro-environmental policies.

Commenting on environmental ethics and policies, one participant said,

I would say that environmental ethics and religious beliefs are deeply interconnected. Every faith tradition has teachings about the sacredness of nature and the importance of stewardship. By incorporating these teachings into practical actions, as religious community we are leading by example, we have started small, by engaging in key activities like reducing waste, planting trees, and simply raising awareness and growing from there. The Earth is a shared gift, and it's our collective responsibility to care for it, not just for ourselves, but for all future generations (FGD, May 2023).

This study findings contend with Öhlmann, Philipp and other scholars, who stated that, amidst the challenges of climate change and other environmental degradation, scholars suggest that the world's major religious traditions are increasingly focused on environmental concerns.⁴⁶⁶ Climate change has become one of the most pressing issues of the 21st century, with devastating impacts on ecosystems, human health, and global economies, while political and scientific communities have spearheaded much of the advocacy and action on climate change, religious groups and institutions, particularly Christian churches, have increasingly become involved in climate

⁴⁶⁶ Öhlmann, Philipp, and Ignatius Swart. "Religion and Environment: Exploring the Ecological Turn in Religious Traditions, the Religion and Development Debate and Beyond." *Religion and Theology* 29, no. 3-4 (2022): 292-321.

discourse.⁴⁶⁷ Christian theological engagement with climate change is rooted in biblical teachings and the understanding of creation care. Some theologians argue that Christian stewardship inherently involves environmental responsibility, emphasizing the duty to protect the planet as a sacred creation.

Protestant perspectives on climate change have also evolved over time. Historically, some conservative denominations have been skeptical of human-caused climate change, aligning with views that frame environmental concerns as secondary to spiritual salvation.⁴⁶⁸ However, in recent decades, certain Protestant groups, including the Evangelical Environmental Network, have shifted towards more environmentally conscious positions. These groups often ground their climate activism in the idea of "creation care," advocating for policies that protect the environment in line with their interpretation of biblical stewardship⁴⁶⁹.

In contrast, some evangelical theologians and activists see environmentalism as a secular, political issue and resist its integration into faith-based initiatives. These tensions within Christianity highlight differing views on the intersection of faith and science, as well as the role of the church in advocating for public policy changes related to climate change.⁴⁷⁰ This perspective is echoed by Protestant groups such as the Christian Coalition for Climate Change, which emphasizes the ethical responsibility of wealthier nations to lead efforts in mitigating climate change and supporting climate adaptation in developing countries. The narrative of climate justice frames the crisis not only as a technical or scientific challenge but as a moral imperative to protect vulnerable communities and future generations.⁴⁷¹

⁴⁶⁷ Hoegh-Guldberg, Ove, Daniela Jacob, M. Taylor, Tania Guillén Bolaños, Marco Bindi, Sally Brown, Ines Angela Camilloni et al. "The human imperative of stabilizing global climate change at 1.5 C." *Science* 365, no. 6459 (2019): eaaw6974.

⁴⁶⁸ Whitmee, Sarah, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G. Capon, Bráulio Ferreira de Souza Dias, Alex Eze et al. "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health." *The lancet* 386, no. 10007 (2015): 1973–2028.

⁴⁶⁹ Whitmee, Sarah, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G. Capon, Bráulio Ferreira de Souza Dias, Alex Eze et al. "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health." *The lancet* 386, no. 10007 (2015): 1973–2028.

⁴⁷⁰ Mufid, Abdul, Abd Kadir Massowang, Mujizatullah Mujizatullah, and Abu Muslim. "A religious discourse on water and environmental conservation issues: An interfaith approach." *Verbum et Ecclesia* 44, no. 1 (2023): 2822.

⁴⁷¹ Abbass, Kashif, Muhammad Zeeshan Qasim, Huaming Song, Muntasir Murshed, Haider Mahmood, and Ijaz Younis. "A review of the global climate change impacts, adaptation, and sustainable mitigation measures." *Environmental Science and Pollution Research* 29, no. 28 (2022): 42539–42559.

The ethical urgency of addressing climate change is also central to the growing ecumenical movement, which seeks to unite various Christian denominations in the common cause of environmental justice⁴⁷². The World Council of Churches (WCC), for instance, has called for a collective Christian response to climate change, urging churches to advocate for policies that reduce carbon emissions and promote renewable energy. The WCC and other interfaith organizations view climate change as a global issue that transcends national borders, urging churches to act not only locally but globally.⁴⁷³

Churches around the world have increasingly engaged in climate activism through grassroots organizing, policy advocacy, and educational initiatives. One of the most prominent examples of church-based activism is the *Green Church Movement*, which encourages congregations to adopt environmentally friendly practices such as reducing waste, conserving energy, and promoting sustainable lifestyles. Many churches have adopted green building certifications or established environmental ministries to lead sustainable efforts within their communities⁴⁷⁴.

In terms of policy advocacy, church leaders have been vocal in urging governments to take stronger action on climate change. In the United States, organizations like the Evangelical Environmental Network and the National Council of Churches have lobbied for the adoption of carbon pricing, the development of renewable energy infrastructure, and the ratification of international agreements such as the Paris Climate Agreement. Religious leaders, including those from the United Nations, have called for stronger international cooperation, seeing climate change as a global moral crisis.

The church's involvement in climate change activism has not been without controversy, particularly within communities that oppose environmental regulations on theological or political grounds. Some argue that church engagement with climate issues is a distraction from core

⁴⁷² Swinburn, Boyd A., Vivica I. Kraak, Steven Allender, Vincent J. Atkins, Phillip I. Baker, Jessica R. Bogard, Hannah Brinsden et al. "The global syndemic of obesity, undernutrition, and climate change: The Lancet Commission report." *The lancet* 393, no. 10173 (2019): 791-846.

⁴⁷³ Whitmee, Sarah, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G. Capon, Braulio Ferreira de Souza Dias, Alex Ezeh et al. "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health." *The lancet* 386, no. 10007 (2015): 1973-2028.

⁴⁷⁴ Saleem, Anam, Sobia Anwar, Taufiq Nawaz, Shah Fahad, Shah Saud, Tanzeel Ur Rahman, Muhammad Nasir Rasheed Khan, and Touqir Nawaz. "Securing a sustainable future: the climate change threat to agriculture, food security, and sustainable development goals." *Journal of Umm Al-Qura University for Applied Sciences* (2024): 1-17.

religious teachings, while others view it as part of a broader social agenda that conflicts with traditional values. These disagreements have highlighted the tensions within faith communities regarding the balance between advocacy on social issues and religious doctrine.⁴⁷⁵ Despite the increasing engagement of churches in the fight against climate change, there remain significant challenges to their effectiveness and unity in this area. One challenge is the divergence of views within the Christian community, particularly between conservative and progressive factions. Some conservative evangelical groups remain highly skeptical of climate science, framing climate change as either a natural phenomenon or a political issue unrelated to Christian teachings.⁴⁷⁶ The influence of such industries on church-affiliated institutions has created a complex dynamic, as some church leaders face pressure to avoid taking strong stances on climate change or to downplay its significance.⁴⁷⁷

The Christian religions specifically in the Albertine regions actively incorporates environmental ethics into its practices, since the theological principle in Christianity emphasizes stewardship. Although religion has the potential to shape social-ecological change, it alone, like science, is unlikely to fully empower Earth Stewardship. To effectively promote Earth Stewardship, religious communities must collaborate with a broader alliance of scientists, policymakers, and non-governmental organizations.⁴⁷⁸ Historically, scientific and religious communities have not always viewed each other as partners, but in recent decades, there have been notable successes in fostering complementary roles for science and religion in Earth Stewardship.⁴⁷⁹ These advances are building essential common ground for dialogue and creative partnerships aimed at developing long-term sustainable solutions to pressing environmental challenges. In this context, we explore the key dynamics, challenges, and opportunities for ecologists and other scientists to engage with Earth Stewardship principles and leverage the resources of the world's religious traditions.⁴⁸⁰

⁴⁷⁵ Nguyen, Trung Thanh, Ulrike Grote, Frank Neubacher, Manh Hung Do, and Gokul P. Paudel. "Security risks from climate change and environmental degradation: Implications for sustainable land use transformation in the Global South." *Current Opinion in Environmental Sustainability* 63 (2023): 101322.

⁴⁷⁶ Khojasteh, Danial, Ehsan Davani, Abbas Shamsipour, Milad Haghani, and William Glamore. "Climate change and COVID-19: Interdisciplinary perspectives from two global crises." *Science of the Total Environment* 844 (2022): 157142.

⁴⁷⁷ Habibullah, Muzafer Shah, Badariah Haji Din, Siow-Hooi Tan, and Hasan Zahid. "Impact of climate change on biodiversity loss: global evidence." *Environmental Science and Pollution Research* 29, no. 1 (2022): 1073-1086.

⁴⁷⁸ Yang, Christopher Ang Ming, Jerren Gan Kah Yat, and Alberto Pérez Pereiro. "Religion and Environmentalism: How have religions influenced our attitudes and relationship with the environment?"

⁴⁷⁹ Swindal, James. "Pope Francis and the New Evangelization." *Spiritual Horizons* 9, no. 9 (2014): 10.

⁴⁸⁰ Rajan. "Essential Unity of Jainism and Sustainability: A Holistic Philosophy to Humanistic and Ecological

These teachings collectively promote a moral obligation to use resources judiciously, ensuring that human activities do not harm the environment or deplete the Earth's bounty. In an era of environmental challenges like climate change and resource depletion, religious principles can inspire individuals and communities to adopt sustainable practices that honor both nature and future generations.

The findings show that ethical practices influenced by religious teaching were perceived to promote sustainable living. A significant percentage of participants (38%) strongly agreed with this statement, while 37% agreed. In contrast, 16% were undecided, 4% disagreed, with an additional 5% strongly disagreeing. This suggests that most participants recognize the potential of religious teachings to inspire sustainable behaviors. This response also means that religious teachings have significantly shaped the understanding and approach to sustainable living. Many religious principles emphasize the importance of stewardship, caring for creation, and ensuring that resources are preserved for future generations. For instance, teachings on moderation, humility, and gratitude encourage us to avoid overconsumption and waste. In the Christian faith, church members are taught to respect nature as a gift and to use resources responsibly, recognizing that we are only temporary custodians of the Earth.

This view was also in line with the response from one of the participants who asserted that our religious teachings are embedded within our teachings a sense of stewardship or responsibility toward the Earth and its resources, our spiritual message is that:

Humanity is entrusted with the care of creation, not its exploitation. These teachings emphasize the importance of balance, respect, and sustainability, Christian teachings, for example, guide individuals and communities regarding environmental stewardship, framing the care of nature not just as an ecological necessity, but as a moral, ethical, and spiritual duty. The earth belongs to the divine, and humans are accountable for its management (KII July 2023).

The biblical foundation for environmental care is primarily rooted in the creation narratives found in the Book of Genesis. In Genesis 1:26-28, humanity is given dominion over the earth and its

Crisis." *Journal of Human Values*: 09716858241301302.

creatures. However, the term "dominion" is often understood in a non-exploitative sense, as a call to responsible stewardship. The Hebrew word *radah* (translated as "dominion") is more accurately understood as a form of governance that implies care and responsibility rather than unchecked power or exploitation, this view is reinforced in Genesis 2:15, where Adam is placed in the Garden of Eden "to till and keep it," suggesting that humanity's role is to nurture, maintain, and protect the natural world rather than to dominate it.

Theologically, these texts have been interpreted in various ways. Some early Christian thinkers, such as St. Augustine, emphasized humanity's dominion over nature as a reflection of the divine hierarchy, with humans as stewards under God's authority. However, many modern Christian theologians argue for a more eco-centric interpretation of dominion, viewing it as a call to sustainable management and care for the environment. The concept of stewardship, rooted in both Old and New Testament teachings, has played a pivotal role in Christian environmental thought. In the New Testament, passages such as Matthew 25:14-30 (the Parable of the Talents) underscore the idea of responsible management of the gifts entrusted to humanity. Here, stewardship is seen not merely as a duty but as a means of fulfilling God's purposes for creation.

4.2.1 Environmental Justice and the Christian Response

The Christian emphasis on care for the earth also intersects with the concept of environmental justice, which seeks to address the disproportionate environmental burdens faced by marginalized communities. In Christian teachings, the principle of love and justice extends to all of creation, urging Christians to advocate for policies that promote both environmental sustainability and social equity. This concept is evident in the teachings of liberation theologians, who argue that environmental stewardship must also consider the plight of the poor and vulnerable, who often bear the brunt of ecological crises⁴⁸¹.

The idea that humanity's dominion over creation must be balanced with justice and equity is echoed in various Christian denominations' responses to issues such as climate change, deforestation, and pollution. Christian environmental organizations, such as the Evangelical

⁴⁸¹ Clarke, Ben, Friederike Otto, Rupert Stuart-Smith, and Luke Harrington. "Extreme weather impacts of climate change: an attribution perspective." *Environmental Research: Climate* 1, no. 1 (2022): 012001.

Environmental Network, emphasize the role of faith communities in advocating for environmental policies that promote long-term sustainability and the health of all living beings.⁴⁸² Reflecting on the evangelical work of the church, one of the participants said:

Humans are made in God's image to tend and control Eden, not to exploit it. Environmental harm is viewed as destruction of God's work. The church in the Albertine provides a foundation that has enabled the Christians to have a better understanding of environmental conservation and better appreciate the benefits; in so doing they are able to understand the challenge that can be fall them if they do not conserve the environment. Many Christians are engaging in practical actions, including implementing sustainable, and eco-friendly practices in churches (FGD, May 2023).

Regarding the same issue, another participant indicated that;

While there are many religious groups actively advocating environmental justice and sustainable practices, others may not prioritize these issues. That said, there is a growing movement among faith-based organizations in Albertine region to align religious principles with environmental activism (FGD, May 2023).

The research participants further said,

Each time we go to church we feel a deep, spiritual connection with the natural world and because of this we now view the Earth as a living being, often referred to as "Mother Earth," deserving of respect and reverence. This therefore shows that our survival as human being is interconnected with mother nature which means all our relations and reflects the belief in the interconnectedness of all life forms, this Christian wisdom teaches that taking care of the land, water, and animals is essential not just for survival but as an ethical and spiritual responsibility. Moving away from a theology that sees the earth as merely bound for destruction, many are embracing a green gospel that emphasizes healing a broken world (FGD, May 2023).

⁴⁸² Evangelical Environmental Network, 2020.

The study findings are expounded by Schembri Kevin, who indicates that bridging that gap between church and environmental protection and requires a reinterpretation of these teachings in the context of contemporary issues.⁴⁸³ Faith leaders and communities need to bring these teachings into discussions on policy, technology, and global action, since religious communities are advocates for environmental sustainability. They can inspire collective action, whether it's through local conservation projects, advocacy for policies that protect natural resources, or educational efforts to raise awareness about environmental issues. These teachings can inspire a sense of duty to protect the environment, not just for us but also for those who come after us. Ultimately, religious teachings have provided me with a framework for thinking about sustainability, not just as an environmental or economic issue, but as an ethical one that aligns with values of justice, compassion, and respect for all living beings.

Regarding the active participation of religious community members in environmental conservation efforts, 55% of the participants strongly agreed, and 28% agreed with the assertion. Merely 12% remained undecided, while only 3% disagreed and 2% strongly disagreed. These findings highlight the role of religious institutions in mobilizing their members toward practical engagement in conservation initiatives. During the interviews, one of the participants noted that:

Our reverends have been advising us after the mass almost on every Sunday that the environment and the land are one of the few things that we cannot get as new one if we destroy them and therefore, they keep on advising us to ensure that we plant trees in our compounds so that we balance the trees we cut down and the ones we plant. They further advise us that humanity is tasked with nurturing and protecting the earth, acting as caretakers rather than masters of creation (church youth leader, Oral Interview, July 2023).

The survey results indicate that religious teachings emphasize the interconnectedness between environmental well-being and spiritual fulfillment. While 31% of the participants strongly agreed with this statement, a larger proportion (45%) agreed. Only 14% remained undecided; a minimal percentage (1%) disagreed, while 9% strongly disagreed. These results suggest that participants

⁴⁸³ Schembri, Kevin. "Builder of bridges: academic oration in honour of His All-Holiness Ecumenical Patriarch Bartholomew I." *Melita Theologica* 73, no. 1 (2023).

generally perceive a link between environmental well-being and spiritual satisfaction as emphasized in religious teachings.

This view further interconnectedness between environment and human nature and further shows that if there is no preservation of environment human life is in jeopardy this is also further stressed by ⁴⁸⁴ who indicates that the climate constantly interacts with both natural ecosystems and human activities, influencing key aspects of life such as work, nutrition, health, the economy, and overall well-being, the industrial revolution has driven excessive fossil fuel consumption and changes in land use. As a result, weather patterns have been disrupted, leading to impacts that often surpass the resilience of ecosystems. Climate change brings numerous adverse effects, including food insecurity, reduced access to safe drinking water, loss of biodiversity, spread of infectious diseases, damage to infrastructure, and heightened pressure on public health systems.

Most religious traditions view the environment as a divine creation, and therefore, as something sacred that must be protected. For instance, in Christianity, we see the concept of *stewardship* the idea that humans are entrusted with the care of the Earth, which belongs to God. This perspective stresses that protecting the environment is not just an ethical responsibility but also a spiritual one, there is an emphasis on interconnectedness or interdependence. The belief in *karma* underscores that harming nature has negative consequences on both the individual and society. In Christianity the concept of stewardship, highlights the duty to preserve the balance of nature as a form of devotion to God. Environmental well-being is deeply tied to spiritual fulfillment because, in many Christian teachings, caring for the Earth is seen as an act of worship or spiritual practice. In the interview one of the participants further elaborated that;

In the church, our church leaders always encourage us to take care of our environment this is also in line with our “Indigenous traditions of our communities whereby we have a profound belief in the interconnectedness of all living things. For example, health of the land, the air, the water, and animals are seen as vital to the community’s spiritual well-being. When the environment is cared for, it’s believed that spiritual harmony and balance are maintained within both individuals

⁴⁸⁴ Bartholomew, Ecumenical Patriarch, C. S. C. John Jenkins, Pope Francis, Pope Benedict XVI, Pope John Paul II, Archbishop Welby, and Archbishop Ieronymos II. *Global Initiatives of Ecumenical Patriarch Bartholomew: Peace, Reconciliation, and Care for Creation*. University of Notre Dame Press, 2023.

and communities, so the teachings in the church are concurrent with the teachings we have in our communities (Canon, Oral interview, July 2023).

The concept of stewardship is central to understanding the relationship between humanity and the environment. For instance, in Christianity, the idea of stewardship is derived from the biblical narrative of creation in Genesis, where humans are tasked with "dominion" over the earth. However, this dominion is interpreted not as exploitation but as care and responsibility for the natural world. The belief that the earth is God's creation encourages Christians to view environmental degradation as a violation of their spiritual duty to care for God's handiwork.

This finding is also shared by ⁴⁸⁵ who indicates that recently, there has been increasing focus from policymakers and the scientific community on nature-based solutions, as they ramp up efforts to establish policies and strategies to combat climate change. These solutions provide a holistic framework of ecosystem-based approaches that address societal and environmental challenges, while accounting for the interconnections between environmental, social, and economic factors. Nature-based solutions include the conservation, restoration, and sustainable management of ecosystems such as forests, wetlands, grasslands, and coastal areas. Due to the ability of trees to absorb and store carbon dioxide (CO₂) from the atmosphere, reforestation initiatives as part of these solutions could play a significant role in mitigating climate change. In addition to their climate benefits, forests and trees offer numerous other advantages, including preserving biodiversity, retaining soil and water, reducing air and water pollution, and fostering economic growth. Urban trees are crucial in alleviating the urban heat islands effect a phenomenon where urban areas experience higher temperatures compared to their suburban and rural surroundings. Research also shows that forests contribute to improved focus, reduced anxiety and depression, and overall enhanced emotional and mental well-being. In short, forests play a diverse and vital role, providing critical benefits to both the environment and humanity.

Many religious teachings suggest that the care for the environment is not only a duty but also a path to spiritual fulfillment. Indigenous belief systems, for instance, often express the view that all forms of life are interconnected and that humans are part of a larger cosmic order. This sense of

⁴⁸⁵ Raihan, Asif. "A review of forest's contribution to mitigating climate change." In *Proceedings of The International Conference on Forests and Climate Change*. 2024.

oneness with nature is seen as essential to spiritual health. Indigenous peoples' environmental practices are deeply tied to their spiritual understanding of the world, where harming the environment is equivalent to harming oneself and one's community. According to the findings environmental degradation is often seen as a spiritual crisis in many religious frameworks.

The study results also further show that religious teachings across many traditions highlight the deep interconnectedness between environmental well-being and spiritual fulfillment. They call for a compassionate, mindful approach to the environment, rooted in the belief that caring for the earth is a sacred responsibility. By recognizing that environmental degradation not only harms the planet but also disturbs spiritual harmony, these teachings encourage a holistic view of life where the physical and spiritual worlds are seen as one.

The findings further indicate that one of the major challenges is reconciling religious teachings with modern lifestyles. For instance, industrialization and urbanization have led many people to disconnect from nature, making it harder to feel the spiritual ties to the environment that are emphasized in many traditions, for example the oil discovery in the Albertine region has led to the construction of many oil drilling facilities for example in places like king fisher, Tangi (Nwoya district), in places of wanseko, Ngwedo and Bullisa , these places ever since he discovery of oil there has been rapid development in these places, additionally, there may be political and economic pressures that hinder the full engagement of religious communities in environmental advocacy, especially in areas where industries that harm the environment are also significant economic drivers. This also further shows that there is immense potential for science and religion to collaborate. Science offers empirical knowledge and technological solutions needed to address environmental issues, while religion provides the ethical and moral framework to motivate action. Many religious leaders are now calling on their communities to use scientific insights to inform their environmental practices, viewing this as part of their spiritual responsibility. For example, religious institutions could adopt renewable energy technologies for their places of worship or organize educational programs to raise awareness about environmental sustainability using scientific data. The key is to view science and religion not as opposing forces but as complementary partners in the quest to protect the environment.

According to the findings, the religious communities were positively viewed as promoting awareness and understanding of environmental issues among its members. The findings reveal that 41% of the participants strongly agreed, and 42% agreed with this statement. A mere 13% remained undecided, while only 3% disagreed and 1% strongly disagreed. This indicates a consensus among participants regarding the role of religious institutions in raising environmental awareness. The data suggest that ethical practices inspired by religious teachings are perceived to reduce environmental degradation and preserve biodiversity. Half of the participants (50%) strongly agreed with this notion, while 27% agreed.

In contrast, 7% were undecided, 8% disagreed, with an additional 8% strongly disagreeing. These findings emphasize the potential impact of religious teachings in fostering practices that mitigate environmental harm and protect biodiversity. Lastly, religious teachings inspire a sense of responsibility for environmental stewardship among individuals. A substantial percentage of participants (46%) strongly agreed, and 39% agreed with this statement. Notably, 9% expressed their undecided stance, 6% disagreed, and none strongly disagreed. These results highlight the role of religious teachings in cultivating a deep sense of accountability towards the environment among their followers.

During the study, one of the participants revealed that

Teachings by our church leaders often emphasize the interconnectedness of life and the importance of caring for the Earth. For example, church leaders in our church tells us that in Christianity they advocate for respect and care for nature. These teachings inspire individuals to view the environment not merely as a resource to be exploited but as a sacred trust to be safeguarded. This spiritual perspective cultivates behaviors that help mitigate environmental harm, such as conservation efforts, waste reduction, and protection of biodiversity (FGD, May 2023).

This aligns with Sayem who argues that with a functional perspective, any religion in a human society serves certain roles or functions within that society.⁴⁸⁶ I concur with Lawrence E.

⁴⁸⁶ Sayem, Md Abu. "Eco-religious teachings and environmental sustainability: An analysis of workability of Seyyed Hossein Nasr's 'eco-spirituality' in the context of Bangladesh." *Australian Journal of Islamic Studies* 6, no. 3 (2021):

Sullivan's view on the significance of religion for the human species. Sullivan states, Religion distinguishes the human species from all others, just as human presence on earth distinguishes the ecology of our planet from other places in the known universe. Religious life and the earth's ecology are inextricably linked, organically related. Human belief and practice shape the earth. It is difficult to think of a natural system that has not been significantly altered, for better or worse, by human culture. Since stewardship is rooted in the belief that humans are entrusted by God to care for His creation, Christians are responsible for the environment. And this is what the religious teachings must achieve.

In the interviews, another participant stressed that:

Religious leaders' teachings inspire all of us to take collective action. For instance, many church leaders are involved in reforestation projects, wildlife conservation, and advocating for sustainable agriculture. Individuals motivated by their faith might choose to reduce their carbon footprint, engage in community clean-up efforts, or support policies that protect endangered species and ecosystems. Furthermore, religious leaders often use their platforms to educate followers on environmental issues, calling for collective responsibility and proactive measures to safeguard nature (Canon, Oral Interviews, July 2023).

According to what was obtained during the study, religious teachings often frame environmental stewardship not just as an ethical or social responsibility, but as a spiritual duty. This perspective can be a powerful motivator, fostering a deeper, more personal commitment to protecting the planet. When individuals feel that their care for the environment aligns with their faith, they're often more inclined to adopt sustainable practices and advocate for systemic change that benefits the environment.

4.2.2 The church's Community and Environmental Ethics

This theme analyzed how the church communities can promote environmental ethics. Findings also indicate that the religious community encourages its members to actively participate in

environmental conservation efforts. This highlights the role of religious institutions in mobilizing their followers for practical engagement in environmental initiatives. A participant shared her perspective in focus group discussions, stating, "Our Church organizes tree planting campaigns and clean-up drives regularly. They encourage us to be actively involved in preserving our environment" (FGD, July 2023). This implies that religious communities motivated individuals to take tangible actions for conservation. They often provide platforms and resources for their members to actively participate in environmental conservation efforts.

Findings reveal that many participants strongly agreed and agreed that the church's community actively incorporates environmental ethics into its practices. This demonstrates the recognition among participants of the importance of integrating environmental values within the church's activities. One participant expressed, "the Church has always emphasized caring for God's creation. It's not just about worship; it's about living in harmony with nature" (Oral Interviews, July 2023).

This sentiment aligns with the idea that the church's teachings can inspire ethical practices for environmental stewardship. These findings align with a study by ⁴⁸⁷who researched the role of religion in promoting environmental ethics. They found that the church's teachings often provide a moral framework that guides individuals toward responsible environmental behavior. Their study supports that the religious community actively incorporates environmental ethics.

Among the church's factors that may encourage pro-environmental tendencies, one such factor with great potential is stewardship belief and teachings, the belief that humans have a responsibility to take care of the world that God created and has entrusted to humankind. The Bible teaches that humans are stewards of God's creation, and that we have a responsibility to care for it. Taking an example of Genesis 2:15, it is observed that God tells Adam and Eve to "tend and keep" the Garden of Eden. This passage is often interpreted as a call for environmental stewardship. For the church's individuals who strongly hold stewardship beliefs, the natural world

⁴⁸⁷ Mucunguzi, Abel, and Anny Katabaazi Bwengye. "Governance and poverty eradication policy performance during the NRM Administration in Uganda 1986–2020." *Kabale University Interdisciplinary Research Journal* 2, no. 1 (2023): 81-102.

⁴⁸⁸ Preston, Jesse L., and Faith Shin. "Opposing effects of spirituality and religious fundamentalism on environmental attitudes." *Journal of Environmental Psychology* 80 (2022): 101772.

is an object that they need to protect and look after. In support of this idea, research has consistently shown that church's stewardship belief is positively associated with environmentally friendly attitudes and behaviors.

According to Rahim ⁴⁸⁹ he found out that individuals with stronger church stewardship beliefs considered environmental problems, such as global warming and pollution, more serious and were more willing to take personal and political environmental actions. Moreover, found that when stewardship belief was experimentally primed (compared to the control condition in which participants were exposed to content irrelevant to stewardship), people believed more strongly in human-caused climate change and expressed stronger intentions to perform environmentally friendly behaviors, presenting the causal effects of stewardship belief. This reveals how important church communities must consider matters of environmental ethics. The church leaders need to recognize the importance of the church outreach efforts to protect the environment.

In previous studies, it has also been emphasized that the partnership of the church communities and conservation groups can promote great conservation outcomes. According to the findings, the research discovered that the practice of conservation organizations engaging religious groups is not common in Bunyoro Kitara. When conservation organizations engage religious communities, the partnership can easily promote environmental ethics. A systematic and strategic approach that directly engages religious communities, develops effective partnerships, supports and sustains dialogue aimed at finding common ground despite potentially divergent worldviews, and establishes supporting mechanisms to maintain the partnerships that are developed. Effective partnerships between the church and conservation groups represent significant untapped potential which can directly support conservation outcomes; such partnerships are likely to become increasingly important with dwindling support for conservation in Albertine region.

The study findings also recount that the church communities have the role of conducting campaigns related to the environment. Campaign activities are varied such as putting up posters and planting trees. The purpose of the campaigns is to raise interest and awareness in the

⁴⁸⁹ Rahim, Abdur, Janas Khan, Sumia Inayat, Nosheen Bibi, and Muhammad Usman Khalid. "Importance of Environmental Elements and Natural Resources In The Teachings Of Divine (Elhāmī) Religions: A Comparative Study." *Webology* 19, no. 2 (2022).

community on environmental conservation. Campaigns are also one of the methods of persuading the community to participate in caring for the environment. Community programs in practice can also raise interest and awareness to the surrounding community. The church communities are recognized for their potential to cultivate public awareness on environmental ethics for environmental conservation through the integrating environmental ethics with the church knowledge. By embracing community environmental campaigns, the church communities can contribute to the development of environmental ethics through environmental volunteering activities. And based on extant studies, it can be argued that by participating in environmental campaigns, the church communities can create a sense of well-being among the members. Such church campaigns hold mutual benefits for the church communities in Bunyoro Kitara Diocese.

This discussion is also in line with the response from one of the participants who asserted that;

The primary purpose of environmental campaigns is to raise awareness about the significance of protecting our environment. These campaigns serve as a tool to educate the public about pressing environmental issues, such as deforestation, pollution, climate change, and biodiversity loss. By doing so, they help foster a sense of urgency and responsibility within the community. Beyond that, campaigns aim at engaging people in meaningful conversations about how their actions, even small ones, can have a profound impact on the environment. Therefore, the churches work is to teach parishioners that the environment has inherent, not just instrumental values (FGD, May 2023).

From the findings, it is certain that church community programs are incredibly effective because they provide hands-on experiences. While campaigns raise awareness, church community programs allow people to directly engage in conservation efforts. For instance, local clean-up drives, tree planting events, and workshops on sustainable practices not only educate but also empower participants to take ownership of their local environment. When people are actively involved in such initiatives, they tend to feel a stronger connection to the cause and are more likely to continue making environmentally conscious choices in their daily lives. Additionally, these programs often create a ripple effect, where participants influence their peers, families, and neighbors, further spreading awareness.

To ensure long-term impact, organizations need to build campaigns and programs that are not just one-off events but are part of a broader, ongoing effort. Consistent follow-up, church community engagement, and partnerships with local leaders and institutions can help maintain momentum. For instance, schools, local governments, and NGOs can collaborate to keep these programs active and evolving over time. Additionally, leveraging social media and other communication platforms helps keep the conversation going, allowing more people to stay informed and engaged”.

According to the findings, it can be asserted that education is at the heart of both campaigns and church community programs. It’s crucial to not only tell people what they should do, but also to explain why it matters. For example, when people understand how reducing plastic waste helps prevent ocean pollution or how planting trees improves air quality and combats climate change, they are more likely to act with intention. Educational workshops, school-based programs, and even informal conversations within the community can all contribute to a more informed, environmentally conscious society. The more knowledge people have, the more empowered they are to make decisions that protect the environment for future generations.

This study further argues that church communities should embrace practical, values-based environmental practices that can enhance environmental ethics of stewardship and direct the actions of the community towards long-term ethical change. One practical way that this study recommends is the use of creation care and stewardship terminologies that have the church implication than only using politically oriented terminologies, such as environmentalism. In this way, religious leaders can embrace the mandate to promote environmental ethics. From the biblical perspective, creation care and stewardship, form the central Christian teachings that encourage humans to focus on their stewardship responsibility of protecting the environment and its resources, since “the earth is the Lord’s, and everything in it” (cf. Psalm 24:1). And from what the researcher found out, the church communities that have switched to recycled paper and compostable food products, have greatly contributed to the environmental ethics that reduce negative environmental impact.

In other literature, it demonstrated that in Kenya, the Anglican Church, with an estimated five million followers, committed to increase the country’s forest cover by 10 percent over the next four years, and to promote soil conservation in 100,000 households. This is a great initiative that

Bunyoro Kitara can embrace to help parishes and individuals act on environmental issues by educating the community about environmental issues. Church leaders can teach their congregations about the importance of environmental stewardship, the environmental impacts of their actions, and how to make more sustainable choices. They can also provide resources on environmental issues and create a culture of environmental responsibility. Church communities can set an example for their members by adopting sustainable practices in their own operations, such as using energy-efficient appliances, recycling, and composting. They can also encourage their members to make environmentally friendly choices in their personal lives.

It is also established by the current study that church communities have the potential and platform for connecting religious teachings to environmental conservation. Teaching the community on the biblical basis for environmental care can provide guidance on living in harmony with the natural world. By incorporating environmental messages in their church texts, church communities can practically contribute to environmental ethics. The study found out that church communities have a unique opportunity to promote environmental conservation, it is possible to relate environmental conservation to church teachings. Christians can specifically build communities that are committed to environmental stewardship, through encouraging environmental ministries at their churches. It is also argued that Christians can incorporate environmental concerns into their worship services. This can be done by singing hymns about creation, reading scripture passages that emphasize the importance of caring for the natural world, and offering prayers for the environment. Church communities can provide opportunities for their members to learn about environmental issues, to take action to protect the environment, and to support each other in their environmental stewardship efforts.

In the current findings, church teachings are seen to have influence on the beliefs of a church community regarding environmental stewardship. This is consistent with other literature, which argue that church beliefs inform environmental beliefs and actions⁴⁹⁰. This is attributed to the church's perspective which emphasize that one's belief systems shape their understanding of how

⁴⁹⁰ Sherkat, Darren E., and Christopher G. Ellison. "Structuring the religion-environment connection: Identifying religious influences on environmental concern and activism." *Journal for the scientific study of religion* 46, no. 1 (2007): 71-85.

they fit into the world⁴⁹¹, For that matter, Christians in Bunyoro Kitara diocese are in position to promote environmental ethics, because of the church teachings that emphasize the environment being God's creation in⁴⁹². From what the findings established, church communities can provide powerful communication channels, which can serve as avenues for promoting behavior change towards environmental stewardship⁴⁹³. The church as a religious institute is positioned strategically to provide supportive and accessible forums for promoting positive environmental attitudes and behavior. And according to the findings, it can therefore be argued that church teachings have influence on ethical practices that shape the environmental attitudes of stewardship.

The study findings are consistent with other contexts, such as USA. The National Council of Churches USA has a program called "Earth Stewards" that teaches children about the importance of caring for God's creation. Many churches have also been active in promoting environmental protection, which is a comprehensive statement on the relationship between humans and the environment. The encyclical calls for "ecological conversion," which is a change in the way we think about and interact with the natural world. This stresses the need for the church communities to network in the efforts to promote environmental ethics and awareness through evangelical environmental activities. The church communities are encouraged to champion environmental stewardship through the church teachings and ethical practices. By embrace the practice of green evangelism, religious communities can make a significant difference in promoting environmental ethics and protecting the environment for future generations. In the next theme, the detailed analysis on church teachings and ethical practices for environmental stewardship is presented.

4.3 Church Teachings and Ethical Practices for Environmental Management

The relationship between environmental well-being and spiritual fulfillment, emphasized in the church teachings, resonated with a significant proportion of participants who strongly agreed and agreed with this statement. One participant expressed: "I believe that caring for the environment

⁴⁹¹ Seifert, Jenny Marie, and Bret R. Shaw. "Tending our patch of creation: Engaging Christians in environmental stewardship through sense of place." *Journal for the Study of Religion, Nature and Culture* 7, no. 3 (2013): 265-288.

⁴⁹² Rahim, Abdur, Janas Khan, Sumia Inayat, Nosheen Bibi, and Muhammad Usman Khalid. "Importance Of Environmental Elements and Natural Resources in The Teachings of Divine (Elhāmī) Religions: A Comparative Study." *Webology* 19, no. 2 (2022).

⁴⁹³ Nasr, Seyyed Hossein. "The Environmental Crisis in the Islamic World–Pertinence of the Teachings of Traditional Islam." *Handbook of Ethics of Islamic Economics and Finance* (2020): 156-165.

is not just about physical well-being but also about nurturing our spiritual connection with God's creation. It brings us closer to our faith” (Church youth leader, Oral interviews, July 2023).

This viewpoint reflects the understanding of the interconnectedness between environmental well-being and spiritual fulfillment within religious teachings. This finding is supported by a study conducted by⁴⁹⁴, who stated that religious teachings often stress the harmonious relationship between humans and the natural world, viewing environmental well-being as integral to spiritual growth.

This study asserts that church teachings contribute to environmental stewardship through providing a moral imperative for environmental care. From the church teachings embraced by Church of Uganda, all Christians have a moral responsibility to care for environment. This moral imperative is intended to motivate people to take ethical actions concerning the conservation of the environment. In addition to emphasizing environmental morals, the church teachings of the church in Albertine region should offer a framework for understanding human environment relationships. This promotes the harmony between nature and humankind, responsible for sustainable choices in the daily of Christians. According to the findings, environmental crisis that exists in Albertine region demands the Church to create awareness on environmental ethics. The church nuance on environmental ethics in Bunyoro Kitara is more necessary today than at any time in history. This is also main argument of the ecclesial participation model that this study is anchored in.

Emphasizing the theology of environment within religious teachings are recounted as one strategic way the Church of Uganda provide an invaluable contribution to be part of the solution to the environmental crisis by changing the attitude of the community in treating the environment. Christian environmentalists emphasize the ecological responsibilities of all Christians as stewards of God's earth. Through embracing the ethics for environmental protection, it is possible for the Church of Uganda to propagate the doctrine of stewardship, which is necessary for environmental conservation. As has been indicated, religious teachings and ethical living can play a significant role in environmental management. The biblical texts on creation care highlights because it

⁴⁹⁴ Purrostami, Hamed. "The role of religious and ethical teachings in the modern system of education." *Procedia-Social and Behavioral Sciences* 46 (2012): 4775-4781.

important for humanity to embrace ethical practices. Ethical practices illustrate how humans have a responsibility to care for the Earth and its creatures. From biblical account of Genesis 2:15, humanity is entrusted with the task of caring for it and managing the resources of the earth wisely. This narrative shows that God has entrusted humans with the care of the Earth and are responsible for using its resources wisely and protecting it from harm. The Bible also teaches that all of creation is interconnected, and that harming the environment ultimately harms humanity as well. Previous literature has recounted that ethical living in environmental management means making choices that are good for the planet and for all its inhabitants.

The concept of stewardship is fundamental in Christian theology and is derived from scriptures such as Genesis 2:15, which states, "The Lord God took the man and put him in the Garden of Eden to work it and take care of it." This verse establishes that humanity was given a special role in caring for the Earth. The Christian understanding of stewardship extends to sustainable management and protection of natural resources. It recognizes that the Earth belongs to God (Psalm 24:1), and humans are tasked with its responsible care. In this sense, the religious community views environmental conservation as a moral and spiritual duty. Christian teachings emphasize love and care for one's neighbor (Matthew 22:39), which can be interpreted as a call to ensure that the environment is preserved not only for the current generation but also for future generations. Environmental degradation often disproportionately affects the poor and vulnerable, violating the principle of love and care for others. Therefore, Christian environmental ethics advocate for responsible actions that protect the environment, as a polluted or degraded environment harms the health and livelihoods of people, especially the marginalized. In Christian theology, all of creation is considered good (Genesis 1:31), and humans are called to respect and value the life forms that God has made. The Bible frequently points to the beauty and sanctity of nature, for example in Psalms 104, which praises God for the diversity and intricacy of creation. From this viewpoint, environmental conservation is not only a responsibility but also an act of reverence to God, acknowledging His handiwork in the natural world. The Christian narrative of redemption and restoration offers a vision for the reconciliation of all creation. In Romans 8:19-22, Paul writes about how creation itself longs for liberation from corruption, paralleling human redemption. This eschatological view implies that environmental restoration aligns with the broader Christian mission of healing and renewal in the world. In promoting environmental

conservation, the religious community may see itself as participating in God's plan to redeem the world, spiritually and materially. Christian churches and organizations worldwide have increasingly embraced environmental initiatives, often through programs known as "creation care." These programs encourage individual and communal actions such as tree planting, waste reduction, energy conservation, and advocacy for policies that protect ecosystems. Many Christian denominations have also joined interfaith movements that promote sustainable living, emphasizing that caring for the Earth is an ecumenical concern.

Christians are encouraged to take urgent action in combating climate change and environmental degradation. The encyclical emphasizes the interconnectedness of all living things and the moral imperative to protect the planet, particularly for the sake of the poor and vulnerable. Christian teachings on stewardship, care for creation, love for one's neighbor, and the hope of restoration provide a strong ethical foundation for environmental conservation⁴⁹⁵. The religious community, inspired by these values, has a critical role in mobilizing its members to actively participate in preserving the environment, as a reflection of their faith and commitment to God's creation. Through education, advocacy, and direct action, Christians are called to integrate environmental care into their spiritual lives, ensuring the protection of the Earth for future generations.

Reflecting on the current findings considering other studies reveals consistent paradigm concerning how the church theistic stewardship on the belief that humans have a responsibility to take care of the world that God created and has entrusted to humankind hence promoting pro-environmental support among the church individuals. Previous studies have also described how the church stewardship belief may influence development of environmental ethics that encourage pro-environmental action. In accordance with previous studies, the current study argues that church teachings and environmental ethics significantly contribute to the positive effects of stewardship belief as well as key factors that may moderate the effects of stewardship belief. The principle moral practices that reflect the church stewardship are recounted as relevant for behavioral change toward sustainability. And according to the stewardship model of

⁴⁹⁵ Yousefi Rizi, Hossein Ali, and Mehry Shirani. "A Survey of the Hygiene and Environmental Characteristics of a Healthy City in the Religious Teachings." *Journal of Health System Research* 8, no. 4 (2012): 570-580.

environmental management, stewardship belief clearly provides great potential for environmental support among the church communities.

Previous studies on the relationship between church stewardship belief and environmental attitudes and behaviors have also indicated that church teaching significantly shaped the ethical practices relevant for environmental stewardship. Considering the tenets of ecclesial participation model, the Church can promote environmental stewardship focusing on positive environmental attitudes and behaviors in her church teachings. This of course depends on how churches are determined to promote stewardship-related messages in the church teachings. For clarity, the stewardship belief in this study refers to church and theistic stewardship of the environment. According to previous studies, church, God-oriented stewardship is distinct from generic or secular stewardship given its influence from church teachings. This recognizes that the concept of theistic stewardship may apply to any religion or church individuals with beliefs in God or gods. So, with a reflection of the existing literature, the discussion of the findings in this study is based on around the context of Christianity, this view was also in line with⁴⁹⁶ who indicates that, although various faith traditions have developed eco-theological perspectives, there is limited evidence of widespread environmental engagement among their congregations and members. While some church leaders or individual congregations within these traditions may demonstrate notable environmental activities, most followers and congregations do not exhibit above-average involvement in environmental issues. For example, certain scholars point to significant greening efforts among mainline Christian groups, whereas conservative Christian groups (such as Evangelicals and Pentecostals) tend to show less concern for environmental matters, while mainline Christian leadership often demonstrates strong environmental commitment, such as through public green statements, research on the environmental attitudes of their adherents does not consistently support this notion.

This finding further indicates that; Many churches advocate for the concept of stewardship, emphasizing the responsibility of humans to care for the Earth. For example, in Christianity, the concept of stewardship is rooted in the idea that humans are caretakers of God's creation, tasked

⁴⁹⁶ Mir, Firdose Ahmad, and Mohd Arif Hussain Bhat. "Ecological and Environmental Issues: A Study of Religious Perspective." *International Journal of Psychosocial Rehabilitation* 26, no. 01 (2022).

with nurturing and preserving the environment (Genesis 2:15). This responsibility encourages ethical practices like reducing waste, protecting wildlife, and managing natural resources sustainably. By adopting the stewardship model, church communities are more likely to engage in activities that limit environmental degradation. This includes promoting reforestation, water conservation, organic farming, and minimizing carbon footprints, all of which are critical to maintaining ecosystems and promoting biodiversity. The reverence for life is also echoed in indigenous spiritual practices, which often emphasize a deep connection with nature. Indigenous communities, inspired by their church traditions, frequently adopt sustainable hunting, farming, and land-use practices that preserve biodiversity and protect ecosystems from overexploitation. This worldview nurtures a holistic understanding of the interdependence between humans and nature, promoting ecological balance. Church teachings often link environmental preservation with broader social justice issues, advocating for fairness in the use and distribution of natural resources. Many faith traditions recognize that environmental degradation disproportionately affects the poor and vulnerable, thus call for ethical action to protect both people and the planet. This ethical focus on justice can lead to advocacy for sustainable development policies that prevent environmental harm and promote equitable resource distribution. Such policies might include efforts to curb industrial pollution, ensure clean water access, and protect endangered species, all of which are necessary for sustaining biodiversity. Ethical principles of moderation and simplicity, prevalent in religious teachings, also encourage sustainable lifestyles that reduce environmental degradation.

Church teachings provide powerful ethical guidance for addressing environmental issues and preserving biodiversity. Concepts of stewardship, reverence for life, environmental justice, and moderation foster sustainable behaviors that limit environmental degradation. By aligning human actions with religiously inspired ethical frameworks, societies can make significant strides in conserving ecosystems, protecting biodiversity, and ensuring that natural resources are managed in a way that benefits both current and future generations. Therefore, the integration of church ethics into environmental practices has the potential to create more sustainable and just societies, contributing to the long-term preservation of biodiversity and ecological balance.

According to what this study established; church teachings have a significant role in promoting environmental stewardship in Uganda. This research finding is important for understanding the

complex role of the church in Ugandan society and for developing effective programs and policies that address social and environmental challenges. The notion of stewardship promoted by the religious teachings on the church is the basis for ethical practices that enhance environmental stewardship. The study findings are also supported by the study conducted in Uganda that found that church teachings play a significant role in promoting environmental stewardship among the Baganda people of Uganda ⁴⁹⁷. The study found that church leaders and communities use a variety of strategies to promote environmental stewardship, through preaching and teaching about the importance of environmental care and organizing environmental activities, such as tree planting and cleanups. Also, church leaders in Uganda provide environmental resources and support to their members, through modeling environmental stewardship in their own lives.

4.4 The Christian teachings on Environmental Management

This theme specifically explains the importance of Christian teachings regarding environmental management. Study findings revealed that participants strongly agreed and agreed that church teachings guide the responsible use of natural resources. This indicates the influence of the church teachings in shaping individuals' understanding of resource management. Another participant remarked that, “our church leaders often emphasize the importance of stewardship. They teach us to be mindful of using resources and not to exploit them recklessly” (Oral Interview, July 2023).

This testimonial highlights the role of church teachings in instilling a sense of responsibility towards natural resources. These findings align with the research conducted by ⁴⁹⁸, who found that church teachings often emphasize the responsible and sustainable use of natural resources. Their study supports the idea that ethical practices influenced by religious teaching promote sustainable living. According to what was established, the Church of Uganda in Albertine region need to be more active in promoting environmental protection, which is a comprehensive statement on the relationship between humans and the environment.

⁴⁹⁷ Kondrila, Peter. "Sustainability values in religious education." *The Journal of Education, Culture, and Society* 14, no. 1 (2023): 19-32.

⁴⁹⁸ Öhlmann, P. and Swart, I., 2022. Religion and Environment: Exploring the Ecological Turn in Religious Traditions, the Religion and Development Debate and Beyond. *Religion and Theology*, 29(3-4), pp.292-321.

From the findings, it can be argued that Christian teachings have a significant role to play in environmental management. They can help to raise awareness of environmental issues, motivate people to act, and provide guidance on how to make ethical decisions about the environment. Christian teachings can also provide a framework for environmental decision-making. Christian teachings can help people to think critically about the ethical implications of their environmental choices. For example, Christian teachings on the sanctity of life can inform decisions about the use of pesticides and other chemicals. Christian teachings can also be used to develop specific environmental management policies and programs. For example, some religious communities have developed guidelines for sustainable agriculture, water conservation, and energy efficiency. Others have developed programs to educate their members about environmental issues and to encourage them to act.

One of the most important Christian teachings on environmental management is the concept of stewardship. Humans are entrusted with the care of creation, and we have a responsibility to protect it. This responsibility is rooted in the reality of Imago Dei (Genesis 1:27). Since God is the creator of all things, we have a special obligation to care for the world he created. Another important Christian teaching on environmental management is the concept of dominion. In 2015, the Evangelical Environmental Network recounted that God gave humans dominion over the earth (Genesis 1:28), but this does not mean that we have the right to exploit or destroy the environment. Rather, it means that we have a responsibility to manage the earth wisely and sustainably.

Previous studies have also supported that Christian teachings are necessary to motivate people to act on environmental issues. Considering the biblical passages such as Matthew 22:39, Christians should love our neighbors as themselves. This implies that environmental care must be taken seriously, since our action has impact on others, including future generations. Moral principles are important regarding environmental stewardship, since the environment is a home to all of God's creation. Furthermore, this study argues that Christian teachings provide guidance on how to make ethical decisions about the environment. When faced with difficult decisions about environmental protection and development, Christians are encouraged to use the Bible for wisdom and guidance.

The Bible consists of lessons that illustrate the value for all of creation, how mindful humanity should be, regarding their actions towards the environment.

Previous studies have recounted that ecological model is one of the theoretical models that can be used to explain Christian religious teachings concerning environmental management. From the perspective of ecological model, human behavior is perceived to be the result of the interaction of multiple factors, including the individual, the environment, and the individual's relationships with others. Based on this perspective, religious people (the Church of Uganda) in the society, have the role to play in addressing environmental issues.⁴⁹⁹ As some scholars have put it, the awareness of the roles of religious people needs to be explored in order to strengthen the cooperation from religious people in environmental conservation.⁵⁰⁰ Through ecological model, it is pertinent for the Church in Albertine region to understand how Christian teachings can influence the attitudes that shape the behaviors of people regarding the environment. Using the tenets of ecological model, it is argued that the Christian community can create a supportive environment for environmental stewardship.⁵⁰¹

Furthermore, the study findings indicate that by shaping how individual attitudes and behaviors towards the environment, Christian teachings can foster a sense of stewardship and responsibility among the religious communities. The community people can also be motivated to take action to protect the environment, when they embrace Christian ethics of environmental management. This can be realized when Christian communities in Bunyoro Kitara create a supportive environment for environmental stewardship through providing opportunities for education and action. Within Christian communities, it is also possible to influence individual behavior through relationships with others. As argued earlier, sharing Christian values within religious communities can promote care for the environment.

⁴⁹⁹ Rabwoni, Bernard. "Ecological Stewardship and Environmental Crisis in Uganda: Insights from Religious Teachings, Root Causes Of Crisis, And Pathways To Sustainable Solutions." *African Journal of Emerging Issues* 6, no. 14 (2024): 1-20.

⁵⁰⁰ Omona, Andrew David, and Uziah Maate Kiriaghe. "Religion and Development in Uganda." *Religion and development in africa* (2020): 259.

⁵⁰¹ Isiko, Alexander Paul. "Religious construction of disease: An exploratory appraisal of religious responses to the COVID-19 pandemic in Uganda." *Journal of African Studies and Development* 12, no. 3 (2020): 77-96.

From the findings, it is also clear that the Christian teachings influence how Christians construct their perspectives and behavior concerning environmental stewardship. This is consistent with the study by⁵⁰², which investigated Christians created the sense of place that shapes their perspectives and behavior regarding environmental stewardship. From the research analysis made, Christian teachings on environmental ethics are seen to significantly influence the conservation behaviors, and awareness of the stewardship of creation. This aligns with what York, Michael argued concerning the usefulness of church outreach efforts that aim at motivating Christians to adopt and maintain conservation behavior.⁵⁰³ Given the biblical mandate that the church has, it is indeed possible to promote ethical practices that ensures environmental conservation. The church is positioned to shape the faith of Christians and their attachment to the environment. In support of this assertion, Kudryavtsev, Alexey argues that Christian teachings can help motivate members of a congregation to engage in conservation behavior at their church and beyond.⁵⁰⁴ This argument indicates that religious teachings can shape attitude and behavior change in favor of protecting the environment. The current study findings contribute significantly to existing literature on environmental management and that integrates religious faith and practice with environmental stewardship.⁵⁰⁵

This study also recounts that church has the mandate to shape individual values and beliefs regarding environmental management. When the community develops values that regard the environment as important, then it is possible for them to have a responsibility to care for it. Christian church teachings are critical contributors to the beliefs and values that are necessary for good stewardship. Within a Christian community, it is possible to create a supportive environment for environmental stewardship. Based on the analysis above, ecological model is a useful tool for understanding how Christian church teachings can influence individual attitudes and behaviors towards the environment. By understanding the complex relationship between religion and

⁵⁰² Seifert, Jenny Marie, and Bret R. Shaw. "Tending our patch of creation: Engaging Christians in environmental stewardship through sense of place." *Journal for the Study of Religion, Nature and Culture* 7, no. 3 (2013): 265-288.

⁵⁰³ York, Michael. "Religion and the environmental crisis." In *Ecotheology-sustainability and religions of the world*. IntechOpen, 2022.

⁵⁰⁴ Kudryavtsev, Alexey. "Urban environmental education and sense of place." (2013).

⁵⁰⁵ Koehrsen, Jens, Julia Blanc, and Fabian Huber. "1 Tensions in Religious Environmentalism." *Religious Environmental Activism*. 1st ed. Milton Park: Routledge (2022): 1-25.

behavior, we can better develop programs and interventions that promote environmental stewardship.

In other studies, it is also recounted that Christian teachings contribute to environment stewardship through encouraging interconnectedness of all creation. The Bible teaches that humans are part of nature, not separate from it. This interconnectedness means that we have a responsibility to care for creation. This study also stresses that teaching environmental ethics can promote care for the environment and to promote sustainable lifestyles. The church teachings may consider the importance of compassion for all living things, the need to protect God's creation, and the responsibility of humans to be stewards of the earth. Through educational programs about environmental issues, such as climate change, pollution, and deforestation, church influences environmental management practices. These programs can help people to understand the challenges facing the environment and to learn how to take action to address them. This in addition to environmental service projects, such as planting trees, cleaning up rivers and coasts, and restoring degraded ecosystem can improve the environment and to build a sense of community among Christians. From what was established, Cristian teachings have a lot to offer in terms of environmental management. Through raising awareness of environmental issues, motivating people to act, and providing guidance on how to make ethical decisions about the environment, Christian teachings promote environmental management. So, it can be recounted that educating and engaging the community about environmental issues is a practical way to show how Christian teachings can encourage ethical practices for environmental management.

The Catholic Church in Kenya plays a significant role in promoting sustainable development through its teachings and practices. Their study established what is consistent with the findings of the current study, The Church uses a variety of strategies, such as preaching and teaching about the importance of environmental care and social justice, to promote sustainable development. In addition, the church provides education and training on sustainable development and sustainable development activities, such as tree planting and water conservation projects⁵⁰⁶. This indicates that research the role of the church teachings in promoting sustainable development and environmental

⁵⁰⁶ Koehrsen, J., 2022. Religion and ecology. In *Handbook of Critical Environmental Politics* (pp. 282-294). Edward Elgar Publishing.

stewardship is significant for understanding the complex role of Christian teachings about environmental management⁵⁰⁷.

In the current study, the surrounding environment at the churches and the community are inherently infused with religious symbolism and meaning, which requires that human interactions focus on its protection. Previous studies have focused on natural places, and few have explored the importance of religious teachings in shaping ethical practices of environmental stewardship⁵⁰⁸. In Seifert and Shaw's study, it was stressed that the church influence on the sense-of-place impacts the everyday behavior of humanity concerning the environment. And so, considering the church value that the church attaches to the environment, contributes to pro-environmental behavior and understanding of environmental stewardship. It can also be argued that environmental outreaches may influence strong, positive attitudes and behaviors toward environmental stewardship⁵⁰⁹. The central influence of Christian teachings on ethical practices is embedded in how the teachings impact how humanity relate with nature. Christianity plays important roles in society, such as nurturing social solidarity and providing ethical guidance on humanity must live with one another and the environment⁵¹⁰.

4.5 Summary

This chapter was set to examine the relationship between the church's teachings and ethical practices for environmental stewardship. This was based on the perspective that church teachings promote sustainable practices and environmental ethics relevant for environmental conservation. Based on the ecclesial participation model and stewardship adopted in this study, this chapter examined the contribution of Christian teachings on ethical practices that influence conservation ethics and attitudes on environmental stewardship. The findings demonstrate that church teachings

⁵⁰⁷ Sowa, Robert Michael. "Making a case for mainstreaming environmental justice concerns in the mission of the Catholic Church in Sierra Leone in light of Laudato Si'." PhD diss., University of Glasgow, 2023.

⁵⁰⁸ Kudryavtsev, Alex, Richard C. Stedman, and Marianne E. Krasny. "Sense of place in environmental education." *Environmental education research* 18, no. 2 (2012): 229-250.

⁵⁰⁹ Seifert, Jenny Marie, and Bret R. Shaw. "Tending our patch of creation: Engaging Christians in environmental stewardship through sense of place." *Journal for the Study of Religion, Nature and Culture* 7, no. 3 (2013): 265-288.

⁵¹⁰ Harmannij, Derk Jan. "Bringing Environmental Issues into Church Life & Bringing Faith-based motivations into the Environmental movement: What role can faith play in addressing environmental problems?" PhD diss., University of Exeter (United Kingdom), 2019.

play a significant role in environmental management by providing a moral and ethical framework for decision-making, encouraging people to adopt sustainable lifestyles, and promoting environmental stewardship and responsibility. In that regard, the church has an imperative role to teach environmental ethics that emphasize environmental stewardship. The study also established that the church communities are responsible for promoting awareness and understanding of environmental issues among her members.

According to the findings, stewardship beliefs and teachings significantly encourage pro-environmental attitudes and behaviors. This implies that church teachings contribute moral imperatives that are a basis for environmental stewardship. Which explains that all Christian communities have moral responsibility to protect the environment. From the findings, the theology of environment within the church teachings is considered as strategic for the Church of Uganda to address environmental crisis. The findings revealed a positive association between church teachings and the ethical practices of environmental stewardship, since the church teachings significantly shape the ethical practices relevant for stewardship of the environment. Church teaching is argued to as relevant in raising awareness of environmental issues, motivating people to act, and providing guidance on how to make ethical decisions about the environment.⁵¹¹

The findings underscore the significant of church teachings on ethical practices for environmental stewardship. The voices from the focus group discussions provide firsthand accounts of how church teachings inspire individuals to incorporate environmental ethics into their lives. These findings collectively highlight the potential of religious institutions to foster a harmonious coexistence between humans and nature by integrating environmental values within the church teachings and practices.⁵¹² This study asserts that teaching environmental ethics can promote environmental stewardship. As indicated by the study findings, Christian teachings the majorly influence ethical practices by impacting how humanity relate with nature⁵¹³.

⁵¹¹ Nanthambwe, Patrick, and Vhumani Magezi. "Bringing faith to the public: Positioning church communities for social good in sub-Saharan Africa." *Theologia Viatorum* 48, no. 1 (2024): 272.

⁵¹² Omona, David Andrew. "The mainline churches and climate change in Uganda." In *African perspectives on religion and climate change*, pp. 104-119. Routledge, 2022.

⁵¹³ Nanthambwe, Patrick, and Vhumani Magezi. "Bringing faith to the public: Positioning church communities for social good in sub-Saharan Africa." *Theologia Viatorum* 48, no. 1 (2024): 272.

CHAPTER FIVE

THEOLOGICAL PRACTICES THE CHURCH CAN USE TO ENHANCE ENVIRONMENTAL STEWARDSHIP IN ALBERTINE REGION

5.0 Introduction

This chapter presents the theological practices the Church can employ to enhance environmental stewardship in the Albertine Region. The findings in this chapter constitute the original contribution to knowledge (new knowledge). The study was designed to explore the approaches and strategies rooted in theological teachings that inspire active engagement of the church in environmental conservation. In the previous chapter (4), it was established that religious teachings are significantly associated with ethical practices that promote positive attitudes and behavior concerning environmental conservation. Building on the findings of chapter four, this chapter is about the theological practices that can be used to enhance environmental stewardship in Albertine region. The findings are analyzed to highlight the theological practices that contribute to the harmonious relationship between humanity and the environment and promote sustainable living in the region.

The study discusses how environmental theology practices explains the relationship between humans and the natural world from a Christian perspective. The main conversations are centered on how the Bible can be used by Christian environmental theologians to develop theological frameworks for addressing environmental challenges. The emphasis of Christian environmental theology is the value for all creation. And based on this perspective, Christian environmental theology stresses the concept of stewardship. This makes it imperative for the Church of Uganda in Albertine region to advocate for the theology of environmental stewardship.

This study argues that, using perspectives based on environmental theology can enable the church to appreciate the spiritual significance of the natural environment. This argument is biblical and affirms that Christians can promote environmental sustenance and spiritual conservation, by focusing on God who is revealed in creation around us. Based on the biblical theology of creation, the Church is indeed responsible to promote environmental stewardship. From the stewardship perspective, embracing environmental theology provides an understanding of God's relationship

with nature and humanity.⁵¹⁴ In this study, environmental theology is the central theme analyzed to highlight the sacredness of nature as regarded by humankind and the interconnectedness of humanity with environment.

The study highlights a positive relationship between Christian teachings and ethical practices relevant for environmental stewardship. This provides the framework of the church which significantly contributes to the moral imperatives that form the basis for the good stewardship of the environment. The church is argued to use biblical fundamental teachings on environment as resources to understand how the Christian communities can contribute to environmental stewardship. The study has shown that incorporating ecological theology into church teachings is a theological and an ethical mandate of the Church of Uganda. With contextual theological practice, policy engagement, and community collaboration, the Church of Uganda can use the model of ecclesial participation to significantly contribute to balancing livelihood development with ecological justice of environmental stewardship.

The study has indicated that the Church of Uganda involvement in promoting environmental management has effect on how Christians embrace the practice of environmental stewardship. The findings contribute to the expansion of theoretical and theological thinking of the ecclesial participation model. This is important in linking the theological mandate and the structures of the church to enhance the implementation of biblical stewardship of the environment. Since the ecclesial participation model was also grounded in Western ecotheologies, this study contributes contextual grounding and empirical evidence that grounds the perspectives of ecclesial participation in Ugandan Eco theological context. The integration of Eco theology with environmental realities of Ugandans produces relevant contextual insights on the theological role of the church in environmental stewardship. The study therefore provides contextual feasibility by expanding conceptual boundaries, to propose theological and ethical practices that promote environmental stewardship.

Since African theology is based on the perspectives of the African cultural contexts, the ecological realities established by this study shows the influence of ecclesial practices on ecological crisis.

⁵¹⁴ De Witt, Annick, Joop de Boer, Nicholas Hedlund, and Patricia Osseweijer. "A new tool to map the major worldviews in the Netherlands and USA, and explore how they relate to climate change." *Environmental Science & Policy* 63 (2016): 101-112.

The stewardship model used in this study emphasized the ecological ethics and justice, the biblical responsibility of humanity towards creation care and the moral obligations towards environmental management. Based on the study findings, I argue for a theological rethinking of the role of humanity in environmental management, especially the need to reinterpret the theological view of the human dominion over creation. This theological shift from anthropocentric understanding of Genesis 1:28 to a stewardship-based perspective, significantly contributes to broader African Eco theological framework that stresses the responsibility of humanity in to ensure harmony with nature and the environment. This makes the stewardship and ecclesial participation models relevant in shaping the Eco theological discussions and Eco diakonia in church of Uganda, and ongoing scholarship regarding the integration of indigenous experiences that value interconnectedness of humanity with the environment in African Eco theology.

The study supplements current Eco theological conversation by offering a contextual interpretation concerning management of the environment by the church. The study reveals a significant engagement by the Church in the Albertine Region in promoting environmental stewardship through its teachings, rituals, and community outreach programs. This integration of theology and environmental ethics demonstrates the influential role of the church in shaping attitudes of the Christians about protecting the environment. Therefore, it contributes to the development of a more holistic theology of creation, where human beings are co-participants in God's covenant with the Earth (Genesis 9:9–17; Romans 8:19–22). This theological framework integrates both spiritual formation and ecological ethics, thereby advancing eco-missional paradigms within African Christianity.

5.1 Theological Practices that the Church can use to enhance environmental stewardship

Table 5.1. Theological Practices that the Church can use to enhance environmental stewardship

Statement	5	4	3	2	1	Total
Church incorporates environmental themes in teachings for stewardship in Albertine Region	48	28	11	7	6	100
Church conducts environmental-focused prayer sessions and rituals	37	30	25	8	0	100
Church offers environmental education programs for sustainable living	35	33	17	14	1	100
Church advocates for environmental ethics in religious texts for guidance	28	30	15	12	15	100
Church collaborates for practical environmental initiatives in Albertine Region	30	25	20	19	6	100
The Church promotes eco-friendly practices among members in Albertine Region	35	40	5	12	8	100

Source: *Primary Data collected May 2023*

The empirical findings on the theological practices that this study brings forth reveal that the church is in position to influence what is taught in the church to promote environment stewardship. The empirical findings contribute to literature gap that indicated the need for primary data, which can be used to contextual theological practices in Albertine region. According to findings in table 5.1 above, it is indicated that 48% of the participants strongly agreed that the Church incorporates environmental themes in teachings for stewardship in the Albertine Region. Additionally, 28% agreed with this statement, while 11% were undecided. On the other hand, 7% disagreed, and the lowest percentage, 6%, strongly disagreed. These implied that theological practices by the Church often include incorporating environmental themes in their teachings. Incorporating environmental themes is perceived as a practical approach to enhancing stewardship of the environment in the Albertine Region. Findings also revealed that 37% of the participants strongly agreed that the Church conducts environmental-focused prayer sessions and rituals in the Albertine Region. Additionally, 30% agreed with this statement, while 25% were undecided. Only 8% disagreed

with this practice, and none of the participants strongly disagreed. These results indicate that many participants recognized the Church's efforts in conducting prayer sessions and rituals with an environmental focus.

The findings also show that 35% of the participants strongly agreed, and 33% agreed that the Church offers environmental education programs for sustainable living in the Albertine Region. Additionally, 17% were undecided, 14% disagreed, and only 1% strongly disagreed. This implies that many participants acknowledged the Church's efforts to provide environmental education programs promoting sustainable living. Besides, 28% of the participants strongly agreed, and 30% agreed that the Church advocates for environmental ethics in religious texts for guidance in the Albertine Region. Furthermore, 15% were undecided, 12% disagreed, and 15% strongly disagreed.

From the findings, it is further revealed that 30% of the participants strongly agreed, and 25% agreed that the Church collaborates for practical environmental initiatives in the Albertine Region. Additionally, 20% were undecided, 19% disagreed, and 6% strongly disagreed. Finally, 35% of the participants strongly agreed, and 40% agreed that the Church promotes eco-friendly practices among its members in the Albertine Region. Furthermore, 5% were undecided, 12% disagreed, and 8% strongly disagreed. These results indicate that most participants recognized the Church's efforts in promoting eco-friendly practices among its members.

Based on the empirical findings, this study recounts four sub-themes that illustrate the theological practices that can be used to enhance environmental stewardship. The theological practices and approaches range from creation theology, biblical theology of stewardship, ecological justice and theology of repentance. To protect the environment, the church has the biblical mandate of teaching the followers environmental stewardship. So, incorporating environmental theology in church teachings is critical. Likewise, conducting environmentally oriented religious activities, integrating environmental ethics in religious teachings, and practicing eco-theological programs are also significant. This study asserts that environmental theology is central to construction of environmental ethics, which both significantly explain the religious and moral relationship that humanity has with the environment. Based on the ecclesial participation model, the Church is encouraged to embrace theological practices that can promote eco-diakonia and conservative attitudes.

5.2.0 Incorporation of Environmental Theology in Church Teachings

Teaching the biblical mandate for stewardship is one of the theological practices that this study argues for. To promote environmental management, there is need for practicing the theology of biblical stewardship. By teaching the congregation environmental theology for stewardship, the church can influence the attitudes and behaviors toward environmental conservation. By integrating environmental themes into their teachings, the Church can effectively raise awareness about the importance of environmental stewardship among its members.⁵¹⁵ This approach allows for a holistic understanding of religious teachings, emphasizing the interconnectedness between spiritual beliefs and responsible environmental care.⁵¹⁶

To contextualize the views on theological practices, a focus group discussion was conducted. During the FGD, one participant said,

I appreciate that our church's teachings emphasize the connection between our faith and the environment. Linking the exploitation of the environment with the suffering of the marginalized communities (Matthew 25:40), making environmentalism a social justice issue. It inspires us to live harmoniously with nature and take responsibility for its preservation (FGD, July 2023).

This view implies that the relationship between religion and the environment has garnered significant attention in recent decades, especially as concerns about environmental degradation and climate change intensify. Environmental theology, a discipline that explores the spiritual and moral dimensions of environmental issues, has become an integral part of Christian teachings. The relationship between religion and the environment has garnered significant attention in recent decades, especially as concerns about environmental degradation and climate change intensify⁵¹⁷. Environmental theology, a discipline that explores the spiritual and moral dimensions of environmental issues, has become an integral part of Christian teachings⁵¹⁸.

⁵¹⁵ Juedes, Jonathan Scott. "Between the Times: Preaching 1 Peter to Valley Baptist Church in Appleton, Wisconsin." Doctoral Dissertation, The Southern Baptist Theological Seminary, 2023.

⁵¹⁶ Wingfield, Mark. *Honestly: Telling the Truth about the Bible and Ourselves*. Augsburg Fortress Publishers, 2023.

⁵¹⁷ Formosinho, Maria, Carlos Sousa Reis, and Mirzana Pašić Kodrić. "Groundings for an Eco-Justice Dialogical Ethics of Emancipation." *Epiphany* 16, no. 2 (2023).

⁵¹⁸ Mercer, N., & Hanrahan, M. (2017). "Straight from the heavens into your bucket": domestic rainwater harvesting

Environmental theology, as a field, addresses the intersection of religious beliefs and environmental ethics.⁵¹⁹ It seeks to understand how religious traditions interpret and respond to environmental issues, promoting ecological responsibility and sustainability⁵²⁰. *The Body of God: An Ecological Theology*, emphasize the interconnectedness of all life, encouraging Christians to view the earth as a sacred body that reflects divine creation. This perspective aligns with eco-theological principles that advocate for a holistic view of creation, where humans are seen not as dominators but as stewards of God's creation.⁵²¹ Environmental theology has evolved from traditional theological discussions that often-emphasized human dominion over nature, to more eccentric approaches that stress ecological justice, sustainability, and the care of the planet.⁵²² The shift in thinking within the Christian community from an anthropocentric to a more eccentric worldview represents a major transformation in the theological approach to nature.

This view was also further discussed by one of the Reverend who asserted that,

Environmental theology has gained attention in the last few decades, especially with the growing concern over climate change and ecological degradation. At its core, environmental theology re-examines traditional biblical interpretations to emphasize stewardship, creation care, and the interconnectedness of all life. It encourages the Church to view environmental issues not as peripheral concerns, but as integral to the faith itself (KII, July 2023).

The Bible itself provides various theological foundations for environmental care. In Genesis, humanity is given stewardship over creation, which is often interpreted as a divine mandate to care

as a measure to improve water security in a subarctic indigenous community. *International journal of circumpolar health*, 76(1), 1312223.

⁵¹⁹ López-Felices, Belén, Jose A. Aznar-Sánchez, Juan F. Velasco-Muñoz, and Ernesto Mesa-Vázquez. "Farmers' profiles and attitudes towards the implementation of rainwater harvesting systems in intensive agriculture." *International Journal of Agricultural Sustainability* 21, no. 1 (2023): 2189402.

⁵²⁰ Nya, Esther Laurentine, Tulinave Burton Mwamila, Lydie Komguem-Poneabo, Emma Laureane Njomou-Ngounou, Junior Fangang-Fanseu, Raoul Rodrigue Tchoumbe, Raoul Tepong-Tsindé, Willis Gwenzi, and Chicgoua Noubactep. "Integrated water management in mountain communities: The case of Feutap in the Municipality of Bangangté, Cameroon." *Water* 15, no. 8 (2023): 1467.

⁵²¹ Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum et Ecclesia* 45, no. 1 (2024): 3140.

⁵²² Radwan, Farid, and Abdulrahman Ali Alazba. "Suitable sites identification for potential rainwater harvesting (PRWH) using a multi-criteria decision support system (MCDSS)." *Acta Geophysica* 71, no. 1 (2023): 449-468.

for the earth⁵²³. However, traditional interpretations of Genesis often emphasize dominion over the earth, which has led to the exploitation of natural resources. In recent decades, biblical scholars have revisited these passages, proposing alternative readings that emphasize responsibility, stewardship, and ecological sustainability.⁵²⁴ The concept of *Shalom* in the Old Testament also promotes peace and harmony in all aspects of creation, including the relationship between humans, animals, and the earth. This concept has inspired many Christian environmental movements, arguing that ecological justice is inherently linked to social and spiritual justice.⁵²⁵

Emphasizing the idea that the natural world is a vital part of the Christian narrative. Bauckham argues that the Bible envisions a community of creation where humans and non-human creatures share a common purpose within God's creation. He advocates for an ecological reading of scripture, challenging anthropocentric readings that have historically justified environmental harm.⁵²⁶ According to the feminist theological approach to environmental issues, arguing for an understanding of God that is deeply connected to the earth and all living beings. She stresses the importance of an ecological vision of God, which invites the church to rethink its role in protecting and preserving the planet.⁵²⁷

The integration of environmental theology into church teachings has gained momentum in recent years.⁵²⁸ These encyclical calls for an urgent response to climate change and environmental degradation, emphasizing that care for the environment is an essential aspect of Christian discipleship.⁵²⁹ The encyclical addresses both ecological and social dimensions, linking environmental justice with the fight against poverty and inequality.⁵³⁰ Similarly, various Protestant denominations have taken up the mantle of environmental stewardship. The Evangelical

⁵²³ Hufnagel, Levente, ed. *Ecotheology: Sustainability and Religions of the World*. BoD—Books on Demand, 2023.

⁵²⁴ Desper, Brett A. "Honoring the Other: The Imago Dei as a Foundational Doctrine for How the Church Treats the Marginalized." (2024).

⁵²⁵ Youvan, Douglas C. "Leviticus and Atrazine: Biblical Stewardship and Modern Environmental Ethics." (2024).

⁵²⁶ Francis, Douglas. *Technology, Mythology and the Search for Meaning*. Cambridge Scholars Publishing, 2023.

⁵²⁷ Le Roux, Cheryl Sheila. "Environmental stewardship as a dimension of a Christian stewardship ethic: views of seminary students, lecturers and ministers." *Koers: Bulletin for Christian Scholarship= Koers: Bulletin vir Christelike Wetenskap* 81, no. 2 (2016): 1-17.

⁵²⁸ Heitland, Stephen Edward. *A Powerful Word: On Defining and Responding Justly to Abuse*. The Southern Baptist Theological Seminary, 2023.

⁵²⁹ Stephens, Darryl W. "From environmental stewardship to environmental holiness: The evolution of methodist environmental witness, with a focus on climate change." *Journal of religious ethics* 47, no. 3 (2019): 470-500.

⁵³⁰ Strange, Cameron. "Short-Term Mission Trips: An Underutilized Opportunity for Spiritual Formation." PhD diss., Biola University, 2023.

Environmental Network, for example, has worked to encourage Evangelical Christians to embrace climate action as a moral responsibility. Organizations like the World Council of Churches have promoted ecological justice through campaigns and educational programs that stress the importance of creation care as a theological imperative.

The incorporation of environmental theology is not limited to the Catholic or Protestant traditions; the Eastern Orthodox Church has also contributed to the discourse. The Orthodox Church has long held a respect for the natural world, rooted in its emphasis on the divine presence in creation. Recent discussions, such as those promoted by the Greek Orthodox theologian John Chryssavgis, have highlighted the importance of ecological education and advocacy within Orthodox communities.

Environmental activism within the church has taken on many forms. In some cases, churches have spearheaded local environmental initiatives, such as community gardens, renewable energy projects, and waste reduction campaigns.⁵³¹ The integration of environmental teachings into church education programs has also been a key factor in promoting ecological awareness⁵³². Sermons, Sunday school lessons, and Bible study groups have increasingly focused on topics like creation care, sustainability, and climate change, often drawing upon the theological underpinnings of stewardship and responsibility⁵³³.

Church-based environmental activism is not limited to local action but also extends to global concerns. Church groups have become important voices in international advocacy for climate policy and justice⁵³⁴. Christian organizations such as the Christian Aid, Tearfund, and the Ecumenical Advocacy Alliance have worked to mobilize faith communities around the world to advocate for environmental justice and sustainable development⁵³⁵.

⁵³¹ Alphonsa, P. J. "Biblical Mandate for Ecological Stewardship." *Asian Horizons* 18, no. 1 (2024): 8-18.

⁵³² Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum et Ecclesia* 45, no. 1 (2024): 3140.

⁵³³ Patterson, M. (2014). *Called to Stewardship of Creation: American Evangelical Protestant Perspectives on the Environment*.

⁵³⁴ Alvarado, Ruben. *Does God Care for Oxen? Recovering the Biblical Doctrine of Stewardship*. WordBridge Publishing, 2023.

⁵³⁵ Magezi, Christopher. "Ecological crisis and the church: A proposal for biblical stewardship as a nexus for environmental protection." *Verbum et Ecclesia* 45, no. 1 (2024): 3140.

Despite the growing incorporation of environmental theology within church teachings, there remain challenges.⁵³⁶ One of the major critiques of church-based environmentalism is that it can sometimes remain disconnected from deeper systemic issues⁵³⁷. While many churches focus on individual actions such as recycling or energy conservation, critics argue that these efforts are insufficient to address the larger, more complex environmental crises⁵³⁸. Some scholars have called for a more radical, structural approach to environmental justice that challenges economic systems and policies contributing to ecological destruction, there are theological disagreements within and across religious communities about the nature of human responsibility toward creation. Some conservative religious groups continue to advocate for a dominion-based theology, viewing human power over nature as divinely ordained⁵³⁹.

Historically, the Church has often been silent or ambivalent about environmental concerns, focusing more on the afterlife and salvation than on the health of creation. Some theological traditions have even suggested that the Earth was created for human use, which led to a kind of exploitation of nature. But more recently, we've seen a shift, especially considering global ecological concerns. The church leaders have been vocal about the Church's responsibility to protect the environment. The church has begun to engage more deeply in these issues, with many revisiting scriptural teachings on stewardship, dominion, and ecological justice.

The incorporation of environmental theology into church teachings is a developing and dynamic process that reflects broader theological shifts within Christianity.⁵⁴⁰ As environmental concerns continue to escalate, the role of religious communities in addressing these issues will likely become even more critical. Environmental theology offers a framework that links spiritual beliefs with ecological ethics, encouraging Christians to embrace a theology of care, stewardship, and

⁵³⁶ Deane-Drummond, Celia. "The Bible and environmental ethics." In *The Oxford Handbook of the Bible and Ecology*, p. 385. Oxford University Press, 2022.

⁵³⁷ Omoyajowo, Koleayo, Mela Danjin, Kolawole Omoyajowo, Oluwaseun Odipe, Benjamin Mwadi, Andreas May, Amos Ogunyebi, and Mohamed Rabie. "Exploring the interplay of environmental conservation within spirituality and multicultural perspective: insights from a cross-sectional study." *Environment, Development and Sustainability* 26, no. 7 (2024): 16957-16985.

⁵³⁸ Medard, Rugyendo. "Practicing a Christian Environmental Ethic through Stewardship." (2022).

⁵³⁹ Penna-Firme, R. (2023). Protestant Christianity and the Bible as Wisdom for Earth Environmental Stewardship. *Studia Ecologiae et Bioethicae*, 21(4), 15-25.

⁵⁴⁰ Atoi, Ewere Nelson, Emmanuel Olurokan Olowoyeye, and Lembi Jamima Jacob. "Environmental Degradation in Nigeria: A Christian Ethical Approach." *NIU Journal of Humanities* 8, no. 2 (2023): 7-14.

justice for creation.⁵⁴¹ While challenges remain, particularly in reconciling diverse theological interpretations and addressing systemic issues, the growing emphasis on environmental theology within church teachings signals a promising shift towards a more sustainable and just future for both humanity and the planet.

During the discussions on the growing need to implement environmental theology, one participant asserted that:

Many Christian doctrines have for long emphasized human dominion over nature, interpreting Genesis 1:28 “Be fruitful and multiply and fill the earth and subdue it” as a mandate for human control over the Earth. Reinterpreting this as mandate for stewardship instead of holding the ruling mentality is a difficult task for many theologians. Additionally, there’s a reluctance to change because some believe that addressing environmental issues distracts from spiritual concerns, or that the end times are imminent, so the condition of the Earth is less important. The second challenge is more practical. Churches are often hesitant to adopt environmental practices because of financial or logistical constraints, things like energy efficiency or sustainable building materials require upfront investments (FGD, July 2023).

This view is also shared by Penna-Firme, Rodrigo, who asserts that many Christian theologians have interpreted Genesis 1:28 as a divine mandate for human beings to exercise dominion over the earth.⁵⁴² Early Christian thinkers, including Augustine and Aquinas, framed the concept of dominion in the context of human stewardship. Augustine, in his *City of God* (5th century), viewed dominion as a responsibility to manage creation in accordance with God's will. Similarly, Thomas Aquinas, in the *Summa Theologica* (13th century), suggested that humans, as rational beings, were granted the authority to govern the earth and its creatures. This interpretation generally aligned with the view of nature as a resource for human use, reinforcing a hierarchical understanding of the natural world where nature existed primarily to serve human needs.

⁵⁴¹ Tornow, Svenja. "The Potential of Combining Christian Faith and Nature Conservation." (2023).

⁵⁴² Penna-Firme, Rodrigo. "Protestant Christianity and the Bible as Wisdom for Earth Environmental Stewardship." *Studia Ecologiae et Bioethicae* 21, no. 4 (2023): 15-25.

As environmental issues such as deforestation, pollution, and biodiversity loss became more pressing in the 20th century, some Christian theologians began to question traditional interpretations of dominion. Scholars like Lynn White argued that the Christian doctrine of human dominion, particularly as interpreted from Genesis 1:28, was a key factor in the environmental crisis. White posited that the biblical command to subdue and have dominion over nature contributed to an anthropocentric worldview that justified exploitation and environmental degradation.

In response, contemporary Christian theologians have advocated for a more ecologically sensitive interpretation of Genesis. The term “dominion” has been reconsidered, with increasing emphasis on stewardship, care, and sustainability rather than exploitation. Authors such as Sallie McFague, in “The Body of God: An Ecological Theology,” suggest that instead of interpreting dominion as control, it should be understood through metaphors of caregiving and nurturing, akin to a steward managing a household. This shift aligns with broader environmental ethics movements promoting a harmonious and respectful relationship between humans and the natural world.

The shift towards a stewardship model is also reflected in the work of environmental theologians like Norman Wierzba, whose writings, such as “Food and Faith: A Theology of Eating,” emphasize a holistic view of creation where humans are participants in a community of life. In this view, the call to subdue the earth in Genesis 1:28 is not about domination but about fostering flourishing relationships within creation. For Wierzba and others, dominion must be understood considering God's ongoing creative work, and human beings are called to care for and protect the earth rather than to conquer it. The biblical mandate does not give humanity the freedom to misuse, but to carefully manage the creation. Bauckham's interpretation emphasizes the interconnectedness of all creatures and the importance of mutual respect and care for the environment. He suggests that the biblical vision of creation is one of harmony and that dominion should be understood as a relational, not hierarchical, concept.

Similarly, liberation theology, with its focus on justice and the rights of the marginalized, has raised concerns about the ways in which dominion has been used to justify the exploitation of both people and the environment. Liberation theologians argue for a reinterpretation of Genesis 1:28 that resists domination, advocating instead for a relationship with creation grounded in solidarity, justice, and care for the earth's vulnerable populations.

The increasing urgency of global environmental issues, such as climate change and biodiversity loss, has prompted many contemporary Christian groups to re-examine their stance on human dominion. The church asserts that humans are stewards of creation, tasked with nurturing rather than exploiting it, and he advocates for a shift in ethical thinking to promote sustainability and justice for both the planet and its people. Moreover, Christian environmental organizations like the Evangelical Environmental Network have increasingly framed environmental care as a moral and theological imperative. These groups encourage believers to consider their environmental impact and advocate for policies that promote environmental justice, climate action, and sustainable living.

5.2.1 Integrating Creation Theology in the Mission of the Church

This study argues for integration of creation theology in the mission of the church to influence the behavior of people towards the environment. The central work of the church should include ecclesial mobilization for eco-theology. Ecclesial involvement in environmental management is anchored in the notion of humanity being responsible for stewarding creation. This is supported by scholars of religion and ecological ethics, such as, Lynn White, challenge the exploitative ideology, by arguing that who argued that the world was created by God as a blessing for humanity, humanity must have superiority over creation, rather a constructive relationship.⁵⁴³ Christianity has the mandate to offer an eco-theological perspective that influence the environmental ethics needed to address environmental issues. Theologically, the environment should be considered sacred and treated with respect. This is theologically profound because nature reveals the glory of God to mankind. While there is need for trees to construct residential homes, there should be a limit on cutting trees to avoid careless destruction of the environment.

During the interviews another participant further suggested that;

The Bible is full of references to creation's value, and the responsibility humans have toward it. In Genesis, humans are placed in the Garden of Eden to "till and keep it" (Genesis 2:15), indicating a role of stewardship. The concept of stewardship is central in both the Old and New Testaments, where God's creation is repeatedly described as

⁵⁴³ White, Lynn, Thesis: The Historical Roots our Ecologic Crisis at Firty, 1967, p.1205.

“good.” It’s only in later interpretations that human dominion over nature has been distorted to justify exploitation (Reverand, Oral interviews, July 2023).

On the same view another participant said,

Environmental theology encourages us to reclaim the biblical idea of stewardship, which is inherently relational it’s not about ownership or domination, but about caretaking in a way that reflects God’s own care for creation. It also aligns with principles of justice, particularly for vulnerable communities who are most affected by environmental degradation. The poor and marginalized often bear the brunt of ecological harm, and the Church is called to speak up for them as part of its commitment to justice. The mission of the God is not just saving souls but restoring all creation. Creation care is integral to the Gospel (FGD, July 2023).

The biblical concept of stewardship has been foundational to Christian environmental ethics. Historically, the term "stewardship" has been interpreted within the context of dominion, particularly in the Genesis account of creation (Genesis 1:26-28).⁵⁴⁴ However, scholars have criticized this interpretation, suggesting that it has often led to an exploitative view of creation. Bauckham, in his work *The Bible and Ecology: Rediscovering the Community of Creation*, advocates for a deeper understanding of biblical stewardship that moves beyond the notion of human authority over nature to one of relational caretaking that reflects God’s covenantal relationship with creation. stewardship should be seen as a mode of relational responsibility that is not primarily about control or ownership but about nurturing and preserving the goodness of creation.⁵⁴⁵ He suggests that the biblical narrative is saturated with themes of care, responsibility, and reciprocity, underscoring the relational dynamics between humanity and the natural world. The biblical model of stewardship, according to Wierzba, calls for an understanding of creation as a gift that invites reverence, care, and humility. Stewardship is central to a biblical understanding of God's creation. Guite, Margaret for instance, contends that God’s care for creation is immanent, woven through the fabric of the natural world, and that humans are invited into a shared

⁵⁴⁴ Gitonga, Sarah Kagendo, Dickson Nkonge Kagema, and Jonathan Kathenge. "Role of the Catholic Church in addressing environmental crisis in Chuka Igambang’ombe Sub- County, Kenya." *Journal of Pastoral and Practical Theology (JPPT)* 3, no. 1 (2024): 34-43.

⁵⁴⁵ Bauckham, Richard. *Bible and ecology: Rediscovering the community of creation*. 2009.

responsibility with God to nurture and protect the earth.⁵⁴⁶ Margaret critiques anthropocentric models of stewardship and calls for a shift towards a more ecological, relational, and community-based model of human interaction with creation.

Kowalik and other scholars also posit that God's redemptive work through Christ is not only about human salvation but also about the healing of the entire cosmos, implying that human stewardship must reflect this holistic care for the environment.⁵⁴⁷ In their view, to care for creation is to act in ways that reflect God's own loving and reconciling action toward the world. So, I argue that the shift from dominion to caretaking as a relational mode of stewardship carries significant ethical implications for how humans interact with the environment. Theologians like Katharine Hayhoe in *Saving Us*, and James K.A. Smith in *You Are What You Love: The Spiritual Power of Habit*, highlight the need to foster habits and practices that reflect a genuine care for creation.^{548, 549} Hayhoe, an evangelical climate scientist, advocates for a model of stewardship that prioritizes the flourishing of all living beings, challenging the prevailing economic systems that treat nature as an object of exploitation.

Smith, focusing on the formation of Christian habits, suggests that biblical stewardship calls for the reorientation of human desires and affections. Rather than seeing nature as a resource to be extracted, stewardship involves cultivating a deep, relational love for the world, an affection that shapes our ethical decisions and actions. According to Smith, this relational love transcends simple conservation and extends to the active pursuit of justice for marginalized communities often disproportionately affected by environmental degradation.

In addition to the theological and ethical discussions, there is a growing interest in integrating ecological spirituality with biblical stewardship. A cultural historian and Eco theologian calls for a new story one that reconnects humanity with the rhythms and wisdom of the natural world, recognizing the sacredness of creation in all its diversity. For Berry, the idea of stewardship

⁵⁴⁶ Guite, Margaret. "The Integrity of Creation: Do We Need a New Theology?" *Anvil* 7 (1990): 11-21.

⁵⁴⁷ Kowalik, Dagmara, Katarzyna Nowak, Katarzyna Kowalik, and Paweł Gogacz. "The Role of the Catholic Church against Changes and Threats to the Value of Work." *Religions* 14, no. 9 (2023): 1207.

⁵⁴⁸ Hayhoe, Katharine. *Saving us: A climate scientist's case for hope and healing in a divided world*. Simon and Schuster, 2022.

⁵⁴⁹ Smith, James K.A. *You are what you love: The spiritual power of habit*. Brazos Press, 2016.

becomes an act of reverence and gratitude toward a creation that is not a mere backdrop for human activity but a living, breathing entity deserving of honor.

On the same note another religious leader noted that;

In the church sermons we address the biblical mandate for stewardship and creation care. Therefore, Church leaders can help their congregations understand that caring for the environment is not a political issue, but a biblical one. Secondly, churches can adopt sustainable practices in their own operations, such as reducing energy consumption, adopting green building practices, or promoting local and sustainable food sources for church events. Thirdly, churches can engage in advocacy supporting policies that address climate change, advocating for environmental justice, and partnering with organizations focused on environmental issues. Lastly, incorporating environmental education into church programs, such as Sunday school lessons or adult study groups on creation care, can deepen the congregation's theological understanding and inspire action (KII, July 2023).

Church sermons, as the primary mode of communication for many Christian communities, are a key avenue through which biblical teachings on creation care can be articulated. Preaching serves as a powerful tool for framing issues in theological terms and shaping congregational beliefs and practices. By incorporating environmental themes into sermons, church leaders can help their congregations understand that environmental stewardship is a biblical mandate, rather than a secular or political agenda. Sermons can address specific biblical passages that call for creation care, such as the stewardship parables in Matthew 25:14-30 and Luke 16:1-13, or the instructions in Leviticus on caring for the land (Leviticus 25:1-7). Sermons can also remind congregations of the broader theological context in which these teachings are situated God's creation is good, and humanity's role is to care for it as part of their relationship with God.

Furthermore, this study emphasizes the importance of practical applications in sermons. For instance, sermons should not only address theological concerns but also offer concrete steps for how congregants can live out biblical stewardship in their everyday lives, such as through energy conservation, waste reduction, and support for sustainable practices. A significant challenge to engaging congregations in environmental care is the perception that environmental issues are

politically charged. In many contexts, environmental concerns are framed as issues that are divisive and polarizing, often associated with partisan politics. However, a growing body of literature suggests that reframing environmental care as a moral and theological issue, rather than a political one, can help churches overcome this division.

The environmental crisis is fundamentally a moral issue, one that calls Christians to reflect on their relationship with creation and with God. By framing environmental care as an act of obedience to God's mandate to steward creation, church leaders can help congregants recognize that caring for the earth is not about political allegiance but about faithfulness to biblical teachings. Church leadership plays a pivotal role in shaping the environmental consciousness of congregations. Church leaders who model sustainable living and prioritize creation care in their teachings can significantly influence the attitudes and behaviors of their congregants. These leaders can set an example by adopting eco-friendly practices in the church's operations, such as reducing waste, promoting energy efficiency, and supporting environmental initiatives, thereby making environmental stewardship a lived expression of their faith. Church leaders who address environmental concerns in sermons can encourage collective action within their communities. This not only enhances the spiritual engagement of the congregation but also fosters a sense of shared responsibility for the earth.

According to the findings, the key to sustainability is integrating environmental theology into the core of the church's mission. It needs to be part of the worship life, the educational framework, and the social outreach of the Church. Just as we emphasize the importance of love, justice, and mercy in our theology, we should also make space for ecological care as a vital expression of those values. Additionally, the leadership needs to model this commitment, making it clear that environmental care is not a niche issue but an integral part of the Church's role in the world.

The above findings reflect the sentiments of individuals who strongly agreed with incorporating environmental themes in church teachings. It highlights the transformative power of theological practices in promoting environmental stewardship among believers. The findings are supported by the research of ⁵⁵⁰who found that religious institutions that actively incorporate environmental

⁵⁵⁰ Gitonga, S. K., Kageema, D. N., & Kathenge, J. (2024). Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya. *Journal of Pastoral and Practical Theology (JPPT)*, 3(1), 34-

themes in their teachings can effectively shape individuals' environmental consciousness and motivate them to act for sustainability. This study further validates the findings from Table 5.1, emphasizing the significance of theological practices in enhancing environmental stewardship.

The church has the opportunity of propagating environmental theology in a practical manner that highlights the moral responsibilities of all Christians towards the environment. Incorporating environmental theology in the religious teachings and traditions of the Church is arguably significant for the development of a vision of a sustainable environment.⁵⁵¹ This study acknowledges that environmental theology can enable the church to understand the ethical implications of the environmental choices made by the Christians. Reflecting on how the current choices may affect future generation, the marginalized and all living things, is a theological call. And so, incorporating theology of environmental management in church teachings is entails reflecting on the relationship between humans and the environment from a religious perspective. Which has impact on how the church develops strategies and initiatives for managing the environment in a way that is consistent with Christian teachings and religious beliefs⁵⁵².

According to the findings, environmental theology shapes the understanding of church regarding the intrinsic value of all creation.⁵⁵³ Given the biblical assertion that all living things have intrinsic value, the church has a moral obligation to care for the environment and to protect all living things, even those that we find inconvenient or unsightly.⁵⁵⁴ Inherent is environmental theology is human stewardship, which upholds humankind as stewards of God's creation.⁵⁵⁵ This implies that the church has the responsibility to manage the environment wisely and to protect it for glory of God. By doing so, this study argues that environmental justice will be enforced. This requires the church

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⁵⁵¹ Sakupapa, Teddy Chalwe. "Zambian Protestant Ecumenism and the Quest for Eco-Justice: A Case Study of the Council of Churches in Zambia." *Scriptura* 122, no. 1 (2023): 1-15.

⁵⁵² Witzel, Larry D. "The Digital Transformation of Church Communication." (2023).

⁵⁵³ Costantino, D., M. Pepe, and A. G. Restuccia. "Scan-to-HBIM for conservation and preservation of Cultural Heritage building: The case study of San Nicola in Montedoro church (Italy)." *Applied Geomatics* 15, no. 3 (2023): 607-621.

⁵⁵⁴ Wolde, Addisu. "Review on selected church forests of Ethiopia: implication for plant species conservation and climate change mitigation." *International Journal of Forestry Research* 2023, no. 1 (2023): 7927301.

⁵⁵⁵ Alvarado, Flor, Amanda Hercules, Melanie Wanigatunga, Jodie Laurent, Marilyn Payne, Farah Allouch, Deidra C. Crews et al. "Influence of neighborhood-level social determinants of health on a heart-healthy lifestyle among Black church members: A mixed-methods study." *American Heart Journal Plus: Cardiology Research and Practice* 27 (2023): 100273.

to focus on solving the effects of environmental degradation on communities that are outcasts.⁵⁵⁶ As discussed in the previous chapter (4), environmental justice is embedded in the Church's role to advocating policies that promote environmental equity and conservation. In that regard, one can deduce that incorporating environmental theology in Christian teachings can significantly inform environmental decision-making by the Christians.

From the findings, majority of the participants agreed that all humanity has a divine commitment to environmental protection. Using the conceptual frameworks of theological critical analysis regarding the divine essence of the environment, the Church can extend the understanding of the relationship between theology, ecology and natural environment. From the researcher's observation, embracing the environmental from theological perspective forms required practices and mindset about the stewardship of the environment. To achieve this theological effort the church must integrate ecological tenants into Christin mission. This has effect on how an ecological system responds to sustainability and environmental management. This theology of the environment is essential in the effort ensure good management of the environment

The findings also indicated that the Church has a central role to play in constructing the theology of environment that can shape environmental stewardship. The theological relationship of environmental management and environmental stewardship is rooted in the biblical worldview of creation. Accordingly, God created the world and all its creatures, and humanity are entrusted with the responsibility to care and manage creation. Inherent in this theological view of creation is stewardship role that moderates the behavior of humans regarding the management of the natural environment. And obstinately Christians have a responsibility to manage creation in a way that honors God and promotes the well-being of all creatures. In other literatures, it also argued that the theological perspective of environmental stewardship can shape the religious leaders engage in programs that ensures the environment is protected and the change in the climate is managed too.⁵⁵⁷ And based on the ecclesial participation model, this engagement among the church in

⁵⁵⁶ Ujházi, Loránd. "Teachings of the Catholic Church on Environmental Harm Caused by Military Operations." In *Military Ethics and the Changing Nature of Warfare*, pp. 128-152. Brill Nijhoff, 2023.

⁵⁵⁷ Byl, Marius de, Marko Grčević, Kathrin Termin, Manuel Hartmann, Miriam Kunna, Ana Juratović, Luka Slijepčević, Myroslava Mostepaniuk, and Bernhard Grümme. "Religion, Church, and Theology in Times of Crisis: Theological and Religious Pedagogical Research: Proceedings." In *Religion, Church, and Theology in Times of Crisis: Theological and Religious Pedagogical Research*. Catholic Faculty of Theology of the University of Zagreb,

Albertine region can be achieved through incorporating climate change and sustainability topics among religious and spiritual discussions.

The study findings also stress the necessity of theological environmentalism in shaping the understanding of Christians regarding their environmental stewardship. Stewardship of the environmental can be regarded as a theological mandate of humanity, since they hold a divine status of being created in the image of God to continue to work of creation and sustain the creation. The tenets of Christian theology of creation can potentially contribute significantly to strategies of addressing ecological crisis. Theologically, practicing environmental theology or ecological theology enables the church to promote the theology of creation. The ecological theology consists of an acknowledgment that physical environment should be preserved because it is the created habitat for human existence or human life. Humanity is created as a relational being who should communion with nature without destroying it. This study finding provide insight into the contribution of theology of environment to environmental stewardship.

Previous studies also support the argument that environmental theology contributes to the value of life and eco-justice the humanity should practice. The major contribution emphasized by the current study findings is about humanity having a harmonious relationship with the environment, and the development of environmental ethics. And as a rapidly growing field of study environmental theology plays important role in addressing the contemporary environmental challenges.⁵⁵⁸ By learning the interconnectedness of all life, environmental theology can enable the church to teach the Christians interdependence of human life and the ecosystem. The implication of this interconnectedness and interdependence is that human actions have diverse consequences on the environment, and a destroyed environment has impact on the way human life is lived. This reflects a spiritual significance of environmental theology, which emphasizes that the physical environment stretches beyond the material resource, to become a source of spiritual inspiration and sustenance.⁵⁵⁹ The relational reality contributes greatly to ecological wisdom that the church should embrace.

Croatia, 2023.

⁵⁵⁸ Ugboh, Godspower. "The Church and techno-theology: a paradigm shifts of theology and theological practice to overcome technological disruptions." *Journal of Ethics in Entrepreneurship and Technology* 3, no. 2 (2023): 59-78.

⁵⁵⁹ Hardy, Andrew R. "Developing Pentecostal church planting pedagogy that responds to social need and ecological

The findings further indicate that the church that practices environmental theology is likely to have several implications for its members and for the wider community. From the researcher's observation, Church members with environmental theology are more likely develop a deeper appreciation for the physical environment and its intrinsic value. They are in position to have a greater sense of responsibility to care for the environment and to protect all living things. It is also possible for Christians to make changes in their own lives to live more sustainably, such as reducing their consumption of resources, recycling and composting, and supporting businesses that are committed to environmental responsibility.⁵⁶⁰ It is revealed that the church that practices environmental theology will serve as a role model for environmental conservation, which has a positive impact on how the community respond to environmental stewardship. The practice of environmental stewardship provides opportunities for Christians to learn about environmental issues and take action to protect the environment. It is possible for the church to partner with other stakeholders to implement environmental solutions in the community. But this can be achieved when the church reflects theologically on her position in the environment. Especially, the distinctive role of stewardship of the physical environment.

The current study findings are in with studies conducted in Africa. A study on "African Theology and Environmental Ethics" examines the African theological foundations of environmental ethics in the context of the Church of Nigeria (Anglican Communion). African theology can provide valuable insights into the relationship between humans and the natural world, and that it can help to develop ethical frameworks for addressing environmental challenges. In addition, the theological perspectives of African Independent Churches on climate change. Oduwole argues that African Independent Churches are uniquely positioned to address climate change, given their emphasis on community, justice, and care for creation. Teferi's "theological perspectives on land use and management in Africa" reveals that the Orthodox Church has a strong commitment to environmental stewardship and that it can play an important role in promoting sustainable land

crisis." *Journal of Pentecostal and Charismatic Christianity* 43, no. 2 (2023): 170-189.

⁵⁶⁰ Sowa, Robert Michael. "Making a case for mainstreaming environmental justice concerns in the mission of the Catholic Church in Sierra Leone in light of *Laudato Si'*." PhD diss., University of Glasgow, 2023.

use practices. The study findings stress the theological work of the church concerning environmental management.

Diakonia as a social phenomenon that consists of service to the community entails the concern of the Church towards the well-being of society. This social service call includes environmental management. For that matter, this study considers ecological diakonia (Eco-diakonia) as a theological practice that the church can use to enhance environmental stewardship. Church of Uganda has Household and Community Transformation arm which is responsible for diakonia that focuses on climate change and environmental conservation.⁵⁶¹ This reveals the necessity of eco-diakonia in environmental management and sustainability. The current findings build on the previous call for the churches to consider diakonia ministry as part of the mission (*Missio Dei*) of the church. Environmental ministry was revealed as one of the theological practices that the church can embrace to create a link between nature of the mission for the church and the work of environmental management.

5.2.2 Integrating Environmental activities in Sacramental and liturgical practices of the Church

According to the findings, including environmental-focused prayer sessions and rituals demonstrates the Church's commitment to integrating environmental stewardship into religious practices. These sessions provide a platform for believers to reflect on their relationship with the environment, seek guidance, and offer prayers for the well-being of the natural world. By incorporating environmental concerns into their spiritual rituals, the Church fosters a sense of reverence and responsibility towards the environment among its members. One participant shared his perspective, stating that,

Attending environmental-focused prayer sessions has helped me develop a deeper appreciation for nature and the Creator's creation. It reminds me of my duty to care for the environment and motivates me to make sustainable choices in my daily life. In my view, liturgy can be used to celebrate and give thanks for the environment, especially during

⁵⁶¹ Sowa, Robert Michael. "Making a case for mainstreaming environmental justice concerns in the mission of the Catholic Church in Sierra Leone in light of *Laudato Si'*." PhD dissertation., University of Glasgow, 2023.

special occasions like the season of creation. Prayers, hymns, and reflections can focus on God's work in nature (FGD July 2023)

This quote reflects the positive impact of environmental-focused prayer sessions on individuals' attitudes and behaviors towards environmental stewardship.⁵⁶² Environmental-focused prayer sessions and rituals could enhance individuals' connection with nature, promote eco-spirituality, and inspire pro-environmental behaviors⁵⁶³. This study corroborates the findings from Table 5, highlighting the value of incorporating environmental-focused prayer sessions and rituals in the Church's theological practices.

The Church's provision of environmental education programs reflects its commitment to equipping individuals with the knowledge and skills necessary for responsible environmental practices. Through these programs, the Church aims to raise awareness about environmental issues, highlight the interdependence between human well-being and the ecosystem's health, and empower individuals to make informed decisions for sustainable living. One participant expressed her views, stating that:

I have benefited greatly from the environmental education programs offered by our Church. They have taught me practical ways to reduce my environmental footprint and make eco-friendlier choices. It's encouraging to see our Church proactively educating its members about environmental sustainability, for example using locally produced or organic materials for sacraments, such as altar breads and wine, or choosing environmentally friendly candles and liturgical items, helps to show care for creation (FGD, July 2023).

This participant's testimony emphasizes the positive impact of environmental education programs on individuals' behaviors and attitudes toward sustainable living⁵⁶⁴. The findings are established aligned with the research conducted by Melvin Otey, who examined the effectiveness of religiously based environmental education programs.⁵⁶⁵ The church must promote faith in action

⁵⁶² Gozum, Ivan Efreaim A., Abelardo E. Garcia Jr, and John Lu Allan M. Nucum. "Laudato si and the Role of the Church in Promoting Environmental Awareness Toward a Better Health-Related Quality of Life." *Journal of Religion and Health* 62, no. 4 (2023): 2532-2546.

⁵⁶³ Hardy, Andrew R. "Developing Pentecostal church planting pedagogy that responds to social need and ecological crisis." *Journal of Pentecostal and Charismatic Christianity* 43, no. 2 (2023): 170-189.

⁵⁶⁴ Pranger, Jan H. "Christianity, settler colonialism, and resource extraction." *Dialog* 62, no. 2 (2023): 138-147.

⁵⁶⁵ Otey, Melvin L. "Toward a Broader Theocentric Environmentalism." In *Duke Environmental Law & Policy Forum*, vol. 35, no. 1, pp. 1-32. Duke University School of Law, 2024.

through responding to contextual challenges during worship. This can include raising awareness about eco-friendly practices such as energy conservation, waste reduction, and responsible consumption, the Church inspires its members to make choices that minimize their environmental impact and contribute to the planet's well-being. During the focus group discussions, one participated in the statement that,

I'm grateful for the Church's emphasis on eco-friendly practices. It has motivated me to adopt more sustainable habits in my daily life, such as recycling, using renewable energy sources, and reducing my carbon footprint. It's empowering to know that my actions influenced by the Church can contribute to a healthier environment. These practices preserve ecosystems, protect biodiversity, and conserve finite natural resources. Using renewable materials and reducing reliance on fossil fuels helps combat climate change (FGD, July 2023).

This opinion highlights the positive influence of the Church's promotion of eco-friendly practices on individuals' behaviors and mindsets. The findings are also consistent with a study by John, Zubairu and other scholars' who examined the role of religious institutions in promoting eco-friendly behaviors.⁵⁶⁶ Their research demonstrated that religious organizations, through their teachings and programs, can effectively inspire and guide individuals toward adopting eco-friendly practices.

Previous literature, it is recognized that ecological diakonia is relevant to create the connections between justice, peace, and ecological sustainability. The WCC encouraged member churches to publicly commit to addressing environmental concerns as part of a common effort to promote Justice, Peace, and the Integrity of Creation.⁵⁶⁷ As part of mission of the church, environmental ministry is shaped by the theological life of the church. This implies that when ecological diakonia is central to mission and ministry of the church, then the church can influence the care for creation and the physical environment. Studies that have focused on ecological theology have also acknowledged that ministry concern for the environment shape how the church respond to the

⁵⁶⁶ John, A. B., S. N. Zubairu, R. E. Olagunju, and O. K. Akande. "An Analytical Study of the Variables that Influence the Indoor Environmental Quality of Northeast Nigerian Churches." (2023).

⁵⁶⁷ Justice, Peace. "World Council of Churches." *Alternative Globalization Addressing Peoples and Earth (AGAPE): A Background Document*.

concerns for environmental conservation for human fulfilment.⁵⁶⁸ From the study findings, it can be argued that the church needs to embrace ecological diakonia to achieve ecologically sustainable societies and environmental stewardship. Religion has the potential to foster the required paradigm shifts in mindsets, behavior and policy regarding ecological sustainability. For the case of this study, it be recounted that Christian church in Albertine region can promote environmental sustainability and conservation through ecological diakonia.

From what previous literature establish and what the current findings reveal, ecological theology has the potential to shape ecological diakonia, which reflects contextual theology of environmental management. Environmental theology indeed joins other indigenous theologies in the pursuit for developing a theology to respond to contemporary challenges, such as environmental degradation. And without embracing eco-diakonia, this remains a nightmare for the Church of Uganda⁵⁶⁹. Within Albertine region, the Church can use ecological diakonia to retrieve the ecological wisdom in Christianity that can enhance the response of the church to environmental challenges and injustices. This reflects that mission of the church and her stewardship response to the environmental crisis. ecological theology shapes how the church use eco-diakonia to respond to environmental concerns and enhance Christian renewal and reformation in general.⁵⁷⁰

5.2.3 Integration of Environmental Ethics in Church Teachings

This theme of environmental ethics is analyzed and discussed to indicate how it can help the church to develop a framework for making sustainable environmental decisions. This theological practice is grounded in creation theology that emphasizes the reverence for creation and integrating environmental ethics in the day today living. Environmental ethical principles have the potential to guide decisions about environmental policy and resource management. From the findings of chapter 2, it was clear that environmental activities that do not observe environmental ethics are a threat to environmental conservation. In the analysis of the role of the church, it was evident that the church can shape environmental ethics, through religious teachings. Chapter 4 revealed how

⁵⁶⁸ Beling, Adrian. "The Catholic Church in Times of Ecological Crisis: An "Unusual Suspect" in Advancing the Transition to Sustainability?" *Religion and Development* 2, no. 1 (2023): 103-125.

⁵⁶⁹ Sitek, Bronisław. "The Teaching of the Church in a Changing Cultural and Social Setting." *Kościół i Prawo* 12, no. 2 (2023): 117-126.

⁵⁷⁰ Huelsman, Jenny Zoë. "No Lack of Gain: A Biblical Theology of Feminine Generosity." (2023).

environmental ethics influences environmental stewardship. So, in the current chapter (5), the theme of environmental ethics is analyzed from dimension of theological practice that the church can embrace to enhance.

According to the findings, environmental ethics builds on the foundation of ecological theology to reveal specific moral principles and guidelines for human conduct about physical environment. And as discussed above in theme one of this chapter, theological teachings on the intrinsic value of all creation provide a foundation for environmental ethics. And according to ⁵⁷¹, the principle of non-maleficence and beneficence are significant environmental ethics principles to encourage the Christian belief on the inherent value of all creation, including the physical environment⁵⁷². So, integrating environmental ethics is one of the practices that reflects the environmental vocation of the church. The church to adequately respond to environmental challenges, then, the ministry of the church should embrace environmental ethics that reflect biblical call for salvation of the environment⁵⁷³.

The Church's advocacy for environmental ethics in religious texts demonstrates its commitment to grounding environmental stewardship in theological teachings. By incorporating environmental values and principles into religious texts, the Church provides guidance and moral frameworks that inspire individuals to adopt responsible behaviors towards the environment. This approach highlights the interconnectedness between spirituality and environmental well-being. One participant shared and said that,

I appreciate how our Church emphasizes the importance of environmental ethics in our religious texts. It helps us navigate complex environmental issues from a moral standpoint and encourages us to live harmoniously with nature. It's a reminder that our faith extends beyond the confines of the Church and should guide our actions in all aspects of life. Reinterpreting dominion in Genesis 1:28 not as destructive control, but as responsibility to

⁵⁷¹ Harmannij, Derk. "Is it possible to give environmental issues a more prominent role in church life?" *Sustainability and the Humanities* (2019): 97-114.

⁵⁷² Baruth, Meghan, Sara Wilcox, Ruth P. Saunders, Steven P. Hooker, James R. Hussey, and Steven N. Blair. "Perceived environmental church support and physical activity among Black church members." *Health Education & Behavior* 40, no. 6 (2013): 712-720.

⁵⁷³ Gitonga, Sarah Kagendo, Dickson Nkonge Kagema, and Jonathan Kathenge. "Role of the Catholic Church in addressing environmental crisis in Chuka Igambang'ombe Sub- County, Kenya." *Journal of Pastoral and Practical Theology (JPPT)* 3, no. 1 (2024): 34-43.

care for God's creation, with humans acting as stewards and cocreator rather owners (Reverend, Oral Interviews, July 2023).

This view obtained from the participant underscores the significance of advocating for environmental ethics in religious texts, to guide the behaviors and decision-making process of the Christians towards the environment. The findings above stress the role of religious texts in promoting environmental ethics. According to Townend and other scholars, religious texts serve as moral compasses, shaping the values of humanity, their attitudes, and behaviors toward environmental stewardship.⁵⁷⁴ Theologically, the findings established, highlight the importance of the advocacy for environmental ethics by the church using religious texts that influence the actions of the Christians.

The collaboration of the Church in practical environmental initiatives showcases its commitment to working alongside other organizations, community groups, and stakeholders to address environmental challenges. The study findings show that the church can leverage collective resources, expertise, and networks to implement tangible projects and programs that promote environmental sustainability and conservation in the Albertine Region. Commenting on the collaboration role of the church, a participant said,

I have witnessed firsthand the positive impact of the Church's collaborative environmental initiatives. They bring different people and organizations together, fostering a sense of unity and shared responsibility for the environment. These collaborations have led to significant positive changes in our communities, and I'm grateful that our Church takes an active role in such initiatives (Archdeacon, Oral Interviews, July 2023).

The findings indicated above highlight the value of collaboration in driving meaningful environmental change. This stresses the need for African theologians to research and develop collaborative approaches to environmental conservation. According to Patrick Mucunguzi and others, the collaborative initiatives involving religious organizations, community groups, and government entities could yield successful outcomes in biodiversity conservation, ecosystem

⁵⁷⁴ Townend, I. H., Jon R. French, Robert J. Nicholls, Sally Brown, Stephen Carpenter, Ivan D. Haigh, Chris T. Hill et al. "Operationalising coastal resilience to flood and erosion hazard: A demonstration for England." *Science of the Total Environment* 783 (2021): 146880.

restoration, and sustainable resource management.⁵⁷⁵ Based on previous research above and the current study, it is theologically important for the church to promote practical environmental initiatives in the Albertine Region.

The current study has discussed social issues in terms of ethical and moral dimensions in regard of environmental management. The researcher observed from the findings that, majority of the environmental problems in Albertine region are social issues that manifest moral and ethical values. So, when the church focuses on integrating environmental ethics in her teachings, then it is possible to enhance environmental stewardship. This study also asserts that environmental ethics significantly shape the views and beliefs of the Christians about nature and environment, issues of environmental equity, environmental crisis, environmental justice and environment management. And the ethics of the environment are inherently embedded in the religious teachings of the church. They provide knowledge and enlightenment on the moral relationship of human beings, the value, moral status of the environment and its non-human contents. Theologically, it can be argued that the way Christians treat the environment reveals much about their beliefs regarding themselves and the physical environment around them. What this argument imply is that the theological regard that the church has concerning humanity and the natural environment will influence the kind of ethical practices and values that humanity has regarding environmental management. The ethical values will eventually shape how environmental policies are developed and the public interest in environmental stewardship.

Environmental ethics entails theory and practice about appropriate concern for, values in, and duties to the physical environment and the natural world. Given that Christians have biblical teachings that guide their belief system, it is possible to hold that there are ethics concerning the environment that should shape how humanity interacts with the environment. As scholars have put it, humans are evidently dependent on the condition of their environment and so, the environmental quality is necessary, though not sufficient, for quality of human life⁵⁷⁶. This

⁵⁷⁵ Mucunguzi, Patrick, Patience Tugume, and Laster Ogola. "Environmental Management by Faith Based Organizations in Uganda: A SWOT Analysis." *International Journal of Environmental Protection and Policy* 9, no. 1 (2021): 5.

⁵⁷⁶ McCracken, Vic. "Public attitudes toward xenotransplantation: a theological perspective." *Journal of Evidence-Based Social Work* 18, no. 5 (2021): 492-499.

indicates that human beings have a responsibility for conserving the environment, since it determines the sustenance of life. The actions that Christians and non-Christians undertake should be moderated by the teachings of environmental ethics. The ethics that stress the positive human relations to the ecological system. Supporting the community to have more knowledge about natural environments and ethical concerns for the community.

The basic of ecological ethics is embedded in how the church reflects on the biblical stewardship for creation and human life.⁵⁷⁷ Although studies emphasize a distinction between the linguistic signs, 'nature' and 'creation' to recount that general, natural philosophy cannot be the basis of a creation ethics or an ecological ethics in theological perspective, this study considers the ecological ethics based on the biblical notion of creation of nature and humankind. This implies that environmental ethics reflects the practices of the church to conserve the physical environment and human existence. The ecological ethos is virtually significant in the holistic ministry of the church.⁵⁷⁸ This is because theological ethics for environmental management reflects that the task of the church to carry out specific environmental ministry.

The following concepts and biblical tenets are theologically significant for promoting environmental stewardship. According to Psalm 103:19-22, God is revealed as the Creator of all things, rules overall and deserves our worship and adoration. And from the passage of Psalm 19:1-6, the earth and all that exists on it reveals the wisdom and goodness of the creator. Humanity unlike other creatures was created in the image of God and entrusted as stewards of God's creation (Cf. Gen 1:26-28; Psa.8:5). The above biblical passages highlight the fundamentals of Christian environmental ethic. This environmental ethic reveals the value and rights of all life forms that existence on the physical environment. The Bible as already mentioned affirms the stewardship role of humanity regarding conservation of the physical environment. In environmental ethics provides the diversified discourse of environmental management, rooted in ecological theology that shape how humanity treat the environment⁵⁷⁹.

⁵⁷⁷ Turnau, Ted. *Oasis of Imagination: Engaging our World through a Better Creativity*. Inter-Varsity Press, 2023.

⁵⁷⁸ Haar, Stephen. "'Imago Dei' and human life as 'coram': Why (theological) anthropology matters." *Lutheran Theological Journal* 58, no. 1 (2024): 17-27.

⁵⁷⁹ Jerie, Steven. "The role of the church in sustainable environmental management in Zimbabwe: a case study of the Bulawayo archdiocese of the Roman Catholic Church." (2010).

Furthermore, the study findings also stress the ability of the church to enforce environmental stewardship by integrating environmental ethics into Church teachings. This reveals the responsibility for environmental quality shared by Christians whose activities upset the environment. This sense of responsibility is the ethical value that is reflected through the choices of Christians and the communities that are shaped by exclusive environmental interests. Environmental ethics also significantly influences the development of ethical behaviors that aim at improvement of environmental performance, and a commitment to efficient use of natural resources and protection of ecosystems⁵⁸⁰. The ethical behaviors emphasized here practical actions that the church can use to minimize the negative environment impact often caused by the activities that are carried out in community in pursuit of socio-economic development. And from what the findings indicate, environmental stewardship is important, because it is one church that preserves natural resources and achieves sustainable environments. Although implementing environmental stewardship can be challenged due to limited awareness and understanding of the importance of sustainable environments, the findings have revealed that propagating environmental ethics is a strategy that improve the enforcement of environmental stewardship⁵⁸¹.

The church in Albertine region is strategically positioned as an environment of salvation and hope, which also reflects her responsibility for environmental stewardship. Without focusing on environmental conservation, the church may equally encounter environmental challenges that affect the ministry of the church. When the destruction and exploitation of the environment are not addressed, all creation suffers and institutions do not operate effectively. The realities of environmental crisis call for adequacy and accuracy of the theological answer to contemporary environmental challenges. As discussed above, the Bible Reveals God's creation being created for the goodness to humankind, giving Christians honorable position in God's creation and the responsibility to protect it. This assertion reflects that creation expects protection and preservation from humanity the same things that humanity expects from God.

⁵⁸⁰ Jerie, Steven. "The role of the church in sustainable environmental management in Zimbabwe: a case study of the Bulawayo archdiocese of the Roman Catholic Church." (2010).

⁵⁸¹ DeLashmutt, Michael W. "Church and Climate Change: An Examination of the Attitudes and Practices of Cornish Anglican Churches Regarding the Environment." *Journal for the Study of Religion, Nature & Culture* 5, no. 1 (2011).

According to other studies, the theological response of the church on environmental crisis must consist in rising the awareness of the environmental ethics, which reflect the interconnectedness of humanity with the physical environment⁵⁸². When environmental crisis exists, the church should seek the deeper understanding of phenomenon of peace. In the effort to promote environmental ethics of stewardships, the church should extend the biblical concept of peace to include the relationship that the created physical environment has with humanity. With the possibility of harmony but nature and man, there is hope for less exploitation and destruction of the environment. Holding ethical behavior and consciousness influence the experience of living with God and the lifestyle Christians regarding environmental stewardship.

Previous studies in Uganda have recognized the work of the church to promote environmental stewardship. A study by Mucunguzi, Patrick and others found that the church is playing an important role in raising awareness of environmental issues, promoting sustainable practices, and advocating for environmental protection.⁵⁸³ This is consistent with what the current study established, and indicates that the church has a theological role towards environmental management. The church cannot this theological mandate to address environmental issues, because studies have also confirmed that the Church is well-positioned to address climate change, given its commitment to environmental stewardship and its moral authority.⁵⁸⁴ The church is positioned to promote sustainable land use practices and in addressing land degradation.⁵⁸⁵ The study findings in consideration of the previous studies provide valuable insights into how the church in Albertine region can contribute to environmental stewardship.

⁵⁸² Mucunguzi, Patrick, Patience Tugume, and Laster Ogola. "Environmental Management by Faith Based Organizations in Uganda: A SWOT Analysis." *International Journal of Environmental Protection and Policy* 9, no. 1 (2021): 5.

⁵⁸³ Mucunguzi, Patrick, Adrine Musiime, and Laster Ogola. "The role of the faith-based organisations in tree planting in Uganda." *International Journal of Environmental Studies* 79, no. 3 (2022): 436-449.

⁵⁸⁴ Adesanya, Ibiyinka Olusola. "Environmental effects of church proliferation: The Redeemed Christian church of God as a case study." *International Journal of Humanities and Social Science* 1, no. 15 (2011): 177-182.

⁵⁸⁵ Adu-Gyamfi, Yaw. "Indigenous beliefs and practices in ecosystem conservation: Response of the church: Church and environment." *Scriptura: Journal for Contextual Hermeneutics in Southern Africa* 107, no. 1 (2011): 145-155.

5.3 RESEARCH CONTRIBUTION (NEW KNOWLEDGE)

Based on the dissertation, the **new knowledge gained (original contribution to knowledge)** should go beyond restating the findings. At the PhD level, it should demonstrate how the study advances theological scholarship, environmental ethics, and ecclesial practice. The following contributions are supported by the dissertation.

New Knowledge Gained from the Study

1. Development of a Contextual Anglican Model of Environmental Stewardship

The study generates a contextual theological model that integrates **ecclesial participation, ecotheology, and biblical stewardship** within the socio-economic realities of Uganda's Albertine Region. Unlike previous studies that relied largely on Western Eco theological frameworks, this research demonstrates how Anglican theology can be contextualized to address environmental degradation associated with oil exploration, urbanization, and population growth.

2. Empirical Validation of the Church as an Environmental Governance Actor

The study provides empirical evidence that the Church of Uganda is not merely a moral voice but an active stakeholder in environmental governance through environmental education, community mobilization, theological teaching, and public advocacy. This expands existing scholarships by demonstrating that faith-based institutions can complement government environmental policies and contribute significantly to sustainable environmental management.

3. Expansion of the Concept of Ecological Diakonia

The research advances the concept of **ecological diakonia** by demonstrating that environmental stewardship is not an optional social ministry but an integral dimension of the Church's mission (Missio Dei). It reconceptualizes ecological care as a theological expression of discipleship, justice, and Christian service within Anglican ecclesiology.

4. Integration of Theology with Environmental Ethics

The study establishes a theological framework showing that biblical teachings, ethical values, and environmental responsibility are mutually reinforcing. It demonstrates that environmental stewardship which is rooted in Christian doctrines of creation, stewardship, and human

responsibility rather than merely environmental activism. This contributes to the growing discipline of African ecotheology.

5. Localization of Eco theological Scholarship

Existing literature largely discusses environmental theology from global or theoretical perspectives. This study contributes new knowledge by localizing Eco theology within the cultural, ecological, and ecclesial context of Bunyoro Kitara Diocese, thereby providing an African Anglican interpretation of environmental stewardship that responds to local environmental challenges.

6. Identification of Theological Practices that Promote Environmental Stewardship

The study identifies specific theological practices—including environmental preaching, ecological discipleship, clergy training, parish environmental programs, community sensitization, and integration of environmental themes into church teaching—as practical mechanisms for strengthening environmental stewardship. These practices provide a framework for implementation by Anglican dioceses and theological institutions.

7. Demonstration of the Relationship Between Religious Teaching and Environmental Behavior

The research provides empirical evidence that religious teachings significantly influence environmental attitudes and ethical practices among Christians. It demonstrates that churches can shape environmental behaviors through theological formation, thereby contributing to behavioral change alongside legal and policy interventions.

8. A Practical Framework for Church–Government Collaboration

The study proposes a collaborative model in which churches, government agencies, civil society, and local communities jointly address environmental degradation. This contributes new knowledge by showing how faith-based environmental stewardship can strengthen environmental governance in resource-rich regions experiencing rapid industrial development.

Summary Statement of the Original Contribution

The principal contribution of this dissertation is the development of a **contextual Anglican theological framework for environmental stewardship** that integrates **ecclesial participation, ecological diakonia, biblical stewardship, and environmental ethics** with empirical evidence from the Albertine Region. The study demonstrates that environmental stewardship should be

understood not merely as an ecological or developmental concern but as an essential expression of the Church's mission, thereby advancing African ecotheological scholarship while providing a practical model for faith-based environmental governance in Uganda and similar contexts.

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The exact pages.

New Knowledge	Dissertation Section	Approximate Pages	Evidence
Development of a contextual Anglican model integrating ecclesial participation, ecotheology and stewardship	1.7 Theoretical Framework	pp. 13–16	The study integrates the Ecclesial Participation Model and Stewardship Model and contextualizes them for Uganda.
Expansion of ecological diakonia as part of the Church's mission	1.7 Theoretical Framework	pp. 13–16	The study explicitly states that it contributes to the theoretical expansion of ecological diakonia.
Localization of ecotheology in the Ugandan Anglican context	1.8 Literature Review	pp. 17–31	The study repeatedly identifies gaps in African and Ugandan scholarship and explains how the present research fills them.
Empirical evidence on the role of the Church of Uganda in environmental stewardship	Chapter 3 (Role of the Church of Uganda in Environmental Stewardship)	pp. 106–149 (approx.)	Chapter 3 presents original empirical findings on church participation in environmental stewardship.

Relationship between religious teaching and environmental ethics	Chapter 4	pp. 150–192 (approx.)	Chapter 4 analyses how religious teachings influence environmental stewardship.
Identification of theological practices for environmental stewardship	Chapter 5	pp. 193–230 (approx.)	Chapter 5 develops practical theological approaches for environmental stewardship.
Church–government and stakeholder collaboration framework	Literature Review and Conclusions Chapter 6	pp. 17–31; 231–236;	The study argues for collaborative environmental governance involving the Church, government, and communities.

5.3.1 Contribution of the Study to the Church and to Practical Theology

This study makes a significant contribution both to the Church and to the field of Practical Theology by addressing the urgent issue of environmental stewardship within the context of the Albertine Region, particularly in Bunyoro Kitara Diocese.

To the Church, the study provides a contextualized understanding of the factors contributing to environmental degradation in the Albertine Region and highlights the current role played by the Church of Uganda in responding to these challenges. By examining how religious teachings and ethical practices influence environmental behavior, the study equips church leaders, clergy, and lay Christians with knowledge that can inform more intentional and faith-based environmental actions.

It further offers practical theological strategies that the Church can adopt to strengthen its involvement in environmental stewardship, such as integrating creation care into sermons, liturgy, discipleship programs, and community outreach initiatives. In doing so, the study empowers the Church to fulfill its moral and spiritual responsibility as a steward of God's creation.

To the field of Practical Theology, this study contributes by bridging the gap between theological reflection and real-world environmental challenges. It advances scholarly discourse by demonstrating how theological principles can be applied to contemporary ecological issues within a specific African context.

The study enriches Practical Theology by incorporating environmental stewardship as a critical area of ministry and ethical concern, thereby expanding its scope beyond traditional pastoral and ecclesial functions. Additionally, it provides an empirical basis for understanding how faith-based institutions influence environmental practices, offering insights that can inform future theological research, policy engagement, and interdisciplinary collaboration.

The study underscores the relevance of theology in addressing societal challenges and presents the Church as a key agent in promoting sustainable environmental practices, thereby contributing to both spiritual formation and ecological preservation.

5.4 Summary

The main contribution of study is presented in this chapter. The study highlights theological practices that the church can use to enhance environmental stewardship. The study has argued that biblical stewardship theology and eco-theology should be incorporated in the teaching of the church by being a prophetic voice that advocates for environmental protection and sustainability, the church can influence ecological justice and public theology of environmental management. So, conducting environmental-focused prayer sessions, offering environmental education programs, advocating for environmental ethics, collaborating for practical environmental initiatives, and promoting eco-friendly practices, are recounted as necessary to achieve effective environmental stewardship. These theological practices are relevant for enhancing stewardship and sustainability of the environment.

The established theological practices were discovered as significant in their ability to shape the values and behaviors of church members regarding environmental conservation. The theological position of the church regarding environmental management was found relevant in influencing the lifestyle of Christians in relation to physical environment. The theological themes established by the study emphasize the need for Christians to have environmental crisis in their heart and respond to environment stewardship as a spiritual matter. Which implies that the spiritual conditions of humankind are highly associated with environmental level stewardship. Addressing environmental issues from theological perspective challenges the church to consider the divine responsibility entrusted to humanity regarding conservation of nature and physical environment.

The study also established that the biblical fundamental teachings on environment are relevant resources for the church to use in response to environmental degradation and other challenges. The findings indicate that theological insights provide understanding of how the religious communities can contribute to environmental stewardship. Through understanding the interconnectedness of humanity and the physical environment, it is recounted that harmony can be achieved. Biblical theological insights were indicated as relevant in the effort to promote environmental stewardship, since they are foundational principles for Christian tradition and inform our knowledge sustainable land use, water management, and environmental

conservation. So, the integration of environmental ethics into church teachings was revealed as important in promoting environmental stewardship that can inspire environmental protection.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 Introductions

This chapter synthesizes the findings of the study that investigated the role of the Church of Uganda in environmental stewardship in Albertine region. It presents the conclusions and recommendations that emerge from the study. The study has recounted the Eco theological and ecclesial mandate of the church towards environmental stewardship. In relation to the study objectives that were addressed, this chapter reflects on the implications of the African ecotheology for the Church of Uganda. The chapter ends with the proposal for future research areas.

6.1 General conclusions

This study has established that perceiving nature and environment as sacred, is a theological basis for environmental stewardship. This theological basis significantly influences how Ugandan ecotheology should shape the self-consciousness of the Christians in Albertine region, regarding managing the environment. This study has established that the theological thought on environmental stewardship is anchored in the theological conviction that humanity should care for nature and not promote exploitative relationship with the environment. Therefore, effective environmental management require the church to engage in ecological contextual theology. The contextual ecotheology is necessary for shaping how African and Ugandan ecotheology can influence the practices of the church of Ugandan to promote environmental stewardship.

The study examined the lived experiences of Christians in Bunyoro Kitara Diocese, and how they influence their practice of environmental management, highlighting the extent of ecological crisis in Albertine region. The magnitude of environmental degradation specifically is recounted as a crisis that cannot be understood in isolation from rapid urbanization, population growth, and economic expansion in Albertine region. The ecological crisis underscores in this thesis show that it is necessary for Eco theologians to use lived realities of African Christians as a theological focus, that make ecotheology relevant to the Christians of Church of Uganda. Based on the lived experiences of how Christians relate with the environment, I argue that Ugandan Eco theologians

can promote environmental stewardship by presenting the categories of environmental theology that the Christians can understand and practice.

Based on the complex relationship between urbanization, population growth and economic growth with environmental crisis, this study has established that raising awareness on responsible management of the resources and the ecosystem by the Church of Uganda is critical. The interest of theologians should include promoting practices and commitment to stewardship, to harness the benefits of urbanization while minimizing its negative effect on the environment. It is hence essential for the church to be involved in effective planning of land-use in Albertine region, waste management, sustainable agricultural practices, which promote environmental stewardship. Adopting sustainable practices that incorporate stewardship principles will ensure that economic growth and household development does come at the expense of the environment. Overall, the study has shown that sustainable development must integrate economic, social, and environmental considerations.

This study has also shown that the Church of Uganda plays multiple significant roles in environmental stewardship within the Albertine Region. Environmental stewardship is particularly promoted through tree-planting initiatives, education on environmental stewardship, advocacy for policy implementation, and holistic approach to addressing environmental and socio-economic challenges. As environmental concerns continue to grow in the Albertine region, the Church has a crucial role in fostering eco-consciousness and sustainable living for nurturing a more responsible and harmonious relationship between humanity and the environment. Hence, active involvement in environmental management by the church in Bunyoro Kitara Diocese and the Province at large has a positive impact on the attitudes and actions of the community towards the environment. This establishment points to a deeper understanding of the substantial influence of the church regarding the management of the environment.

Generally, the study has indicated that Christian communities should interpret their theological and ethical mandate of environmental management from stewardship perspective. This will enrich the Eco theological scholarship that should transform Christian behaviors and attitudes towards having a sustainable environment. Environmental sustainability as established in this study is integral to the theological and social mission of the Church of Uganda. To achieve sustainability and preservation of the environment, I recount the need of collaborative action from governments,

religious organizations, industries, and communities. With the theological practices and ethical reflections presented in this study, the thesis recounts the Eco theological practices that can be genealogized in other contexts to enable the church respond to the environmental crisis and transform the attitudes of Christians towards environmental management.

6.2 Recommendations

Based on the findings of the study, the researcher makes following recommendations:

The findings highlights the potential purpose of the church of Uganda in Albertine region in utilizing its religious teachings to inform the development of policies and programs that support sustainable population growth and management of environment in instances like religious leaders of church of Uganda can incorporate messages that emphasize environment stewardship, lawlessness of the importance of population practices within their congregation. Religious organizations can also support programs that provide access to family planning services and that promote sustainable agriculture and land use practices. By working together, religious leaders and organizations can play a significant role in promoting sustainable population growth and environmental management. In the practical sense, church can help to raise awareness of the environmental impacts of population growth, economic growth and the importance of environmental stewardship.

Basing on the findings, church of Uganda needs to consider strengthening theological training on environmental stewardship for both clergy and lay leaders , such an approach may enhance the church's capacity to incorporate environmental concerns into religious teachings and support communities in adopting more sustainable practices, Collaborations with theological seminaries, environmental NGOs, and academic institutions could help develop tailored curricula that link Christian teachings with contemporary environmental challenges. The church of Uganda may wish to reflect on the theological understanding of humanity responsibility in caring for nature and the physical environment, this could be supported by integrating environmental ethics into church teachings with the aim of promoting environmental stewardship and encouraging practices that contribute to environmental protection.

The integration of ecological diakonia into spiritual teachings could be considered as part of the church's broader mission, with inclusion of environmental ethics in church services potentially helping to encourage congregants to adopt more environmentally friendly practices in their daily lives. In this regard values such as non-maleficence and beneficence could be promoted as some of the guiding principles of Christian living, the Church should engage youth in environmental conservation efforts by offering educational programs and leadership opportunities focused on sustainability. Youth groups and church youth ministries can be instrumental in spreading environmental awareness, organizing clean-ups, and leading advocacy efforts on climate action.

The environmental challenges in Albertine region can be overcome by collaboration between interdenominational faiths among the religious institutions for example the church of Uganda in Albertine region can work together with the Muslims, Catholics, and Pentecostal on large scale environmental campaigns, policy advocacy and community initiatives.

The findings indicate that the Church may consider strengthening its collaboration with environmental NGOs, Government agencies, and community organizations. Such partnerships could help provide resources and training for Church leaders while also creating platforms for coordinated action on environmental issues. In addition, collaboration may enhance the Church's ability to advocate for eco-friendly policies and initiatives. These partnerships may help provide resources and training opportunities for church leaders while also creating platforms for coordinated action on environmental issues.

There is a need to enhance environmental education programs within the Church of Uganda to promote awareness and understanding of environmental issues among its members. This can be achieved through incorporating environmental themes into teachings, organizing workshops and training sessions, and providing resources for sustainable living practices. Efforts to empower individuals to make informed decisions and actively contribute to environmental stewardship should be prioritized.

Community members and local communities may be encouraged to take an active role in environmental conservation efforts through participation and engagement, the Church of Uganda can organize community-based initiatives on planting trees, cleaning the communities and conducting radio and television programs for awareness on managing the environment. Involving

the community will foster a sense of ownership and responsibility for the environment, cultivating a culture of sustainability and stewardship.

This study highlights the pressing need for a balanced and integrated approach to urbanization, population growth, and environmental stewardship, particularly in the Albertine Region. The findings emphasize the significant role that religious communities, especially the Church, may play in fostering sustainable practices. As demonstrated by the Church of Uganda's initiatives in eco-diakonia, prayer sessions, and faith-aligned environmental activities, religious teachings on environmental stewardship have the potential to influence individual and collective behaviors positively. These practices, grounded in theological teachings, can inspire congregants to adopt eco-friendly practices and contribute to broader community engagement in environmental conservation.

The study recommends that the Government of Uganda, local governments, environmental agencies, and development partners strengthen the enforcement of environmental protection laws and regulations to reduce activities such as deforestation, illegal logging, wetland encroachment, poor waste disposal, and unsustainable agricultural practices. Environmental Impact Assessments (EIAs) should be rigorously enforced for all oil and gas, mining, and infrastructure development projects in the Albertine Region. Additionally, communities should be supported with alternative livelihood opportunities and clean energy technologies to reduce dependence on forests for fuelwood and charcoal production.

The Church of Uganda should institutionalize environmental stewardship as a core component of its ministry by integrating environmental conservation into sermons, church programs, Christian education, and community outreach activities. Dioceses and parishes should establish environmental committees responsible for coordinating tree-planting campaigns, promoting proper waste management, protecting water sources, and encouraging sustainable land use practices. Furthermore, the Church should strengthen partnerships with government agencies, non-governmental organizations, and local communities to implement environmental conservation initiatives within the Albertine Region.

The study recommends that religious leaders place greater emphasis on biblical teachings that promote stewardship of God's creation, environmental responsibility, and ethical use of natural

resources. Churches should develop educational programs that encourage believers to view environmental conservation as a Christian obligation rather than merely a social responsibility. Theological institutions should also incorporate environmental ethics into clergy training curricula to equip future church leaders with the knowledge and skills necessary to promote sustainable environmental practices among their congregations.

The Church should adopt practical theological approaches that encourage environmental action alongside spiritual teachings. These may include organizing annual creation care Sundays, incorporating environmental prayers and liturgy into worship services, conducting Bible studies on creation stewardship, mobilizing congregations for community environmental conservation activities, and establishing church demonstration projects such as tree nurseries, church forests, and sustainable agriculture initiatives. In addition, the Church should use its moral authority to advocate for environmental justice, responsible resource management, and policies that protect the ecological integrity of the Albertine Region.

The study further recommends the establishment of a multi-stakeholder environmental stewardship platform comprising the Church of Uganda, government institutions, cultural leaders, civil society organizations, educational institutions, and local communities. Such a platform would facilitate coordinated environmental education, information sharing, policy advocacy, and collaborative conservation efforts aimed at promoting sustainable management of the Albertine Region's natural resources while safeguarding the well-being of present and future generations.

6.3 Areas for further study

- a) A longitudinal study to assess the long-term impacts and changes resulting from the Church's environmental education programs, tree-planting initiatives, and other interventions.
- b) A study to compare the environmental stewardship practices of the Church of Uganda with other religious institutions or organizations operating in the Albertine Region could offer valuable insights into the effectiveness of different approaches.

APPENDICES

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Appendix (ii): QUESTIONNAIRES

Introduction

I am **Irumba Eleazar**, a student Uganda Christian University and currently collecting data for my thesis as a partial requirement. My researcher topic is on “Environmental Stewardship by the Church of Uganda in the Albertine Region”. The information provided will be purely for academic purposes and all the responses will be handled with utmost confidentiality. I therefore humbly request that you complete this questionnaire correctly in the spaces provided or options given.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

Tick / fill in the most appropriate answer.

1. Please state your religion?

(1) Protestant ☐ (2) Catholic ☐ (3) Muslim ☐ (4) Other Specify ☐

2. Please describe your current residence at home.

(1) Urban ☐ (2) Rural ☐

3. What family type do you belong?

(1) Monogamous ☐ (2) Polygamous ☐ (3) Extended family ☐ (4) Others specify ☐

4. What is your education level?

(1) Uneducated ☐ (2) Primary ☐ (3) Secondary ☐ (4) Tertiary ☐

5. Marital Status

a) Single ☐ b) Married ☐ c) Divorced ☐ d) Widowed ☐
e) Separated ☐

SECTION B: Current factors responsible for environmental degradation

In this section, please indicate the extent to which you agree with the following statements by ticking appropriately.

Key: 5 = strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, and 1 = strongly disagree

C	Current factors	5	4	3	2	1
	Urbanization					
C1	Urbanization's economic benefits come at the expense of the environment					

C2	Urbanization strains natural resources and ecosystems					
C3	Urbanization leads to disease spread and poor health					
C4	Technological advancements accompanying urbanization worsen environmental degradation					
	Population growth					
C5	The increasing population strains natural resources and land					
C6	Population growth leads to unemployment and economic challenges					
C7	Rising population demands strain available food stock					
	Economic growth					
C8	Industrial output and economic expansion worsen environmental degradation					
C9	Household spending patterns associated with economic growth					
C10	Meeting wage and inflation targets may harm the environment					

SECTION C: The role played by Church of Uganda in Environmental Stewardship in the Albertine Region

In this section, please indicate the extent to which you fulfill your responsibilities in the aspects indicated below by ticking appropriately.

Key: 5 = strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, and 1 = strongly disagree

	Role played by Church of Uganda	5	4	3	2	1
LP1	The Church actively participates in small acts of protection and tree-planting efforts within the community					

LP2	Education on environmental stewardship is actively gathered and spread within this Church					
LP3	The Church of Uganda influences the implementation of environmental policies to foster environmental sustainability					
LP4	The primary responsibility of this Church is to proclaim the Gospel and lead sinners to Christ, with environmental stewardship as a secondary focus					
LP5	This Church works to preserve the environment as a means of coming to know God while simultaneously striving to lift people out of poverty					
Lp6	The Church of Uganda owns large tracts of land and financial resources that are important for environmental management activities such as tree planting					
Lp7	The Church has actively encouraged and supported communities in meeting their health and development needs					
Lp8	Church leaders within this Church proclaim the green message and actively fight against environmental destruction					
Lp9	Cases of forest destruction are reported to the relevant authorities within this Church					

SECTION D: Relationship of religious teachings and ethical practices for environmental stewardship

In this section, please indicate the extent to which you fulfill your responsibilities in the aspects indicated below by ticking appropriately.

Key: 5 = strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, and 1 = strongly disagree

	Religious teachings and ethical practices	5	4	3	2	1
RT1	The religious community actively incorporates environmental ethics into its practices					
RT2	Religious teachings provide clear guidance on the responsible use of natural resources					
RT3	Ethical practices influenced by religious teachings promote sustainable living					
RT4	The religious community encourages its members to participate actively in environmental conservation efforts					
RT5	Religious teachings emphasize the interconnectedness between environmental well-being and spiritual fulfillment					
RT6	The religious community promotes awareness and understanding of environmental issues among its members					
RT7	Ethical practices inspired by religious teachings reduce environmental degradation and preserve biodiversity					
RT8	Religious teachings inspire a sense of responsibility for environmental stewardship among individuals					

SECTION E: Theological Practices that the Church can use to enhance environmental stewardship

In this section, please indicate the extent to which you fulfill your responsibilities in the aspects indicated below by ticking appropriately.

Key: 5 = strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, and 1 = strongly disagree

	Religious teachings and ethical practices	5	4	3	2	1
TP1	Church incorporates environmental themes in teachings for stewardship in Albertine Region					

TP2	Church conducts environmental-focused prayer sessions and rituals					
TP3	Church offers environmental education programs for sustainable living					
TP4	Church advocates for environmental ethics in religious texts for guidance					
TP5	Church collaborates for practical environmental initiatives in Albertine Region					
TP6	The Church promotes eco-friendly practices among members in Albertine Region					

Thank you for your time

Appendix (iii): FOCUS GROUP DISCUSSION GUIDE

Dear interviewee,

I am **Irumba Eleazar**, a student Uganda Christian University and currently collecting data for my thesis as a partial requirement. My researcher topic is on “Environmental Stewardship by the Church of Uganda in the Albertine Region”. The information provided will be purely for academic purposes and all the responses will be handled with utmost confidentiality. I therefore humbly request that you complete this questionnaire correctly in the spaces provided or options given.

Section A: Background Information

1. What is your gender?
2. How old are you?
3. What is your highest level of education?
4. What your marital status?

Section B: The current factors responsible for environmental Degradation

1. Kindly share with me your perception about environmental degradation?
2. Kindly share with me about some of the factors responsible for environmental
3. Degradation in the Albetine Region?
4. Do you recognize environmental degradation as a problem of concern?
5. What in your opinion is the condition of environment in your community?

Section C: the role played by Church of Uganda in Environmental Stewardship in the Albertine Region

1. Please discuss for me the roles played by Church of Uganda in Environmental Stewardship in the Albertine Region
2. Please share with me what causes the Church to be interested in the conservation of nature?

3. Please share with me your experience as a church leader in Environmental Stewardship in the Albertain Region

Section D: The Relationship of Religious Teachings and Ethical Practices regarding Environmental Stewardship in the Albertain Region.

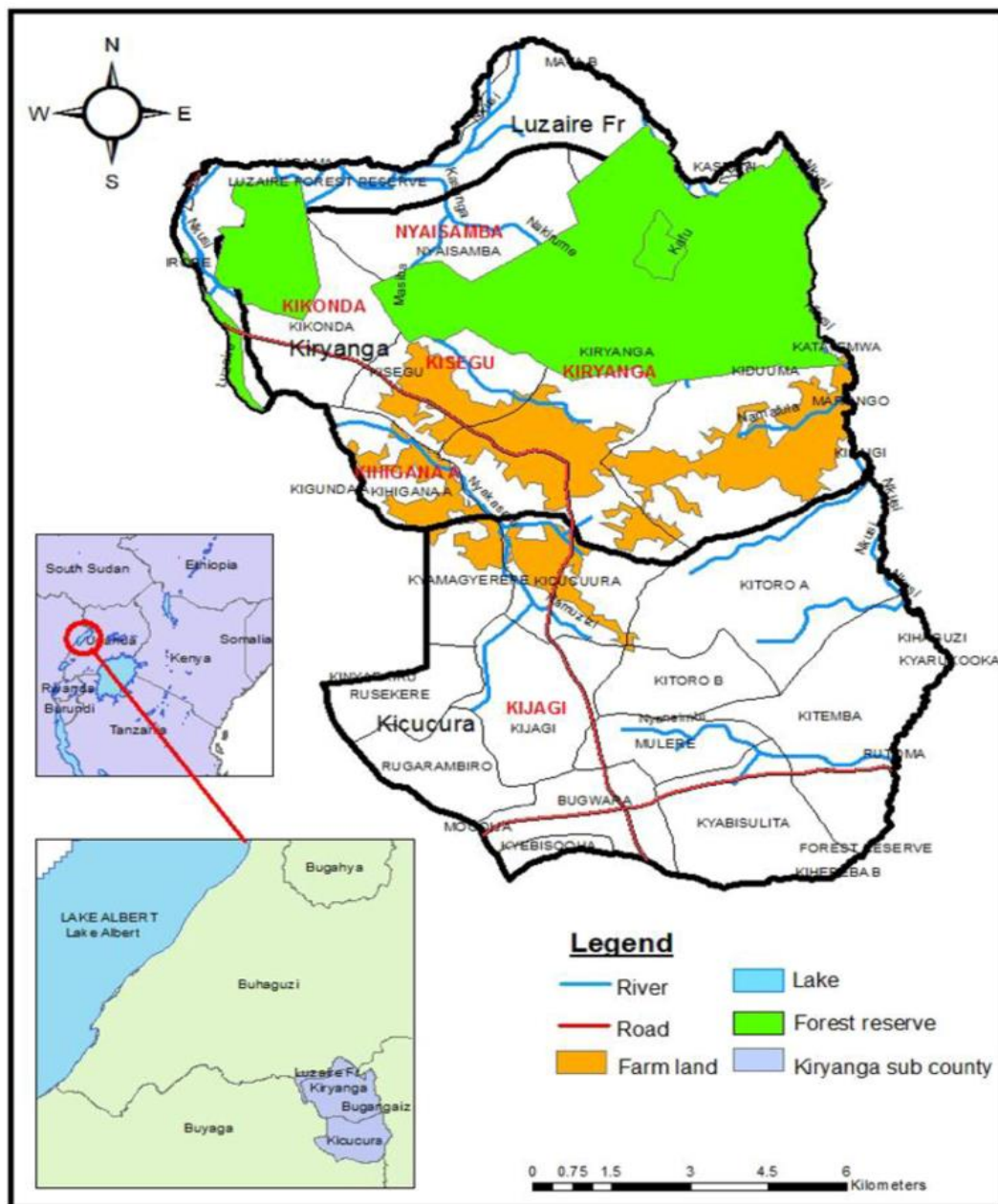
1. What do you know about religious teachings and ethical practices?
2. Please share with me how you conduct religious teachings in the Albertain Region
3. How are Religious Teachings and Ethical Practices regarding Environmental Stewardship related?

Section E: Theological Practices that the Church can use to enhance Environmental Stewardship in the Albertain Region.

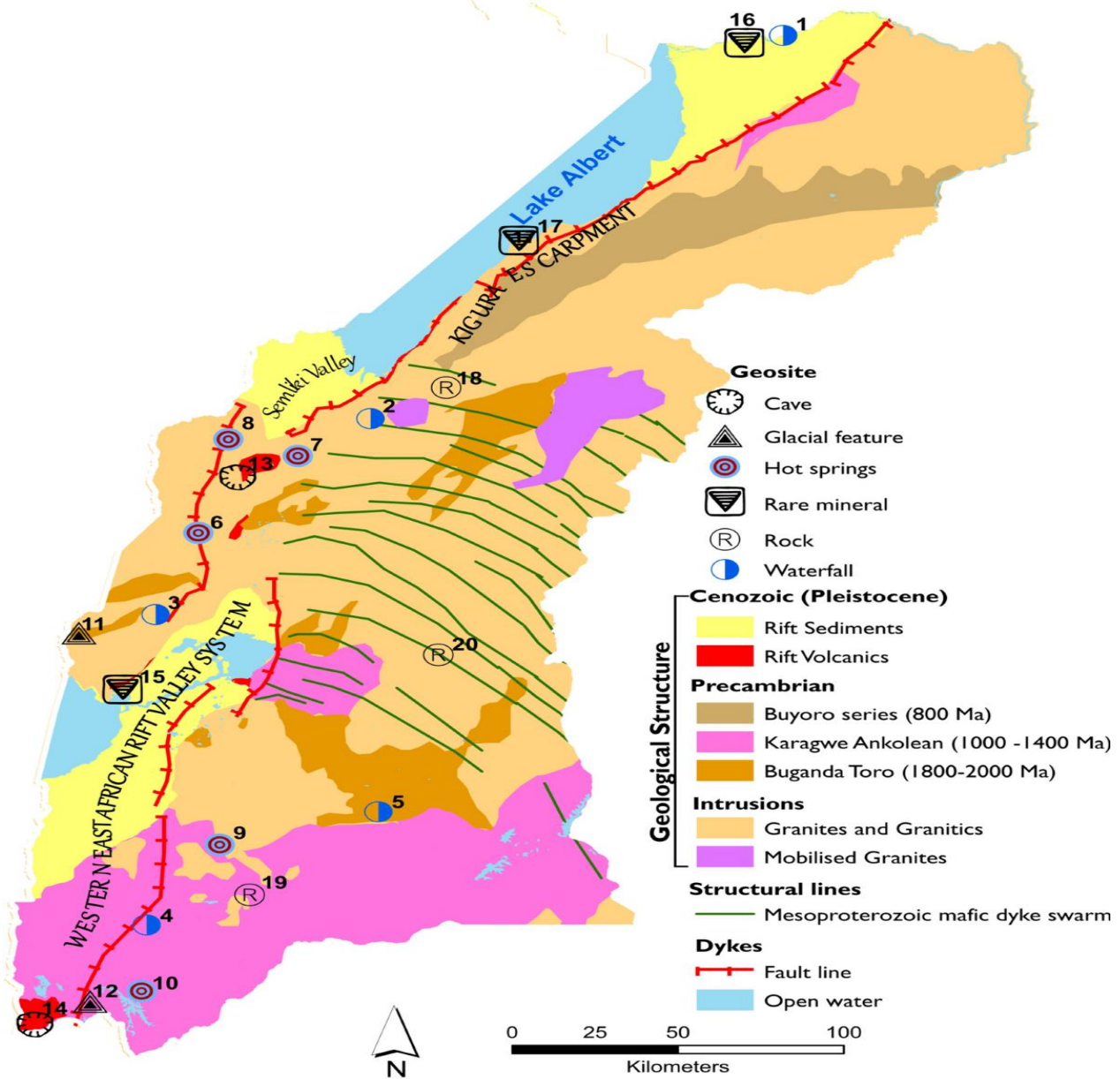
1. Please share with me all the Theological Practices you know
2. What are the theological Practices that the Church can use to enhance Environmental Stewardship in the Albertain Region?

Thank you for your time

Appendix (iv): The map show location of the Albertine region: Study Area



Appendix (v): Map of Albertine Region Showing Areas affected by Environmental



Appendix (vi): LIST OF TECHNICAL STAFF THAT WERE CONSULTED

NO	NAME	SEX	DATE OF INTERVIEW
1	Jasper Ahumuza	M	13 th April 2023
2	Kiija Jackson	M	13 th April 2023
3	Kyamanywa Jackson	M	13 th April 2023
4	Kabarozi Joan	F	14 th April 2023
5	Faith Atumanyire	F	14 th April 2023
6	Fridah Mulumba	F	15 th April 2023
7	Byaruhanga Andrew	M	15 th April 2023
8	Clear Kajuma	F	17 th April 2023
9	Tr. Joan Kabagambe	F	17 th April 2023
10	Haj Mustafah	M	17 th April 2023
11	Hajrati Madinah	F	17 th April 2023
12	Asiimwe Harriet	F	19 th April 2023
13	Hon. Josephat	M	19 th April 2023
14	Hon. Joyce Biira	F	25 th April 2023
15	Hon. Nabanja Robina	F	25 th April 2023
16	Jane Banage	F	25 th April 2023
17	Ndahura Jesse	M	26 th April 2023
18	Jane Banage	F	26 th April 2023
19	Ndahura Jesse	M	26 th April 2023
20	Niwahereza Joelina	F	26 th April 2023
21	Ngabirano Bosco	M	26 th April 2023
22	Magara John	M	26 th April 2023
23	Tusiime Gloria	F	29 th April 2023
24	Asiimwe Adrine	F	29 th April 2023
25	Aidah Mbabazi	F	2 nd May 2023
26	Ayebale Phionah	F	2 nd May 2023
27	Byenkya Fredrick	M	2 nd May 2023

28	Abigaba Leonard	M	4 th May 2023
29	Mayanja Peter	M	4 th May 2023
30	Lumu Peter	M	4 th May 2023
31	Esau Muhumuza	M	6 th May 2023
32	Masanga Dan	M	6 th May 2023
33	Tumuhaise Sylvia	F	4 th May 2023
34	Aganyira Hannah	F	8 th May 2023
35	Alexander Mambya	M	8 th May 2023
36	Alleluia Mugisha	M	4 th May 2023
37	Can. Matovu Christopher	M	10 th May 2023
38	Can. Ezira Tibenda	M	10 th May 2023
39	Bagaya Doreen	F	10 th May 2023
40	Can. Isingoma	M	10 th May 2023
41	Isingoma Edward	M	12 th May 2023
42	Asaba Charles	M	12 th May 2023
43	Amanyire Christine	F	15 th May 2023
44	Churchill Mulinde	M	15 th May 2023
45	Charity Alinda	F	15 th May 2023
46	Komulubuga Dick	M	17 TH May 2023
47	Kusiima Docus	F	17 th May 2023
48	Florence Batala	F	17 th May 2023
49	Birungi Grace	F	19 th May 2023
50	Ayebale Immaculate	F	19 th May 2023
51	Joyce Kyamanywa	F	28 th May 2023
52	Julius Basandara	M	28 th May 2023
53	Kabateraine Alice	F	27 th May 2023
54	Karuhanga Patrick	M	27 th May 2023
55	Kwagala Docus	F	27 th May 2023
56	Lay Can. Asiimwe Christopher	M	2 nd June 2023
57	Tumuhaise Lillian	F	2 nd June 2023

58	Mbabazi Monica	F	4 th June 2023
59	Nsiimire Christine	F	4 th June 2023
60	Evelyn Turumanya	F	4 th June 2023
61	Rector Bugambe	M	6 th June 2023
62	Rev. Bigirwenkya Fredrick	M	6 th June 2023
63	Speciozia De Queen	F	8 th June 2023
64	Tushabire Justine	F	9 th June 2023
65	Atuhira Robert	M	9 th June 2023
66	Kanyesige John	M	9 th June 2023
67	Engineer Katahaire Abel	M	15 th June 2023
68	Dr. Deo Ochwo	M	15 th June 2023
69	Amanyire Matthew	M	15 th June 2023

Appendix (Vii): UGANDA CHRISTIAN UNIVERSITY INTRODUCTION LETTER.



**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

10th December, 2022

The Chairperson,
UCU Research Ethics Committee

Dear Professor Peter Waiswa,

RE: INTRODUCTORY LETTER FOR IRUMBA ELEAZAR.

Greetings from Bishop Tucker School of Divinity and Theology (BTSDT)!

This serves to introduce the above named; Irumba Eleazar, our Doctoral student pursuing a PhD in Theology.

Eleazar is seeking for Research Ethics Approval after successfully defending his proposal at the BTSDT for the award of the above mentioned degree.

The approved proposal is under the supervision of Associate Professor Edison Kalengyo entitled; **Environmental Stewardship by the Church of Uganda in the Albertine Region: A Case of Bunyoro Kitara Diocese.**

We look forward to the UCU-REC review and approval and guidance on how to obtain clearance from Uganda National Council for Science and Technology (UNCST).

Thank you so much for your help.

Yours faithfully,

Professor Christopher Byaruhanga (Rev Dr)
Dean, Bishop Tucker School of Divinity and Theology
cbyaruhanga@ucu.ac.ug
cc. Directorate, Postgraduate Studies, UCU

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Ugandachristianuniversity @UCUniversity, Founded by the Province of Church of Uganda, Chartered by the Government of Uganda.

Appendix (Viii): UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY LETTER OF APPROVAL



Uganda National Council for Science and Technology (Established by Act of Parliament of the Republic of Uganda)

Our Ref: HS2675ES

2 March 2023

Irumba Eleazar
Uganda Christian University
Mukono

Re: Research Approval: The environmental stewardship by the church of Uganda in Albertine region- a case of Bunyoro-Kitara diocese.

I am pleased to inform you that on **02/03/2023**, the Uganda National Council for Science and Technology (UNCST) approved the above referenced research project. The Approval of the research project is for the period of **02/03/2023** to **02/03/2024**.

Your research registration number with the UNCST is **HS2675ES**. Please, cite this number in all your future correspondences with UNCST in respect of the above research project. As the Principal Investigator of the research project, you are responsible for fulfilling the following requirements of approval:

1. Keeping all co-investigators informed of the status of the research.
2. Submitting all changes, amendments, and addenda to the research protocol or the consent form (where applicable) to the designated Research Ethics Committee (REC) or Lead Agency for re-review and approval **prior** to the activation of the changes. UNCST must be notified of the approved changes within five working days.
3. For clinical trials, all serious adverse events must be reported promptly to the designated local REC for review with copies to the National Drug Authority and a notification to the UNCST.
4. Unanticipated problems involving risks to research participants or other must be reported promptly to the UNCST. New information that becomes available which could change the risk/benefit ratio must be submitted promptly for UNCST notification after review by the REC.
5. Only approved study procedures are to be implemented. The UNCST may conduct impromptu audits of all study records.
6. An annual progress report and approval letter of continuation from the REC must be submitted electronically to UNCST. Failure to do so may result in termination of the research project.

Appendix (ix): INFORMED CONSENT FORM

INFORMED CONSENT FORM

Title of Research: Environmental Stewardship by the Church of Uganda in the Albertine Region: A Case of Bunyoro Kitara Diocese

Principle Investigator: Irumba Eleazar; Tel. contact +256-776368359

Affiliated to Uganda Christian University, Department of Divinity and Theology P.O Box 4, Mukono, Uganda.

1. Introduction and Purpose of the Study

The proposed study will examine the role played by the church in environmental stewardship.

It seeks to establish the theological and ethical approaches that aid to effective environmental stewardship in Albertine Region.

2. Description of the Research

The main objective is to examine the role played by the church in environmental stewardship and establish theological and ethical practices for effective environmental stewardship in the Albertine Region.

3. Subject Participation

A total of 30 key informants will be considered and 200 respondents will be selected randomly to participate in the mixed survey. The sample size for the study will be determined at the point of saturation (that is to say), the researcher will interview respondents until no new data was emerging.

4. Potential Risks and Discomforts

Some participants may keep confidential information; they will be reluctant to volunteer to provide this valuable information to the study. This will be minimized by thoroughly explaining to them the purpose of the study and assuring them that whatever information they share will be kept confidential. Fear among respondents will be very conscious when releasing any information to third parties for fear of being easily identified. The researcher will agree with the respondents that



Appendix (x): Plagiarism Report



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Paddy Irumba

PI13

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