



**Climate change and the United Church of Zambia:
An indigenous African theological response**

Submitted by

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Declaration

I Christopher Njovu (220101311), hereby declare that the master research paper entitled "Climate change and the United Church of Zambia: An indigenous African theological response" completed under the College of Humanities of the University of Kwa Zulu Natal in Theology and Development, is a work of my own and an original contribution to the academic field of study.

The research paper is an honest reflection of my investigations, analysis, interpretation, and conclusions derived from sources that I have cited in the bibliography. I have complied with the ethical principles of academic integrity, ensuring that all ideas, words, and concepts are appropriately referenced and acknowledged.

I affirm that the research paper has not been submitted to any other academic institution for a degree or qualification. Furthermore, I grant the University of KwaZulu-Natal permission to use the research paper for academic purposes as deemed appropriate.

Signature  Date: 30th September 2024

As the candidate's supervisor, I approve this research for submission


Signature Date: 13 October 2024

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Dedication

I dedicate this research paper to my loving wife, Lorraine Gondwe Njovu, whose unwavering support, love, and encouragement have been the driving force behind my academic journey. Your support has been immense, and I could not have done it without you. Thank you for being my partner in this journey.

To the rural community that has been affected by climate change, I dedicate this work to you. Your unwavering resilience in the face of natural disasters and changing weather patterns has inspired me to research and contribute to finding appropriate African theological responses to climate change. I hope that the findings of this research will contribute to the development of more sustainable and resilient communities.

Finally, I dedicate this work to the United Church of Zambia, whose willingness to provide me with the necessary information and support has informed my research and understanding of climate change as well as African theology. I appreciate your unwavering support, and I hope that the findings of this research will contribute to the development of a theology that takes into account the unique challenges and opportunities presented by climate change.

Abstract

This thesis purpose is to explore the need for an appropriate indigenous response to climate change within the United Church of Zambia (UCZ). The thesis argument is that the UCZ's inadequate response to climate change is due to the absence of a suitable African theological approach. Therefore by determining an appropriate African theological response, the thesis seeks to address the impact of climate change on communities, including the UCZ, in Zambia. It also aims at identifying African resources that can be drawn upon to mitigate climate change and advocates for a more holistic approach that considers social, economic, and environmental factors. In order to achieve these goals, the study utilizes a qualitative method, involving observations, and analysis of textual or visual data. The findings highlighted are that, the UCZ has insufficient response to climate change and the thesis recommends the enhancing of knowledge, understanding of climate change and indigenous knowledge among church leaders. Ultimately, the study emphasizes the urgency of responding to climate change within faith-based communities and underscores the critical role of theology in influencing positive action towards a sustainable future.

Key words: climate change, indigenous response, United Church of Zambia (UCZ), African resources, theological response, environmental factors.

List of acronyms and abbreviations

AR4: Fourth Assessment Report

ATR: African Traditional Religion

CCZ: Council of Churches in Zambia

CDSJC: Community Development and Social Justice Committee

COP: Conference of the Parties

COVID-19: Coronavirus Disease 2019

FAO: Food and Agriculture Organization

GBV: Gender-Based Violence

GHGs: -Green House Gases

GDP Gross Domestic Product -

HIV: Human Immunodeficiency Virus

IK: Indigenous and Local Knowledge

IPCC - Intergovernmental Panel on Climate Change

IPS: Inter Press Service

LWF: Lutheran World Federation

NGOs: Non-Governmental Organizations

UCZ - United Church of Zambia

UMC: United Methodist Church

UNFCCC: United Nations Framework Convention on Climate Change

UN -United Nations

UNEP-United Nations Environment Programme.

WCC: World Council of Churches.

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY.

1.1. Introduction.

One of the most pressing global calamities that pose considerable risks to the development of human rights and social justice worldwide is climate change. The impact of climate change on already disadvantaged and vulnerable communities in underdeveloped countries, such as Zambia, is felt more acutely by these communities than by those in developed countries. In Zambia, where droughts and floods have become more frequent and extreme, rural communities struggle to adapt to the changing climate, leaving them at risk of displacement, hunger, and poverty. Despite their ecological stewardship precepts, Christian communities have not been exempt from the detrimental effects of climate change, such as extreme weather events and food insecurity. Among these communities are members of the United Church of Zambia (UCZ): they have seen their livelihoods and well-being threatened by climate change. Climate change is threatening the very existence of Christian communities in various parts of the world. Despite the urgency of this issue, the UCZ has yet to fully integrate climate change into its theological framework, leaving communities without the guidance and resources needed to combat its effects. This study seeks to address this gap by exploring an indigenous theological response to climate change by the UCZ. By delving into the cultural and spiritual values of the local context, this study aims to recognize effective strategies for mitigating the negative effects of climate change, which is essential for enhancing the environmental, economic, and social well-being of communities in Zambia. This chapter will provide a broad overview of the background, research questions, objectives, and significance of the study.

1.2 Background to the Study.

In 1992, the Framework Convention on Climate Change held by the United Nations defined climate change as "a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere" (UN 92:3), which is in addition to natural climate variability observed over comparable periods. While human activity has been identified as

a major contributor to negative environmental impacts, specifically due to male ownership and control over resources, climate change poses an effective obstacle to the continued progress of human rights, leading to existing inequalities being exacerbated (Cameron *et al.*, 2013:2–3). Climate change exacerbates existing inequalities, social, political, and economic marginalization, posing a direct threat to human rights commitments. Limited access to resources, vulnerability to environmental changes, and historical marginalization put Indigenous communities at greater risk. As Touchier (2014:13) argues, "Climate change is increasing the frequency and intensity of heat waves, floods, droughts, and storms, which pose direct and indirect threats to human safety."

The Intergovernmental Panel on Climate Change (IPCC) reported that "climate change is expected to cause a significant reduction in the availability of freshwater, especially in regions already facing scarcity" (IPCC, 2014:16). These impacts can lead to human rights violations, such as forced displacement and loss of livelihoods, making climate change a critical issue concerning human rights. Zambia, like many other nations, is facing severe consequences of climate change that aggravate these violations, including increased droughts and food insecurity.

According to a report by Climate Links (2016), Zambia will experience increases in temperature, more extreme weather, and increased rainfall variability. These changes will drastically impact agriculture, water resources, human health, ecosystems, energy, and infrastructure, which could deny fundamental human rights. Agriculture, which is the primary source of livelihood, has been negatively affected by climate change, leading to increased poverty and unsustainability (Lupele, 2020:3). Furthermore, Mac Gregor (2010:3) observed that "despite contributing the least to climate change, women and children are most negatively impacted due to their traditional social roles as caretakers and their low social status as the poorest and most vulnerable members of society." This study observed that The United Church of Zambia (UCZ) has similarly been negatively affected by climate change, yet it lacks a theological framework that can facilitate an adequate response to the 'double earth crisis.'

As an ordained minister of the UCZ, the researcher observed that although the church has tackled social issues such as HIV, GBV, corruption, and political violence in its liturgy and special Sunday services, climate change still receives minimal attention, despite its considerable impact on livelihoods in Zambia. This concurs with Banda (2020), who confirms Reverend Suzanne Malate's statement in an interview with the Inter Press Service (IPS) in Phiri's (2014) article, where she highlights the widespread misconception by churches regarding climate change, resulting in a significant lack of involvement in climate issues over the last decade. Given this background information, it is important to question how the UCZ has responded theologically to the climate injustice they are faced with. What methods and strategies can be applied to mitigate its impact? Therefore, this study addresses the question of the African indigenous theological response to the body of knowledge on climate change and the church in Zambia.

1.3. Statement of the Problem

In Zambia, climate change stands out as one of the most urgent challenges faced today. However, it is concerning that this critical issue has not been fully integrated into the theological framework of the United Church of Zambia (UCZ). This gap in understanding and response limits the UCZ's collective ability to address the moral and ethical implications of environmental degradation and its profound effects on vulnerable communities. Without a robust theological engagement with climate change, the UCZ risks missing a vital opportunity to guide its congregation in fostering stewardship of God's creation and advocating for justice in the face of ecological crisis.

The theological framework is the religious foundation of a religious organization, such as the UCZ. This refers to the overall design of conscientious theories, education, and laws that guide and attract members' understanding of the divine, moral principles, and what it means to live a devotedly discharging life. The theological framework within the UCZ provides a foundation for defining conscientious texts, understanding destiny, and discriminating moral guidance. In the framework of the UCZ, the religious foundation surrounds the particular beliefs, education, and laws that shape the understanding of Christianity and guide the conduct and arrangement of the church's jurisdiction.

This framework influences how the UCZ community sees and engages with differing social, ethical, and referring to practices or policies that do not negatively affect environmental issues. However, this lack of integration has left rural communities vulnerable to its adverse effects. This thesis aims to explore the challenges faced by the UCZ in addressing climate change and identify effective strategies for combating its negative effects; it also aims to assess how an African indigenous theological approach impacts the environmental, economic, and social well-being of communities in rural Zambia. Furthermore, this study seeks to examine the cultural and spiritual values of the local context and how they can be integrated into the theological response to climate change in Zambia.

Despite climate change being one of the most pressing issues in Zambia, it has not been fully integrated into the theological framework of the United Church of Zambia (UCZ). This lack of integration hinders the church's ability to effectively address and respond to climate change, leaving rural communities vulnerable to its adverse effects. There is a need for the UCZ to develop an indigenous theological approach that incorporates climate change, considering local cultural and spiritual values to combat the negative effects and improve rural sustainability in Zambia. The objective is to assess an indigenous theological response to climate change in Zambia, which accounts for local values and effective strategies to combat negative effects, improving rural sustainability through a proactive and holistic approach. The research problem addressed in this thesis is the necessity for the United Church of Zambia (UCZ) to assess an appropriate African indigenous theological approach to mitigate the negative effects of climate change in Zambia.

1.4. Research Questions.

Having established the background, motivation, and purpose of this study, the main research question is: *what would an appropriate indigenous African theological response to climate change in Zambia by the UCZ be?* From this question, the following sub-questions were constructed:

1. What impact has climate change had on Zambian communities, including the UCZ, in Zambia?
2. What African resources exist that can be drawn upon to mitigate climate change in Zambia?

3. What would be the appropriate indigenous African theological response to climate change in Zambia by the UCZ?

1.5. Research Objectives.

1. To shape this study, the following objectives were raised:
2. To analyze the impact of climate change on communities in Zambia, including the UCZ.
3. To determine which African resources exist that can be drawn upon to mitigate climate change in Zambia.
4. To propose an indigenous African theological response to climate change in Zambia by the UCZ.

It should be stated that while this study attempts to answer the sub-questions and fulfill the stated objectives, the primary aim is to explore an indigenous theological response to climate change by the UCZ within the Zambian context.

1.6. Significance of the Study.

The study is a significant contribution to the ongoing discussions about the church's responsibilities in addressing the negative effects of climate change. It emphasizes the urgent need for a response that is informed by indigenous perspectives. By critically examining the existing state of affairs, the study endeavors to provide theoretical and empirical insights into the indigenous methods and strategies that may be employed by faith-based institutions such as the UCZ to effectively respond to climate change. Such a contribution has the potential to advance scholarship in the field of sustainability, as well as policymaking, and in due course inform practical solutions for a sustainable future. Given the urgency of climate change, this study aims to explore the need for an indigenous theological response to climate change by the UCZ.

1.7. Motivation of the Study

The motivation for this study has been driven by the acknowledgment of the imperative need to address the negative effects of climate change in Zambia, predominantly in rural communities. The researcher may be motivated by a desire to empower the UCZ to effectively support and guide

its members in facing environmental challenges. Additionally, the researcher may be inspired by the potential for integrating local cultural and spiritual values into theological responses to climate change, leading to more sustainable and holistic solutions. Ultimately, the motivation for the study could stem from a commitment to promoting environmental stewardship, social justice, and community well-being in the face of climate change.

1.7.1. Need for Contextualization.

This study seeks to investigate a uniquely African response to climate change formulated by the United Church of Zambia (UCZ), acknowledging the importance of contextualized theological viewpoints that resonate with the African experience. According to Steynor and Pasquini (2019), the context for climate services in Africa is unique and significantly different from that of developed countries. Therefore, the UCZ needs to consider the unique environmental and societal factors in Africa when addressing climate change.

1.7.2. Incorporating African Cultural and Spiritual Identity into Theology.

The relevance of an indigenous African theological response to the unique worldview and belief system of the UCZ needs to be acknowledged. Mbiti (1991) asserts that Africa possesses a cultural and spiritual identity with a distinct belief system that should be considered when developing the church's theology. Thus, for the UCZ to effectively tackle climate change, it must be able to comprehend and integrate African culture and spirituality into its theological approach.

1.7.3. Developing a Relevant Theology for the African Context.

The need for the UCZ to develop its own theological response that considers the cultural and historical context of Africa is critical for the development of a deeper sense of connection and relevance to the local community, ensuring that spiritual teachings resonate with their lived experiences and traditional beliefs of the Zambian community. Idowu (1973) notes that the church in Africa must develop a relevant theological approach that takes into account the social, economic, and political realities of the continent. According to Teilhard de Chardin (2008), humans exist not merely as physical beings in a spiritual realm but rather as spiritual beings navigating the physical

world. This highlights that the church's theology must not only reflect spiritual truths but also engage critically with the pressing issues of our time, including climate change. By grounding their theological framework in the lived experiences and challenges faced by local communities, the UCZ can foster a more relevant and impactful response to environmental concerns. Therefore, the UCZ must not rely solely on European theology but develop a contextual and relevant theological approach that addresses climate change.

1.7.4. Addressing Pressing Social Issues alongside Climate Change.

The importance of addressing prevalent social issues as part of the African theological response to climate change is emphasized. Orobator (2010) highlights the need for an African theological response that addresses issues such as poverty, corruption, and social injustice. To effectively address climate change, the UCZ needs to be proactive in tackling these issues in its theological approach. Therefore, the UCZ must prioritize addressing poverty, corruption, and social injustice concurrently while developing its theological approach to climate change. Addressing these pressing social issues is crucial for improving the lives of African people and effectively addressing climate change within the Zambian context.

1.8. Limitations of the Study.

The limitations of this study can be discussed in several aspects. Qualitative research on an indigenous African theological response by the UCZ faces limitations such as subjectivity and bias, a lack of quantifiable data, limited scope, generalizability, time and resource constraints, and the potential for misinterpretation. Acknowledging these limitations is crucial for researchers to ensure the validity and reliability of their findings.

1.9. Outline of Chapters

A total of seven chapters are covered in this study, with subheadings within each chapter to enrich the related discussions. Each study question is answered in each of the chapters to determine an indigenous theological response to climate change by the UCZ.

Table 1.1-chapter outline.

Chapter	Scope
1 Introduction	This chapter introduces the study. It gives the background to the research, the research questions, and the research objective.
2 The Effects of Climate Change on Zambia and the Need for a Response	The chapter of the research study delves into literature review of climate science, exploring anthropogenic and natural causes of climate change. It examines the global impact of climate change before focusing on its effects in Zambia, particularly on women in various sectors. The chapter discusses key drivers of climate change, the reduction in food supply, and the complexities of addressing climate change. It also explores different responses, emphasizing a just response, mitigation efforts, and adaptation strategies.
3.The Global Church Theological Response to Climate Change.	The Chapter discusses the ecological roots of the crisis, the need for a greening response, and the importance of climate justice. Various religious responses to climate change are explored, including those from the World Council of Churches, Catholics, Lutherans, Anglicans, United Methodists, and the UCZ. The chapter underscores the significance of religious and theological perspectives in addressing climate change.
4 An Indigenous African Theological Response to Climate Change in Zambia.	The chapter presents the theoretical frameworks relating to African tradition, religious values, and practices. It explores the implication of respect for the land in African societies and analyzes the Igwebuikwe Framework. It further develops a conceptual framework to understand how traditional African values shape attitudes towards the environment. This chapter serves as a foundation for understanding the cultural and spiritual influences on responses to climate change within African communities.

<p>5. Research Design and Methodology</p>	<p>The research study outlines the research design and methodology. It discusses different research approaches, including quantitative, mixed methods, and qualitative approaches. The chapter details collection methods, such as secondary sources, as well as the analysis of existing literature and archival search techniques. Criteria for inclusion in the study are also elucidated, providing insight into the selection process for data and information.</p>
<p>6 Findings</p>	<p>This chapter is the presentation of results, findings and analyses on what would be an indigenous African theological response by the United Church of Zambia, showing evidence from the findings of the research. The chapter further examines the significance of indigenous knowledge in addressing climate change and discusses ways to integrate this knowledge into theological frameworks that respond to this pressing global challenge.</p>
<p>7. Conclusion and Recommendations</p>	<p>This chapter concludes the study by summarizing the key finds research findings in the preceding chapters and making recommendations for further research.</p>

1.10. Summary.

This chapter emphasizes the critical need for an indigenous theological response to climate change as articulated by the United Church of Zambia. It highlights the importance of developing a context-specific perspective that draws on local traditions, cultural wisdom, and community values to effectively address environmental challenges within the African context. As outlined in the introduction and background, this thesis focuses on exploring an African indigenous theological response to climate change within the UCZ, highlighting the pressing issue of climate change and its detrimental effects on vulnerable communities in Zambia, particularly rural areas. The thesis seeks to address the gap in the UCZ's theological framework by scrutinizing the impact of climate change on its members and proposing effective strategies for mitigation. Recognizing the urgent need to address these negative impacts, the researcher aims to empower the UCZ to integrate local

cultural and spiritual values into their theological framework, ultimately promoting environmental stewardship, social justice, and community well-being. The study seeks to determine an African indigenous and theological response to climate change in Zambia by examining its impact on communities, including the UCZ, identifying African resources that can be drawn upon for mitigation efforts, and incorporating local perspectives to develop practical responses. By creating a relevant and contextualized theological response that addresses pressing social issues alongside climate change and adds local perspectives, this study seeks to provide a comprehensive and culturally relevant approach to tackling climate change in Zambia.

CHAPTER 2.

REVIEWING LITERATURE ON CLIMATE CHANGE.

2.1. Introduction.

Climate change is a complex issue that significantly impacts many countries, particularly those in the developing world, such as Zambia. Understanding the precise effects of climate change on vulnerable communities such as changes in agricultural productivity, the availability of water, and health risks is crucial for the development of an effective response to address the issue of climate change. This includes exploring adaptive strategies, community-based initiatives, and policy measures that can address these pressing challenges.

This chapter aims to analyze the literature on climate change and its effects, emphasizing the importance of comprehending diverse responses and the incorporation of indigenous knowledge in developing effective solutions. The chapter discusses the causes and effects of climate change, including the impact on agriculture, water, health, and households, particularly women. The chapter explores the paradox that developing countries face in balancing economic growth with the reduction of greenhouse gas emissions. The research objectives are to determine the impact of climate change on the community and highlight the significance of comprehending diverse responses to the issue. The chapter is located within a broader thesis and provides an overview of climate science and the impact of climate change in Zambia.

2.2. Climate science.

According to Balasubramanian (2013), “the geographic distribution of all life on Earth is controlled by the geomorphic conditions, climatic factors, and the availability of various natural resources. Therefore, any change in the geomorphic conditions, climatic factors, and natural resources affects the ecological system (Wassie, 2020). The process ends with amplified environmental consequences, which lead to various socio-economic problems, including political instability, marginalization, poverty, and recurrent natural hazards (Wassie, 2020).

Understanding climate is a crucial component of this study because it plays a significant role in controlling global ecosystems, commonly referred to as biomes. According to Balasubramanian

(2013), a biome is an area where specific plants and animals thrive due to the favorable climatic conditions that satisfy their requirements. According to Gettelman and Rood (2018:12), "climate is a distribution of all possible weather states." Benestad (2010), in amplifying Gettelman and Rood's description of climate, further describes climate as a system comprising solar heating, the atmosphere, oceans, ice, snow land processes, ecosystems, and human activity. This system is driven by the sun's radiant energy in the natural processes on Earth, like photosynthesis, evaporation, transpiration, and several biogeochemical processes (Balasubramanian, 2013).

According to Gettelman and Rood (2018), the atmosphere mediates the flow of energy between the sun and the Earth through the action of clouds and greenhouse gases. In this system, the most critical interactions and flows in the climate system concern the regulation of carbon, which includes carbon dioxide (CO₂), and water (H₂O), which are critical for life (Gettelman and Rood, 2018). Potzick (2018) observed that any increase in atmospheric CO₂ will lead to an increase in global average surface temperature through the trapping of solar radiation. Balasubramanian (2013) argued that the type of ecosystem and all life on the climatic conditions of the atmosphere near the Earth's surface in the region. Further, Balasubramanian (2013) argued that the climate of a region will determine the plants that will grow there, and what animals will inhabit a place. Furthermore, any change in climate patterns will affect the ecosystem and all life, either negatively or positively.

2.2.1. Anthropogenic.

Anthropogenic activities are defined as "human actions and processes that impact the environment, particularly those contributing to pollution and climate change, such as burning fossil fuels, deforestation, and industrial processes (IPCC, 2014)." The United Nations (2022) holds that anthropogenic activities **such as** the burning of fossil fuels, are the main drivers of climate change. When burned, they release greenhouse gases into the atmosphere, which trap the sun's heat and cause the Earth's temperature to rise. This is acknowledged by scholars like Emanuel (2018) and Glaab (2017), who widely accept anthropogenic activities to be the cause of climate change, consequently leading to greenhouse gases (GHGs) that alter the global atmosphere negatively.

However, not all agree with the anthropogenic argument. The opponents of anthropogenic global warming, like Brown and Sonwa (2015) and Christian Green (2020), contend that the cause of global warming is natural phenomena, and the contribution of humans is rather minimal in causing harm. In contrast to the anthropogenic argument, Brown and Sonwa (2015) and Christian Green (2020) explain that the greenhouse gas emissions which humans generate are too small to substantially change the Earth's climate and that the planet can absorb those increases. Supporting this anthropogenic argument, Arnold (2011), cited in Buwani and Dolamo, (2019), and Kurukulasuriya *et al*, (2006), in Ambukege, (2019), stress that anthropogenic activities are the main drivers of climate change that increase the concentrations of GHGs in the atmosphere.

But Kurukulasuriya *et al*, (2006) and Arnold's (2011) arguments are refuted by Posner and Weisbach (2010), who disputed the anthropogenic factor, claiming that climate change is a natural occurrence. It is held and contended that the warming that has occurred over the 20th century has resulted primarily from natural processes such as fluctuations in the sun's heat and ocean currents (Posner and Weisbach, 2010). Disputing further, Arnold (2011) argues that the theory of human-caused global climate change is based on questionable measurements, faulty climate models, and misleading science. Mawere (2013) contributes to the climate change debate by arguing from an African indigenous perspective. He maintains that the anthropogenic factor has traditionally been considered taboo, whereas the indigenous viewpoint acknowledges that climate change is caused by unregulated human activities (Mawere 2013). This position aligns with the thesis's broader argument, which also supports the premise that the unregulated exploitation of nature by humans is a leading cause of climate change.

One of the driving forces behind climate change is the oppressive, repressive dynamic that motivates those in power to control and dominate the resources of life (Rasulo, 2022). However, Kaoma (2015) in Ngwena (2020) explains that notions of 'dominion' are alien to the African philosophy of life, as they lead to transgression. Therefore, any transgression against humanity or nature is taboo as atrocities that will pollute both current and future generations (Kaoma 2015). In the thesis view, Ngwena (2020) and Kaoma (2015) indicate that the African philosophy of life is concerned with the fair use of resources of life. The thesis concurs with Maseko and Soko (2022)

that in African environmental conservation knowledge, anthropogenic practices are considered taboo since human existence is believed to rely on a healthy and thriving environment. African environmental conservation knowledge has been defined by Mawere (2013) as the encompassing traditional practices and beliefs that emphasize the sustainable use and protection of natural resources, often integrating spiritual, cultural, and ecological aspects. In contributing to the argument, Maseko and Soko (2022) further argue that African conservation practices remind humanity that there are options that go beyond simply “need” versus “greed” but extend to others like the sustainability of natural resources. Prioritizing sustainability keeps us mindful of the finite nature of our planet’s resources and therefore, highlights the need to safeguard it sustainably.

2.2.2. Natural.

However, climate change may also be attributed to nature (Kumar, 2021). In support of Kumar, Posner and Weisbach (2010), who disputed the anthropogenic factor, claiming that climate change is a natural occurrence and thus argued that GHG emissions are minimal in changing the Earth’s climate, distributed unevenly. However, it is also widely accepted among scholars that climate change has affected every continent and predominantly, with Africa as the most affected continent due to its dependence on natural resources (Brown and Sonwa, 2015; Christian Green, 2020).

It has been accepted globally that agriculture is the main contributor to GHG emissions (Allen *et al.*, 2020). It has been estimated that agriculture contributes between 10 and 20 percent of the total global anthropogenic GHG emissions (Allen *et al.*, 2020). In agreement with Allen *et al.*, Ntinyari and Gweyi-Onyango (2021) cited agricultural production as the leading sector in emissions of GHG to the atmosphere, followed by energy and transportation. This makes agriculture both a contributor to and a victim of climate change consequences (FAO, 2014). This scenario is one of the greatest challenges climate change poses to most developing countries, including Zambia (Kaddo, 2016). Kaddo (2016) further advances that for countries to ensure they have access to energy for quality of life and economic development, the very use of fossil fuels is necessary. This is all the more reason this research suggests that the UCZ should take a keen interest in seeking an indigenous response to climate change impacts, as a number of its members are in the agriculture sector.

While it is widely recognized that addressing climate change requires a reduction in fossil fuel use and an increase in renewable energy sources (IPCC 2012), there is ongoing debate and discussion about the best strategies and approaches for achieving this transition (IPCC 2012; IPCC 2017). Rickards (2020, in Porter *et al*, (2020)), considers the call for the reduction of the use of fossil fuels an injustice to developing nations. Rickards contends that the developed nations have already benefited from fossil fuel- and colonialism-enabled economic development, and they now occupy positions of privilege (Rickards, 2020). The other injustice is the call for nations to adapt to climate change, yet adaptation depends greatly on the adaptive capacity or adaptability of an affected system, region, or community to cope with the impacts and risks of climate change. Unlike developing nations, including Zambia, the developed nations are well capable of adapting to the negative side effects of the development trajectory they have helped generate and from which they have largely benefited from. (Rickards, 2020). Porter (2020) argues that the developed nations are the largest producers of the emissions that trigger climate change; according to Porter, this is evident in how the privileged nations and groups transfer the impact of the problems they cause to burden the poor (Porter, 2020).

The literature has shown that climate change is one of the most complex and challenging issues the world is facing; it has resulted in inequality and caused disadvantaged groups to suffer a disproportionate loss of income and assets (Mulenga and Kabisa, 2021; Mokoena and Dolan, 2020). Predominantly, Africa, which has contributed less as a continent, is the most affected due to its dependence on natural resources (Philip, 2020). While mitigation measures have called for the reduction of the use of fossil fuels to promote justice (IPCC, 2014). However Broberg, (2019) observed that this has proved to be an injustice for developing nations, as developed nations have benefited from fossil fuel- and colonialism-enabled economic development and now occupy positions of privilege.

According to the African indigenous perspective, Maathai (2011) holds that the land is considered sacred and holds motherly status, and cannot be viewed as one's sole property but this is rather as

communal. Secondly, in the African perspective, egoism does not exist within the realm of social and spiritual interconnectedness of all life forms (Ngwena, 2020). These perspectives acknowledge that unregulated human activities are the root causes of climate change and underscore the significance of comprehending the diverse responses to the issue in order to devise effective solutions (Ngwena, 2020; Maathai, 2011). Additionally, African environmental conservation knowledge, which prioritizes sustainability and equitable utilization of natural resources. Taken together, these viewpoints have the potential to influence and guide indigenous responses to climate change.

2.3. An overview of the impacts of climate change.

It is well established that climate change has been predominantly triggered by anthropogenic activities (IPCC, 2012). The harmful effects of these activities have been underscored by Nejma Tamoudi and Michael Reder, as quoted in Tahseen Jafry (2019), who observed that such actions pose a significant threat not only to the climate but also to human existence as a whole. This alarming reality prompted Helena Kennedy (2015) to make a fervent call for humanity to actively respond to the exigencies posed by climate change.

Tracey Skillington (2017) contends that the consequences of climate change are far-reaching and multifaceted. Among the significant impacts are the increased rates of poverty and migration, as well as the prevalence of recurring droughts affecting various regions. Consequently, climate change adversely affects agriculture, which in turn leads to a plethora of social problems, including heightened vulnerability to HIV and AIDS, food insecurity, heat stress, flooding, the extinction of certain plant and animal species, heightened risks of wildfires, and the emergence of pest and pathogen outbreaks (IPCC, 2014; Panjoa, 2021; Tubiello, 2012).

Kennedy (2015) argues compellingly that the negative impacts of climate change should not be viewed merely as an economic, political, or scientific concern. Rather, they are deeply intertwined with legal issues, particularly as they relate to human rights, which are increasingly compromised in the face of climate-driven adversities (Nicholas, 2016). Moreover, Cameron *et al.* (2013), as

cited in Philippus Wester *et al.* (2019), contend that a significant proportion of people living in poverty, who are disproportionately affected by these issues, reside in developing nations.

It could be argued that scholars have made significant progress in identifying the various causes and effects of climate change, There is still, a critical gap in the discussion of effective responses: indigenous theological perspectives, which can provide unique insights into managing and mitigating food insecurity exacerbated by climate change (Leal Filho *et al.*, 2021). These indigenous techniques frequently emphasize sustainability, environmental stewardship, and community collaboration as critical components for resolving the complex difficulties faced by climate change. Engaging with different views is critical not only for broadening our understanding of climate resilience, but also for promoting inclusive solutions that value cultural knowledge and practices.

Therefore, indigenous communities need to respond effectively to climate change impacts and adapt through various culturally significant lifestyles. However, Leal Filho *et al.*,(2021) observed that the governing framework of climate change response at international, national, and regional levels does not effectively protect Indigenous people's interests, including their culturally valued lifestyles, livelihoods, and resources. This highlights the importance of creating a response to climate change that is grounded in indigenous knowledge, traditions, and practices. By incorporating local perspectives and wisdom, communities can develop solutions that are better suited to their unique cultural and environmental contexts. This approach can help foster resilience, sustainability, and community empowerment in the face of climate-related challenges.

2.4. Climate Change in Zambia.

Given such an overview of the impact of climate change, Zambia, as a developing country, has its own experiences with climate change. According to Mweemba (2014), Zambia is already experiencing climate-related risks such as drought, floods, and high temperatures. Mweemba further observed that since 2000, droughts and floods have alternated in damaging the livelihood possibilities of the rural poor, whose subsistence is dependent on a generally predictable rainfall pattern (Mweemba, 2014). This entails that the recurring climate-related risks are an indication

that Zambia has no indigenous response to climate change and is rather dependent on Western World policies and funding.

The great global injustice is that Africa's contribution to global greenhouse gas emissions is minimal, yet it suffers more than the industrial nations that contribute more (Magrath, 2010: 900). Zambia's GHG profile is dominated by emissions from the land-use change and forestry (LUCF) sector, which is responsible for well over half of the country's emissions (Wilson and Scholes, 2020:189). Zambia is among those countries affected by the great global injustice of climate change (Alfani *et al.*, 2019; 1-2).

2.4.2. Impact of climate change on women.

In many communities, vulnerability to climate change between women and men differs; women are more likely to be vulnerable than men due to socially constructed roles and responsibilities (Dankelman, 2010:59). Siwila (2014:3) contends that the majority of the world's poor and marginalized women experience a higher risk and a greater burden of climate change. Furthermore, Mutume, (2015) noted that climate change is responsible for the reduction of the livelihood, well-being, and standards of living of communities due to climate change. According to research from Perez *et al.* (2015), this has not only affected the women but also has broader implications for community resilience, development, and sustainability. Additionally, Perez *et al.* (2015) argue that it is essential to empower women and marginalized groups to participate in decision-making processes and ensure their needs and perspectives are adequately represented.

2.4.2.1. Gender Inequalities.

Mokena and Dolan (2020) contend that due to gendered social norms and inequalities, women often hold positions burdened by environmental change, such as water collection and smallholder farming, which immediately feel the impacts of drought or disaster. These gendered social norms, such as male ownership of land and assets, have worsened the impact of climate change on women and girls, as they create unequal gendered power relations (Mazingi and Muyumbwa, 2021). It follows that climate change magnifies these burdens in the forms of gender inequities, political disenfranchisement, and economic marginalization (Mokena and Dolan 2020). When resources

are scarce, women and girls take over the production tasks of their households; they spend considerably more time searching for water for household needs, as this is typically a woman's task (Dankelman, 2010).

These women lose their livelihoods and slip deeper into poverty and marginalization they are already suffering from (Dankelman, 2010). Dankelman observed that the men easily migrate to urban areas and find jobs in industries as, as opposed to women who are left to face the impacts of climate change in their lives (Dankelman, 2010). Mazingi and Muyumbwa. (2021) further noted that climate change is affecting girls' lives, making them increasingly vulnerable, leading to school dropouts or early and forced marriages. According to Mutume, (2015), the most inhibiting factor is that women in Africa continue to be denied an education, which is often seen as the only ticket out of poverty. Mutume observed that disparities between girls and boys begin in primary school and widen throughout the entire educational system. These are some of the challenges that most women go through in the context of climate change, as they are also the most affected by natural disasters, and it is also a well-known that women are held responsible for the food security of their households, despite being at the receiving end of the negative impacts of climate change (Mutale, 2021).

2.4.2.2. Impacts of Climate Change on Agriculture.

Like most third-world countries, the agricultural sector in Zambia plays a key role in providing a livelihood for the country's population (Mulenga *et al*, 2020). It has been observed that Zambia's agriculture is mostly dependent on rainfall and is very sensitive to climate change (Couroche, 2010). According to the World Bank (2019, as cited in Ngoma *et al.*, 2021), the agricultural sector is the primary contributor to Zambia's GDP, accounting for approximately 6 percent of the country's GDP and serving as a major employer. Furthermore, the World Bank (2021) states that agriculture plays a crucial role in the growth of the Zambian economy. In its 2018 World Bank report on Zambia, the economy accounted for 4 percent of the GDP (World Bank, 2021). Ngoma *et al.*,(2021), citing Zamstats (2019), report that the agricultural sector has employed approximately 22.3 percent of the workforce, with 4.3 percent in the formal sector and 18 percent in the informal sector.

As reported by FAO (2018), a greater proportion of employed individuals can be found in rural areas (41.1 percent) compared to urban areas (24.7 percent), with only 17.1 percent of males working as unpaid family workers, whereas this figure rises to 52 percent for females. The agricultural labour's sector force has remained the primary source of income and employment for people, especially women and men in rural areas (Lupele, 2020). Ngoma *et al.* (2021) observed that the sector is primarily composed of poor rural subsistence farmers who grow rain-fed maize.

Mulenga and Kabisa (2021) predicted that maize, the country's staple crop, would be the most adversely affected by the impacts of climate change on crop production. In such a scenario, Mulenga and Kabisa (2021) observed that the poor, who depend mainly on rain-fed agriculture for their livelihoods, are greatly disproportionately affected. This cannot be avoided, as Regan (2006, quoted in Mutale, 2021) observed that the livelihoods and food security of poor people depend on the ecosystem goods and services Mulenga *et al.* (2019) noted in the Southern and Western parts of Zambia that they experienced low crop production due to the dependence on the rain-fed nature of production, leaving the sector vulnerable to crop failure. Considering the unpredictable behaviour of climate change, the drought situations experienced before are more likely to recur (Mulenga *et al.*, 2019).

In other areas, such as the District of Mambwe and Lumezi in the Eastern province of Zambia, floods affected over 300 families (Phiri, 2020). Moreover, in the Southern and Western provinces of Zambia, increasing instances of drought and flooding have negatively affected food and water security, water quality, energy availability, and the livelihoods of rural communities (Lupele, 2020). Ngoma *et al.* (2021) reported that agriculture was negatively impacted under both scenarios; the changes in rainfall and temperature resulted in gradual declines in crop yield and production. Climate change is projected to directly reduce net agricultural exports, assets, and household expenditures while also indirectly influencing input prices and off-farm employment opportunities. Agrarian economies are exposed to climate shocks, making rural households vulnerable; (Ngoma *et al.*, 2021; Couroche, 2010).

2.4.2.3. Impact on Households.

The main finding in "Impacts of *climate change on agriculture and household welfare in Zambia: an economy-wide analysis* by Ngoma *et al.* (2021:54) is that climate change is projected to have a more significant negative effect on household expenditure for rural households. In their findings, Ngoma *et al.* (2021) suggest that climate change may lead to reduced expenditures for rural households in the vulnerable Southern and Western Provinces of Zambia, indicating a potential link between climate change and poverty. This demonstrates the interconnectedness between climate change impacts, household welfare, and poverty levels in these regions, emphasizing the need for targeted adaptation strategies to address the underlying vulnerabilities exacerbated by climate change.

According to Makondo, Chola, and Moonga (2014: 395) climate change has created a gender disparity in households. It has seen an increase in women-headed households and a great reduction in the number of male-headed households in agro-ecological areas. This scenario is attributed to the increased vulnerability resulting from male out-migration in search of greener pastures. This, in turn, has increased the workload for women, thus making them more vulnerable (Chindarkar, 2012). Habtezion's findings yield the same result as Chindarkar, stating that "women are overly burdened with household work and caring for children, the sick, and the elderly" (Habtezion, 2016:4). Ngoma *et al.* (2021) observed a reduction in households' crop yields, with findings indicating that men's food crop yields are greater than those of women, despite the fact that men are almost half the number of women. These disparities contribute to women's increased vulnerability to climate change impacts, as they are frequently among the poorest and least educated in their communities. Additionally, Ngoma *et al.* (2021) noted that women are frequently marginalized in political, community, and household decision-making, which restricts their economic opportunities and access to productive resources.

2.4.2.4. Impact on the Water Sector.

The main impact of climate change on the water sector in Zambia is the expected upsurge in floods and droughts. Despite Zambia having 40 percent of Southern African water resources, the country has felt the full impact of climate change, and faced significant consequences as a result (Ngoma *et al.*, 2019). Ngoma *et al.* (2019) attribute the issue to a combination of seasonal and temporal rainfall patterns along with limited investment in social infrastructure. According to their article, "*Impacts of climate change on water resources availability*" in Zambia: *Implications for irrigation development. Environment, Development, and Sustainability*, Hamududu and Ngoma (2019) project that changes in rainfall and temperature will lead to a reduction in national water availability by roughly 13 percent. This would decrease the current volume from about 97 cubic kilometers to approximately 84 cubic kilometers by the end of the century. The impact of reduced water availability will likely increase the distance to access water and irrigation costs, consequently reducing its profitability among smallholder farmers, who tend to have limited capital and capacity to adapt to higher cost structures (Hamududu and Ngoma, 2019).

The reduction in water availability has significant consequences for food security, as it leaves insufficient water for maintaining food gardens (Mulenga *et al.*, 2015). Climate change has exacerbated poverty levels, heightened the frequency of crop failures, changed the duration of the growing season, and is projected to cause a 13 percent decline in water availability by 2050 (Ngoma *et al.*, 2019; Hamududu and Ngoma, 2019). The CSO (2015), quoted in Ngoma *et al.* (2019), estimated that about 54.4 percent of the Zambian population is poor, with the incidence of poverty being highest among small scale farmers at 78.9 percent and medium-scale farmers at 64.5 percent. This makes the Zambian agricultural sector vulnerable because 90 percent of poor farmers depend on the rain-fed agricultural system for their survival.

According to Mulenga *et al.* (2019), these conditions underpin the significant challenge that climate change poses for the Zambian agricultural sector in its efforts to achieve food security and eradicate hunger. Climate change increases unemployment levels, as the rural youth and women may not have the opportunity to enter mainstream urban-based jobs as their male counterparts

(Mulenga *et al.*, 2019). Generally, climate change has limited women's engagement in a variety of development processes (Thomas *et al.*, 2018).

2.4.2.5. Impact on Health.

Scholars such as Goh (2012) noted that climate change, impacts, such as floods, threaten water, sanitation, and hygiene. Floods have been wreaking havoc in communities, destroying roads and bridges, thereby making local mobility difficult, negatively altering livelihoods, and shattering houses (Phiri, 2021). Milupi *,et al.* (2022) cite flooding caused by climate change as a common feature in Zambia, affecting the local people in various ways. Phiri (2016) reveals that floodwaters submerge drinking water wells and pit latrines, resulting in the contamination of water bodies that communities use for household purposes.

The result of this is that common waterborne diseases spread through poor hygiene, putting the entire communities at risk. Common diseases include cholera, dysentery, diarrhea, malaria, bilharzia, and typhoid (Phiri, 2016). Due to floods or storms, the delivery of health services and relief assistance results in food shortages and an increase in malnutrition or starvation (Kalantary 2012). In addition, Goh (2012) observed that women and children are severely impacted by climate change due to the indirect effects of malnutrition, which make them more susceptible to diseases. Goh (2012) further observed that drought also presents short-term impacts on women's health but has long-term effects on children's growth and development in asset-poor households.

2.4.2.6. Impact on Development.

Based on their growth trajectory analysis, Tembo *et al.* (2020) observed a correlation between economic performance and climate variability, as evidenced by significant economic downturns. They attributed this correlation to Zambia's heavy reliance on agriculture and natural resources. Hamududu and Ngoma (2019) contend that the Zambian economy is principally dependent on the exploitation of the natural resources found in its environment. Therefore, managing and caring for these resources is crucial for the socioeconomic development of the country (Hamududu and Ngoma, 2019).

In discussing the impact of development on the environment, scholars offered insights that are worth considering. For instance, Chibuye and Buitendag (2020) argue that economic growth and development projects often neglect the importance of preserving life in a diverse and natural world. They suggest that a more balanced approach is needed to ensure that the needs of both humans and other species are met. Similarly, Boff (1997) notes that when development and environmental protection are at odds, development typically takes priority, resulting in environmental destruction. His words serve as a reminder that we must be mindful of the long-term consequences of our actions and strive to balance economic growth with environmental protection. While current development strategies in industries such as copper mining prioritize human development over environmental concerns, it is essential to consider the consequences of such practices. The destruction of natural habitats and loss of biodiversity can significantly impact the health and well-being of both humans and other species, as well as the planet's overall ecological balance. It is crucial that we find a way to balance economic growth and development with the preservation of our natural world. Only then can we hope to create a sustainable future for ourselves and the planet.

2.5. The Key Drivers of Agrarian Economies.

According to Chinowsky *et al.* (2015), investments in infrastructure, particularly in rural roads, play a crucial role in reducing poverty and promoting economic and agricultural development in agrarian economies like Zambia. Mutale (2021) argues that granting women land rights and access to agricultural inputs will likely bring about economic empowerment and can also be a useful tool for domestic food security. However, the risks of climate change on Zambia's infrastructures have derailed the economic growth, development, and social welfare benefits in Zambia (Chinowsky *et al.*, 2014).

2.6. Reduction in Food Supply

According to the Food and Agriculture Organization (FAO, 2010, cited in Alfani *et al.* 2019:2), the impact of climate change on agricultural trade and development has led to a reduction in food supply. Consequently, high food prices have disproportionately affected the most vulnerable

populations, increasing the risk of hunger and food insecurity. Hertel *et al.* (2018) argue that the increasing frequency of extreme weather events damages infrastructure, disrupts market connections, and limits market participation.

Climate change has resulted in inadequate infrastructure for promoting agricultural commerce, as is widespread and commonly seen in Zambia. This situation is expected to escalate food price volatility and restrict income-generating trade opportunities in the future decades, negatively impacting impoverished communities in rural Zambia (Hertel *et al.*, 2018). Tembo *et al.* (2020) observed that climate change has also threatened Zambia's hydropower sector, which supplies 95 percent of Zambia's electricity to both households and industries. The study further discovered that climate change and other risks associated with hydroelectric power generation include projected dry years, which result in droughts. Consequently, the droughts are likely to reduce runoff and therefore reservoir storage capacity, resulting in reduced power-generating capacity (Tembo *et al.*, 2020).

Jegade (2017) noted that the impact of climate change on the natural resources in Zambia has affected development, which in turn has an adverse impact on communities that have traditionally depended on the collection of natural resources. Jegede cites the communities of Nkoya and Tonga for their traditional conservation lifestyles and practices around reserves, as well as the Lamba people traditionally living on the Copperbelt. Jegede notes that the cultural and spiritual lifestyles of the Tongas in Southern Zambia have also been affected. Settee and Shailesh Shukla (2020) noted that due to climate change, the ecosystem that supported indigenous food has been distorted, creating a threat to food security that existed before colonization. The evidence presented above indicates a growing awareness and responsiveness among humans regarding the impacts of climate change in Africa. However, Zvobgo *et al.* (2022) argue that our understanding of the effectiveness of these adaptive responses across the diverse contexts of Africa remains limited.

2.7 The Paradox of Climate Change.

According to Martins *et al.* (2018), research indicates that fossil fuels are the predominant source of energy for development. Fossil fuels have served as the lifeblood of industrialization, transportation, and power production, enabling society transformation and improving living standards worldwide. However, this development has come at a devastating cost to the environment, and we are now confronted with the urgent need to decarbonize the power sector (Martins *et al.*, 2018).

This situation has left most African countries with a difficult choice between using fossil fuels to support development or finding an alternative way to achieve it. It has placed most African countries in a paradox that shapes their development, as they must use fossil fuels to enhance development, although adaptation offers an alternative. The overarching question that challenges Zambia is to what extent fossil fuels should be used and adapted to represent boundaries to development. In response to this, Leal Filho *et al.* (2021) urge African indigenous communities to adapt to the changes through different mechanisms. They argue that for climate action to be fruitful, indigenous people using indigenous knowledge must be recognized as essential forces in climate solutions.

This situation and research conducted by Leal Filho *et al.* (2021) indicate that African countries, specifically Zambia, face the challenge of balancing development needs and fossil fuel impacts on environments. The question of how much fossil fuel should be used and adapted to represent boundaries to development is crucial in ensuring sustainability and mitigating the effects of climate change.

2.8. Balancing Development and Environmental Consequences.

Counterarguments to the adaptation and transition away from fossil fuels to alternative energy solutions may include concerns about the economic costs of transitioning to sustainable development practices. However, as Chibuye and Buitendag (2020) argue, the costs of environmental destruction are much greater in the long run, and investing in sustainable practices

can lead to economic benefits in the future. Similarly, Boff (1997) noted that the expense associated with environmental devastation consistently surpasses the expenditure required for environmental preservation. Another counterargument offered by Boff is the difficulty of balancing economic development with environmental protection, as earlier alluded to.

However, as Chibuye and Buitendag (2020) argue, there are ways to achieve economic growth without compromising the health and well-being of the planet and its diverse ecosystems. They state, "Economic prospects and developmental projects mostly tend to ignore the existence and sustainability of life in a diverse and natural world" (Chibuye and Buitendag, 2020:5). By prioritizing sustainable development practices, we can ensure that economic growth is achieved without harming the environment.

2.9. Response to Climate Change.

The impact of climate change on communities requires an urgent response to mitigate its effects. To this effect, mitigation and adaptation actions may offer successful solutions to combat climate change, as they reduce GHG emissions and vulnerability to its impacts (Kaye and Quemada, 2017; IPCC, 2014). For developing countries such as Zambia to balance economic growth with reducing carbon emissions, there arises a paradoxical situation whereby investments in industries driving economic growth often contribute to increased greenhouse gas emissions, exacerbating the very climate change impacts that they need to address. They face few options (Bauer and Scholz, 2010). In mitigating and adapting strategies, indigenous knowledge and wisdom will also prove useful in developing effective solutions to combat climate change (Leal Filho *et al.*, 2021; Zvobgo *et al.* 2022).

To achieve this, the IPCC (2019); Castells-Quintana, Lopez-Uribe, and McDermott (2018) argue that implementing effective solutions to address climate change requires an indigenous and tailored response to regional and local conditions. This is a pressing matter regarding the onset of climate change's impact, particularly on agriculture, water, health, and households, especially for women (Phiri, 2016; Mokena and Dolan, 2020). In view of this, a comprehensive understanding

of its causes and effects is crucial to develop effective solutions to address the issue of climate change, ensuring sustainable development and promoting social welfare (Dietzel, 2022).

2.9.1. A Just Response.

Venn (2017), cited in Dietzel (2022), observed that climate justice scholars focusing on the moral importance of the individual, as opposed to the state, community, or culture, are acutely aware that failing to respond adequately to climate change will significantly impact human rights and worsen existing patterns of inequality across the globe. However, it has been noted that this discussion lacks an exact investigation regarding the case in Zambia. Although Venn deliberates on the global impact of inadequate responses to climate change, a gap is identified in the research concerning the specific challenges and responses within Zambia, particularly in the context of the indigenous African theological response represented by the United Church of Zambia.

Dietzel (2022) contends that a just response to climate change requires, at a minimum, a substantial lowering of global emissions. Secondly, prioritization of adaptation and, finally, rapid systemic change is essential. Keeping emissions low is key because the more temperatures rise, the more dangerous climate change becomes. Kaye and Quemada (2017) hold that climate change mitigation and adaptation may be just responses to climate change. Although these principles are generally appropriate, they do not address the precise socio-cultural and theological nuances present in Zambia. Additionally, Kaye and Quemada (2017) highlight the importance of both mitigation and adaptation in responding to climate change; however, they do not entirely convey the unique viewpoints and responses that an indigenous African theological response could offer within the UCZ and Zambian context.

Hence, the deficiency of specific study on the connection of climate change and the UCZ, along with the absence of indigenous African theological perspectives in the existing literature, underlines the need for further research to develop a proper African indigenous response to climate change tailored to the UCZ and Zambia's specific circumstances and cultural heritage.

2.9.2. Mitigation.

It is estimated that most of the carbon dioxide emissions originate primarily in urban areas and are attributed to transport and buildings (UNEP, 2022). Given this, it is argued that to mitigate and help avoid a global average temperature rise of 1.5°C, there must be a reduction in greenhouse gas emissions (Fawzy *et al.*, 2020). In practice, the IPCC (2014) recommends that mitigation should include replacing greenhouse gas-emitting fossil fuels like coal, oil, and natural gas with clean energy sources. This situation has placed most African countries in a paradoxical situation, as they must use fossil fuels to enhance development.

2.9.3. Adaptation.

Adaptation measures are based on reducing vulnerability to the effects of climate change (Lamb and Steinberger, 2017; IPCC, 2014). This involves the ability of humans and other organisms, institutions, and systems to respond to change by either taking advantage or addressing the negative consequences (IPCC, 2014). However, Castells-Quintana, Lopez-Uribe, and McDermott (2018) note that the ability to adapt to climate change may be influenced by generic socio-economic factors, including income, education, and health, along with factors specific to climate change, such as infrastructure, institutions, and technology. This scenario is worsened by the fact that most developing nations depend on funding from developed nations to finance their climate change mitigation and adaptation efforts (Broberg, 2019). However, despite this growing recognition, the necessary funding for adaptation is still not forthcoming (Broberg, 2019). Since different parts of the world experience the impacts of climate change differently, there is also diversity in how people in each region adapt to these impacts (IPCC, 2019).

Therefore, effective adaptation and mitigation of the impacts of climate change require a well-planned and strategic approach (Castells-Quintana, Lopez-Uribe, and McDermott, 2018). This includes addressing both existing and anticipated risks by considering local climate variability. By focusing not only on future risks but also on existing ones, adaptation becomes crucial in combating climate change. However, Kaye and Quemada (2017) noted that many factors influence

whether the adaptation solutions are economically efficient or if they cost too much to maintain. A significant factor is that developing countries are more likely to fail and suffer because of their poor disaster management practices and inadequate rehabilitation processes. Another factor is the lack of awareness and consciousness on the part of policymakers and the public, which further complicates the matter. Technological limitations also cause severe constraints.

This context sometimes leads to a dichotomous choice between development and the environment; however, negating either may cause significant harm to a developing nation like Zambia. Therefore, in response to Rosenzweig and Tubiello (2007) and Smith *et al.* (2007; in Kaye and Quemada, 2017), it is argued that mitigation and adaptation strategies may be more successful when tailored to regional and local conditions. However, little is known about the impact of indigenous knowledge and wisdom on climate change adaptation actions (Zvobgo *et al.*, 2022). Despite this gap, indigenous knowledge and wisdom can potentially play a role in reducing climate risks for nature and managing ecosystems (Zvobgo *et al.*, 2022).

2.10. Summary.

The chapter analyzed the literature on climate change and its effects, providing highlights on the impact of climate change on communities, particularly in Zambia, as well as the need for a response that could incorporate indigenous knowledge and strategies. The ongoing debates surrounding the causes of climate change involve differing viewpoints, with some advocating for the anthropogenic factor and others contesting it. Additionally, the impacts of climate change on agriculture, water resources, health, and households have been thoroughly documented, highlighting that women and vulnerable communities in developing countries are among the most affected. The paradox that developing countries face in balancing economic growth and reducing greenhouse gas emissions was explored. The study identified recommended mitigation and adaptation measures. However, the effectiveness of these measures depends on regional and local conditions, investment in infrastructure, and access to funding. In response to this, there is a growing recognition that indigenous knowledge and wisdom can play a potential role in reducing climate risks, although their impact on adaptation remains poorly understood. The thesis highlights

the need for an indigenous theological response to climate change by the United Church of Zambia, one that considers local, cultural, and spiritual values and effective strategies for mitigating its negative effects. The next chapter builds on the theological responses identified in Chapter 2 to explore the response of the UCZ to climate change.

CHAPTER 3

GLOBAL CHURCH THEOLOGICAL RESPONSES TO CLIMATE CHANGE.

3.1 Introduction

Chapter 3 provides an in-depth analysis of theological responses to climate change. It will start by discussing the ecological basis of the crisis and analyzing the ongoing debate on the concepts of dominion and stewardship. While some scholars, like Lynn White, hold Christianity directly responsible for the ecological crisis, others argue that Christianity emphasises ecological stewardship and values human life over "human capital." Additionally, African theological thought a communitarian approach that acknowledges the interconnectedness and mutual reliance of all living beings in the environment. The chapter highlights the of climate justice, which is connected to human rights and sustainable development. It points out how climate change disproportionately affects certain communities, particularly women, and explores the role of religious organizations in advocating for social justice and climate action. The chapter delves into the responses of selected main churches with contextual theologies, including the World Council of Churches, Roman Catholic Church, Lutheran Church, Anglican Church, and the United Methodist Church. These organizations underscore the urgent need for ecological justice, promote sustainability, and actively engage in efforts in mitigating the impact of climate change. The chapter emphasises the significance of understanding the theological perspective on climate change and highlights the crucial role of the Church in educating, advocating for social justice, and promoting environmental sustainability. It also discusses how theology can influence people's of climate change effects. Furthermore, it underscores the importance of an indigenous African theological response for fostering communitarian approaches to ecological justice.

3.2. The Ecological Roots of our crisis.

By definition, the ecological crisis refers to multiple environmental issues the world is facing, including climate change, biodiversity loss, and pollution. Human actions such as deforestation, overfishing, and the exploitation of fossil fuels have significantly contributed to environmental degradation, as discussed by White (1967). This encompasses environmental issues such as

climate change, biodiversity loss, and pollution, which are caused by human activities like deforestation, overfishing, and the use of fossil fuels

3.2.1 Dominion.

From a theological perspective, various schools of thought have emerged regarding climate change. One of the pioneering figures in the field of climate change is Lynn White, who contributed significantly to this discourse. In the article, "The Ecological Roots of Our Crisis," White raises fundamental issues regarding the problems of dominion interpretations of the Bible, particularly the Genesis account of Creation. Dominion, according to White (1967), refers to humanity's dominance over nature and its right to exploit and dominate the environment for its own benefit. White argues that Christianity is the root cause of climate change, claiming that it promotes the aggressive domination and exploitative use of nature (White, 1967). The author maintained that the contemporary ecological crisis emerged from Christianity's dominating approach towards the created order. Mmapula Diana Kebaneilwe (in Green, 2020) describes this dominant perspective as one that prioritizes humanity as the center of God's Creation, often neglecting the current world and environment. This presents a significant predicament for global Christianity, which may explain why historian Lynn White concluded that "Christianity is the most anthropocentric religion the world has ever seen" (White, 1967).

According to White's article "The Historical Roots of Our Ecological Crisis" (White 1967:120), he argues that humans have always believed in their supremacy over nature. This observation is mostly evident in Western societies, where the environment is viewed as something to be exploited and controlled for human benefit, leading to widespread devastation of ecosystems. This anthropocentric worldview, deeply rooted in cultural norms and religious beliefs, has contributed to the degradation of the environment. White further concludes by asserting that "Our ecological crisis is the result of an emerging, entirely novel, dominant species" (White, 1967:120). White claims that this idea in human domination derives from their theological understanding of grants "dominion" over the planet. White, on the other hand, claims that this understanding of "dominion" has resulted in the exploitation and devastation of nature.

3.2.2 Communitarian.

However, White's allegations are contrary to the African theological thought and ethics context, which is communitarian in nature (Bassey, 2019). This communitarianism is better explained using Mbiti's statement: *"I am because we are, and since we are, therefore I am"* (Mbiti, 1975). When relating Mbiti's statement to environmental ethics, it illustrates the interconnectedness and interdependence of beings, whose existence hinges on one another. Furthermore, it shows that no being in the environment is self-sufficient.

Communitarian thought is contrary to White's 1967 dominion arguments, which claim that Christian ideology drives the progress of modern science and technology, aiming solely to conquer the Earth and exploit its resources for human use and development. According to White (1967), the ecological crises can only be solved by rejecting the Christian axiom that nature was created to serve humanity. This is in dispute with African theological thought which is motivated by the intrinsic value of human life rather than 'human capital' (Van Norren, 2020). Arguing further, Van Norren (2020) explains that in Ubuntu, the word "development" does not exist but stresses humaneness as a verb in relations, which include nature.

The concepts of communitarianism and dominion echo different philosophies and attitudes towards human relationships and responses with the natural world. While communitarianism emphasises community well-being, interconnectedness, and sustainable relationships with nature, dominion echoes a perspective of exploitation of the natural world, human supremacy, and control. These contrasting views offer essential insights into how different philosophies and attitudes can shape human responses to climate change.

3.2.3 Stewardship.

Marisa Ronan (2017) argues that White's responses to the allegations do not adequately recognize the moral inadequacy linked to the tragic state of the natural environment, a viewpoint acknowledged by various religions. And, disputing White's understanding of dominion, Bauckham (2011) described "dominion" to mean humanity serving and caring for the creation and that the

Bible is theocentric, rather than anthropocentric. Agreeing with Bauckham's views, Cambry (2013) argues that dominion does not imply an abusive or exploitative rule but rather the benevolent rule of the king. Also, in support is Pardee's (2013) assertion that "dominion over creation is demonstrated stewardship of care and orderliness." According to Pardee (2013), humanity's commission of dominion is rooted in the example of God's dominion and is subsidiary to the creation of humanity in God's image. Pardee's view aligns with Mmapula Diana Kebaneilwe's argument in Green (2020), which draws from African theological thought. Kebaneilwe contends that it is inconceivable for God to authorize humanity to invade, conquer, and enslave his creation, which he has pronounced as good. According to her, there must be another way to contextualize dominion and subjection.

Kebaneilwe (in Green, 2020) proposed that "the earth is a community and a holistic realization will redefine our dealings; first, with each other as humans, and particularly beyond the gender divide which has often disadvantaged women; secondly, with flora and fauna, and ultimately, with the Creator who sits at the heart of Creation" (Green, 2020). Okyere-Manu and Morgan (2022) contend that the Christian religion regards ecological stewardship as a fundamental commitment to protect and maintain the natural environment. To this effect, Okyere-Manu and Morgan (2022) argue that the prevailing belief that those in positions of authority over the world have the right to utilize the earth's resources without limitations or accountability is fundamentally misguided and problematic. This viewpoint overlooks the importance of responsible stewardship and sustainable practices, which are essential for preserving the planet for future generations.

3.2.4 Greening Response.

An alternative perspective on White's assertion that "religions—particularly Western Christianity—are a major cause of worldwide ecological crises" (White, 1967) is the greening-of-religion hypothesis (Bron, 2010). Taylor argues contrarily to White's view that world religions and Christianity are becoming more environmentally friendly. It is argued that White's thesis focused especially on the Genesis creation story as the source of Christian anthropocentrism and the desacralization of nature (Taylor *et al.*, 2016). Taylor *et al.* (2016) argue that White ignored the inclination among religious people to attribute environmental changes to divine favour or

disfavour of nature. This dynamic is especially strong within religions such as Christianity and most indigenous beliefs that stress the sovereignty of God. However, most religions, including African indigenous beliefs, blame the cause of natural catastrophes on humanity's disobedience to God.

3.3. The Need for Climate Justice.

The cure for the global ecological crisis, spearheaded by climate change, appears to have virtually escaped the grasp of law and policy, as evidenced by the failure or highly politicized reports of several United Nations climate conferences since the inception of the United Nations Framework Convention on Climate Change (COP 1, Niche, 2019). The failure to address climate change effectively has left developing nations increasingly vulnerable to its impacts. This vulnerability underscores the necessity for climate justice, which is closely linked to human rights and sustainable development (Chitando, 2022). As Ptaschunder (2020) emphasizes, climate justice connects human rights and sustainable development to protect the rights of individuals impacted by climate change.

This assertion emphasizes the idea of climate justice, which recognizes the intersection of human rights, sustainable development, and addressing the impacts of climate change. It underscores the significance of protecting the rights and well-being of people and communities who are disproportionately suffering from climate change. By linking human rights and sustainable development to climate change, climate justice aims to ensure that efforts to mitigate and adapt to climate change do not further perpetuate inequalities or injustices. It requires an honest and equitable distribution of resources in addition to the inclusion and participation of marginalized and vulnerable populations in decision-making approaches associated with climate action. In essence, climate justice aims to protect the rights of people and groups affected by climate change while promoting sustainable and equitable development practices to create a more just and resilient world.

3.3.1 Undermined Human Rights.

Cameron (2013:4) contends, "Since climate change has undermined the realization of several internationally recognized human rights, there is a need for justice." The 2010 UN Annual State

of Human Rights described human rights as "universal legal guarantees protecting individuals and groups against actions that interfere with fundamental freedoms and human dignity." The report further stated that human rights are inherent to all individuals and do not need to be granted, bought, earned, or inherited (UN 2010). The UN (2010) describes human rights as "claims which every human being is entitled to have and enjoy as of right under one's humanity, independently of acts of law and without distinction on such grounds as race, gender, sex, pregnancy, marital status, color, age, disability, national origin, religion, conscience, belief, culture, language, birth, or social status" (UN 2010).

3.3.2 Disproportionate Communities.

It is not surprising that the debate over climate change's effects on poverty often encompasses its implications for inequality. The AR4 Climate Change 2007: Synthesis Report (IPCC, 2014) established that socially and economically disadvantaged and marginalized people are disproportionately affected by climate change. However, climate change in Zambia has a disproportionate impact on communities. While Southern Africa has seen normal rainfall in just one of the last five growing seasons, the prolonged drought, back-to-back hurricanes, and flooding have devastated crops in a region overly dependent on rain-fed small-scale agriculture (Phiri, 2020). Interestingly, this creates a disproportionate pattern, as Zambia experiences both climate extremes at the same time. While farmers in the southwestern parts of the country are concerned about erratic rainfall patterns, their counterparts in the northeast are grappling with flash floods that are increasing pressure on already stretched resources (Phiri, 2020).

3.3.3 Disproportionate Impact on Women.

The disproportionate effect of climate change on women exacerbates gender inequities, including political disenfranchisement and economic and financial marginalization (Mokoena and Dolan, 2020). Adding their voice to the situation, Eastin and Dupuy (2021) contend that the existence of pre-existing gender inequalities in the economy and society has worsened the situation for women. The UNDP (2017) report on enhancing the integration of gender into Zambia's climate change responses found that women tend to have less access to credit, land rights, and extension services

than men, which impairs their productivity and, most likely, constrains their ability to adapt to climate change.

Based on evidence from Zambia, Burkina Faso, Nigeria, and Kenya, Eastin and Dupuy (2021) found that women were less likely to have access to agricultural inputs and advanced mechanical tools. During floods and droughts, women and girls are often required to work extra and walk long distances to fetch water or fuel compared to men and boys in the same households (Masika, 2002). Masika further noted that in climate change situations, women are more likely to lose their sources of income-generating activities as they are more dependent on natural resources. Eastin and Dupuy (2021) and Nagabhattacha (2020) observed that men are less likely to be affected as they tend to migrate more than women. The injustice of climate change lies in the fact that those most affected are often the least responsible for causing it (Eastin and Dupuy, 2021; Masika, 2002)

Understanding that women are the majority who are disproportionately vulnerable to the enduring effects of climate injustice, which contributes to high levels of inequality, underscores the need for justice in climate change matters (Mugambiwa, 2021). In their report, Chisonga and Phiri (2013) argue that addressing this injustice will assist in bringing about changes in national legislation, policies, and programmes that advance women's rights to food and ensure that women can meaningfully contribute toward household food security. Mugambiwa (2021) contends that to find solutions to climate-based disruptions, it is necessary to take into consideration the inequalities in human wealth, power, and privilege.

Generally, Grusky (2019) observed that the human condition is fundamentally unequal, with known societies characterized by some inequalities of some kind, where the most privileged individuals enjoy a disproportionate share of power, prestige, and other valued resources. Therefore, engaging with the ingrained values and beliefs that shape people's perceptions and inspire direct action is a crucial option for remedying the impact of climate change (Mastaler, 2014; Shehu and Molyneux-Hodgson, 2014).

This understanding creates a significant obligation for the Church to actively engage in educational initiatives and advocate for social justice. Okyere-Manu and Morgan (2022) argue that the Church plays a vital role in engaging both the people and the government while also enhancing governmental efforts to address climate change. Furthermore, it can be argued that the core injustice of climate change is that the least responsible are worst affected and are paying for a crime they didn't fully participate in. Secondly, while the international community debates the steps to take to solve the problem, the scale of the impacts and the number of people affected increase, especially in the least developed countries.

3.4 Religious Response to Climate Change.

Christians have responded to various social issues and have been an influential voice. Since this thesis seeks to determine an indigenous theological response to climate change, it is essential to re-examine how Christianity has been an influential force in shaping societal norms, beliefs, and attitudes in climate change. Scholars have provided insights into key responses, including social justice, charity, environmental stewardship, political activism, and prayer. Willis Jenkins (2016) early Christian social justice movements, whereas Bernadette Brooten (2019) the importance of charity in Christian practice. Aline Kalbian (2014) notes the role of Christian environmental stewardship, while Gerald Loughlin (2015) stresses political activism. Indeed, these responses demonstrate the variety of ways that Christians have sought to address social issues in their communities and the world. An analysis of these different responses can provide a more comprehensive understanding of how Christianity has influenced climate change and continues to be a source of inspiration and action.

3.4.1 The World Council of Churches.

In response to the urgent challenge of climate change, the World Council of Churches (WCC), a fellowship of 350 member churches representing more than half a billion Christians around the world, addresses eco-justice issues by raising ecumenical concerns (Gren, 2020). "Eco-justice was found to relate to the need to care for and preserve ecosystems by reducing over-consumption and overuse of natural resources" (Chandramohan & Bhagwan, 2023:1). The WCC and its member

churches view the doctrine of creation as a central theological response, as it brings unity among the churches (Seidel & Mezei, 2020). The WCC's emphasis is that "Creation is to be shared by all people; the wanton and selfish destruction of creation unjustly affects humanity today as well as future generations, including nature itself" (Seidel & Mezei, 2024).

This ecumenical body does not see the doctrine of creation as holding to a belief that humanity has dominion over creation but rather calls for care of creation. This theological thought of the WCC can be inferred that in African indigenous religions, nature is considered sacred because it is God's creation (Kanu, 2020). Therefore, it can be conceded that in African indigenous belief systems, humans are a vital part of the environment, as they are merely a part of God's creation and do not possess ownership over it. According to Barga (2021), God has entrusted the stewardship responsibility to humanity to care for the earth in a participatory form.

3.4.2 Catholic Responses to Climate Change.

The Roman Catholic Church agrees with the theological views of Barga and WCC's theological view in their acknowledgment of nature; the Catholic theological view understands nature as a 'common good to all and is meant for all' (McDonagh & Francis, 2016). For the Roman Catholic Church, there is an intricate relationship between God, humanity, and nature (Cornelio, 2018). This theological understanding is also strongly shared by the African theological view that "there is interconnectedness between God, humanity, the cosmos, and the African view of community involving both humans and inanimate objects" (Barga, 2021). This has demonstrated how African theology is environmentally friendly. Therefore, it is anticipated that African environmental theology would aid in efforts to prevent worldwide ecological misuse.

This theological response calls for humanity to take care of the environment and responds to Pope Francis's call in *Laudato si'*. Pope Francis further appeals for an environmental conversion that "can inspire us to greater creativity and enthusiasm in addressing the world's problems" (Francis and McDonagh, 2016). Francis and McDonagh further outline that the advantage should not be

seen as a reason for personal glory or careless authority, but rather as a diverse capacity that, in turn, requires a significant responsibility (Francis and McDonagh, 2016).

3.4.3 The Lutheran Theological Response.

The Lutheran theological response emphasises the need for “prophetic speech” (Smith, 2015). This response focuses on Luther’s theology of the cross, the theology of incarnation, and ecological ethics (Smith, 2015). The Lutheran World Federation (LWF) asserts that climate change is fundamentally an issue of justice, stewardship, and intergenerational solidarity, emphasizing that climate justice is a priority for the organization (LWF, 2015). The LWF argues that climate change is fundamentally an issue of justice, stewardship, and intergenerational solidarity, highlighting that climate justice is a priority for the organization (LWF, 2015)

According to Kanu (2021), the African eco-theology perspective emphasizes a prophetic call for the protection and preservation of human life, the environment, and the cosmos, highlighting the intrinsic relationship between humanity and nature. Kanu (2021) supports the views of Mbiti (1975) by asserting that the prophetic voice embodies the rich heritage of what past generations of African people thought, did, experienced, and passed on to their children. In his discussion on climate change, LWF Assistant General Secretary Ralston Deffenbaugh emphasized that it is fundamentally a matter of social and economic justice, as it predominantly impacts the poorest communities and displaces the most vulnerable individuals (LWF, 2015). In his discussion on climate change, LWF Assistant General Secretary Ralston Deffenbaugh emphasized that LWF recognizes climate change as an issue of social and economic justice, noting that it primarily impacts the poorest individuals and displaces the most vulnerable (LWF, 2015)

With a focus on the critical implications for both justice and human rights, the LWF addresses climate change with the utmost seriousness and urgency (LWF, 2015). Therefore, African theological stewardship requires humanity not only to avoid exploiting nature but also to lend their prophetic voice against the injustice done to nature by fellow human beings. Elena Cedillo, LWF’s Program Executive for Climate Justice, contends that since LWF’s member churches are closely

connected to communities, they are also affected by climate change (LWF, 2015). LWF (2018) understands and strongly believes that climate change will not disappear by merely declaring that it does not exist. In response to climate change, the youth have been engaged and actively involved in their churches. The youth issued a clear call to the current generation for future generations that creation is not for sale (LWF, 2018).

To support LWF's stance, Youth Secretary Pranita Biswasi explained that climate disasters exacerbate existing social inequalities. She pointed out that when gender intersects with other factors such as ethnicity, poverty, and disabilities, women and girls are often disproportionately affected (LWF, 2019). According to Hitchen (2022), it is widely recognized that women are significantly impacted by environmental disasters, but they are often left out of decision-making processes aimed at finding practical and sustainable solutions. According to Hitchen (2022), LWF advocates for gender and climate justice by emphasizing the importance of gender equality and the empowerment of women and girls, particularly regarding climate change, disaster risk reduction, and environmental policies.

In response to gender inequities, African feminist theological thought perceives the earth from a feminine perspective (Chirongoma & Chitando, 2021). Chirongoma and Chitando (2021) argue for an intertwined relationship between women and nature. Therefore, Chirongoma and Rakoczy (2021) contend that "the oppression of women is interlinked with the oppression of the earth." In support, Öztürk (2020) suggests that liberating women from male dominance is equal to liberating nature.

3.4.4 The Anglican Church.

For a better understanding of the Anglican response, it is easier to view it through the Anglican theological lens of Michael Northcott. According to Leblanc (2021), the assumption is that the major problem with modern society is that development and technology have disconnected humanity from the natural order. Therefore, Northcott argues that churches have an important task in reconnecting humanity and re-establishing the connection to natural processes (Leblanc, 2021).

Northcott suggests that the Church is a vehicle for exerting ecological values through theological methods (Leblanc, 2021). Suggesting further, Northcott contends that the Church can respond to the impact of climate change through methods such as rituals, mobilized care, land audits, and fruitful resistance to promote a sustainable ethos for ecology (Leblanc, 2021).

Kaoma (2016) offers a solution to Northcott's predicament, arguing that the traditional lifestyles of the indigenous people, although they were 'barbaric,' were able to balance progress with environmental sustainability, which is critical to their ordinary lives for both current and future generations. Kaoma (2016) further argued that "the African morality of using the Earth's natural goods is conditioned on the ethical negotiation of the needs of the living dead, the living, and the living unborn. In other words, the use of land was done in consideration of the departed, the present, and future generations.

From the perspective of the Anglican Communion, it is essential to safeguard the integrity of creation, uphold the systems that sustain it, and engage in the renewal of life (O'Brien, 2020). The Anglican Church suggests that the care of creation is linked to Christian mission, spirituality, and identity; thus, there is a need to strive to safeguard the integrity of creation, sustain, and renew the life of the earth (Kaoma, 2013). The Church recognizes that humanity is manipulating the environment for personal use, which has led to economic imbalance at the expense of the poor and has thus created an ecological crisis (O'Brien, 2020). Given this, the Church advocates for care for creation based on the biblical understanding of God as creator and humans as *imago deo* (O'Brien, 2020). The ethical value of the response of creation care is to understand the significant meaning and purpose of existence and the human relationship with God and Earth. This ethical value is key in African religious thought. It holds that human life is dependent on taking care of the earth, which is their ultimate home, as well as the home to all creatures, ancestors, spiritual beings, and ultimately to future generations of life (Kaoma, 2021).

3.4.5 The United Methodist Church.

The United Methodist Church (UMC, 2016) asserts that climate change is not only an urgent ecological issue but also a profound ethical and spiritual challenge that demands the Church's active engagement and response. The Church bears witness to the impacts of climate change and therefore needs to pursue a new trajectory grounded in economic and ecological justice (UMC, 2016). The United Methodists Church responds to climate change by seeking to live in ways consistent with the Christian vocation to care for God's creation by reducing its carbon footprint and encouraging congregations to do the same. The UMC believes that the natural world is a divine loving gift entrusted to humanity by God, the creator and sustainer, for the purpose of glorifying Him and nurturing all forms of life on Earth, both now and for future generations (Carter, 2019). This perspective forms a compelling basis for their responses to climate change. Carter (2019) further contends that the consequences of climate change are visible. Therefore, UMC believes that there is a need for a theologically informed grassroots movement that embodies our Theological commitment to care for creation (Carter, 2019).

In the UMC publication entitled "*The Climate Crisis Is a Global Crisis*," Bautista (2019) contends that the climate change crises are interrelated; they respect no citizenship and know no borders. This climate change further threatens peace, people, and planet Earth since these are interrelated. It threatens God's vision encompassing complete well-being" (UMC, 2016). Given this, the issue of climate change is a pressing challenge that requires urgent attention and action from individuals, communities, and governments alike, and the UMC must work in concert on these issues (Bautista, 2019). The UMC realizes that peace and sustainable development of people and the planet cannot prosper without climate justice (Bautista, 2019). To this effect, the UMC has taken up the responsibility to protect God's planet and God's people (UMC, 2016).

In the pastoral letter from the Council of Bishops (2009), entitled "*God's Renewed Creation: Call to Hope and Action*," the UMC calls on both clergy and laity to preach and teach the care for creation as part of the UMC discipleship. Notably, the UMC has incorporated climate stewardship, reduced the use of fossil fuel in the design of facilities, and reduced the carbon footprint of meetings as a response to climate change. For the UMC, climate change is a moral issue that

demands an urgent response (Bautista, 2019). Therefore, the UMC's response to climate change is a moral obligation to assist communities currently impacted by historic emissions.

The adverse impact of climate change has disproportionately affected individuals in nations least responsible for the emissions. According to the Book of Resolution (2016), "The UMC recognizes that women, young people, people of color, and those of low-income households will be hit hardest by the consequences of climate change." To respond to this, the UMC has resolved to develop educational, missional, and policy initiatives surrounding climate justice and environmental health and their impact on women, children, and youths (Book of Resolution, 2016). The consequences of climate change call for climate justice, which is not merely an environmental or economic issue but rather a profound ethical and spiritual concern that the Church must address to ensure abundant life for children and future generations (UMC, 2016).

According to Jenkins *et al* (2018), this stewardship paradigm offers compelling reasons for individuals to recognize and embrace their responsibility to act on behalf of God and future generations. Therefore, to understand the cultural dimensions of climate change, one must also consider its religious aspects. Since climate change is deeply intertwined with human experiences, it is significantly influenced by how religion shapes our ways of living. Hulme (2017) argued that science is never enough to resolve problems that are cultural in origin. Therefore, understanding religious responses is crucial for this study, as religious traditions shape the cosmologies of both believers and, indirectly, unbelievers. This influence, in turn, affects how people interpret unsettling changes in their local climatic environments. Secondly, religion has been a cultural resource for responses to crises. Willis Jenkins (2016), in Hulme (2017), provides an example to that clarifies the relationship between ecology and religion, stating that humanity's ecological relations encompass both religious and cultural dimensions. He argues that failure to recognize and interpret these dimensions can impoverish our understanding of the environment.

3.4.6 The UCZ Response to Climate Change.

Mkandwire (2020) notes that the UCZ has existed for over 50 years and highlights that climate change is a widespread issue that affects the entire region. Despite this, there is little evidence to

suggest that climate change issues are being adequately addressed. While the Church has strictly embraced and observed noteworthy events in the Christian calendar, such as Advent, Easter, and Harvest, issues related to climate change and climate justice have not received adequate attention (Mkandwire, 2020). Despite the Church's resolution from the Synod meeting, minute number SE/2017/21 (ii), which stated that "the first Saturday of November should be adopted as a day for each member at every mission station to plant and manage at least one tree," it has been observed that this resolution has not been implemented and remains unfulfilled (Mkandwire, 2020).

This lack of implementation may be due to a deficiency in the theological framework guiding such responses. Consequently, this study aims to fulfill the urgent need for a substantial and dependable theology of ecological justice that is culturally relevant to Zambian communities., as the Church is called to care for the environment (Mkandwire, 2020), a responsibility that includes administering justice and promoting sustainability, as further articulated by Mkandwire (2020). Contending further, Mkandwire (2020) states that it is the mandate of the Church to care for the environment, to administer justice, and promote sustainability.

Kuzipa Nalwamba (2013) is a feminist theologian who shares similar thoughts on the Church mandate when she contends that the power of sermons on ecological themes is not to be underestimated. She further alludes to the fact that such sermons can make a difference and help shape the ethos for environmental care. This thought is supported by Jonathan Kangwa (2014), who submits that Christianity helps in shaping humanity's perception and attitudes towards the environment.

However, Nalwamba (2013) mourned and expressed concern over the lack of a Christian voice in addressing the eco-crisis in Zambia. If the UCZ is to effectively address ecological concerns, Mkandwire (2020) argues that it must develop a distinct theological position, as its current views seem to be influenced by colonial concepts. According to Kaunda (2016), the colonial perspective on the environment is based on cultural injustice, which sought to replace the African indigenous worldview with Western concepts and frameworks. These colonialist claims to cultural dominance meant that the colonizers' culture was considered supreme to that of African cultures, which were labeled as primitive (Kaunda, 2016). Kaunda (2016) points out that the prevailing theologies in

most African churches have grown out of European experiences rather than from African understandings of God within their cultural traditions, religious histories, and existential realities. To this effect, Kuzipa Nalwamba and Teddy Sakuppa (2016) explore the implications of these prevailing theologies. They argue that the Church should be fully involved in the theology of environmental sustainability, which has become increasingly necessary. This theology could foster a meaningful ideological commitment to sustainable ecological justice. As the largest Protestant church in Zambia, the United Church of Zambia (UCZ) plays a vital role as a key stakeholder in climate change and climate justice (Mkandwire, 2020).

Despite the UCZ's involvement with various stakeholders, including the youth, in creating awareness about climate change, the groups involved in these activities can be seen as instrumental in raising awareness and mobilizing action. Mkandwire (2022) argues that these individuals are "well positioned to shape ecological and economic justice due to their influence on personal moral development. There is a need to advocate for and teach the importance of education within the context of a sustainable environment and energy supply" (Mkandwire, 2022). It is imperative to fully understand the role of the Church in addressing climate change. Most importantly, it is essential to pay attention to the theological dimensions, particularly how religion shapes human experiences and responses to climate change. Therefore, the Church should be regarded as a vital platform for addressing and mitigating the risks associated with climate change.

The impact of climate change on communities, including the UCZ in Zambia, is an urgent issue that requires urgent attention. Evidence clearly indicates that anthropogenic activities such as industrialization have contributed to GHG emissions, resulting in global warming. According to Rosen *et al.* (2021), this has resulted in an overwhelming impact on vulnerable communities, including those in Zambia, who depend on the environment for their livelihoods and survival. It is for this reason that it is essential to determine the impact of climate change on these communities to understand how best to mitigate its effects (Rosen *et al.*, 2021). One possible solution is to draw upon indigenous resources to mitigate climate change in Zambia. A holistic approach, integrating science, ethics, and theology, is required to address climate change effectively.

Indigenous African resources, such as traditional ecological knowledge and locally adapted technologies, can be leveraged to reduce greenhouse gas emissions and build resilience against future climate change impacts. With these resources, the UCZ in Zambia could play a pivotal role in identifying and promoting these resources to mitigate climate change's impact. Furthermore, an indigenous African theological response by the UCZ to climate change is also critical. Theologians must recognize the anthropogenic role in causing climate change and provide theological perspectives that promote responsible stewardship of the Earth's resources. The UCZ can act as a moral voice, raising consciousness of the dangers of climate change and working with policymakers to develop effective strategies to mitigate its effects. Through a combination of science, ethics, and theology, the UCZ in Zambia can lead the way in addressing climate change's devastating impacts on vulnerable communities.

3.5 Indigenous Theology of Africans.

The indigenous theology of Africans is one that is deeply rooted in their cultures, traditions, and ways of life." In John Mbiti's words: "the African worldview is interconnected with the religious and cultural practices of its people" (Mbiti, 1969: 32).

“The Indigenous African theology has been developed over centuries through various religious practices, including ancestor worship, spirit possession, divination, and ritual sacrifice, and is diverse. ”

Emphasizing the theology in *African Traditional Religion and Environmental Conservation*, Mercy Oduyoye and Esther Mombo argue that the environmental ethics of African traditional religion are based on the fundamental belief that humans are integral to the natural environment and should live harmoniously with the rest of creation (Oduyoye and Mombo, 1998:90). Correspondingly, Mercy Amba Oduyoye notes that "these forms of worship are direct and natural expressions of African life, of the interconnectedness of human beings with the whole universe" (Oduyoye, 1995:21).

Despite these positive aspects, one challenge of indigenous African theology is the absence of a written sacred text. The theology has been transmitted orally through generations and continues to be practiced by many Africans today, alongside other religions. In support of this adaptability,

Teresia Hinga argues that "African societies have been particularly adept at adapting other religious traditions and incorporating them into their own worldviews, without losing their unique identity and practices" (Hinga, 2009:73).

3.5.1 Indigenous African Theology Response.

The African worldview is deeply interconnected with the religious and cultural practices of its communities. Notable scholars who attest to this include Mbiti (1967), who highlights the integral role of religion in African life; Baloyi and Makobe (2014), who hold that there is an inextricable spiritual connection between the visible and invisible worlds; and Gyekye (1967), who emphasizes the seamless blend of culture and spirituality in African societies. The emphasis of this perspective is the holistic nature of African belief systems, where religion, culture, and daily life are deeply intertwined, underscoring the vital role of culture and religion in shaping African responses to climate change. This has been confirmed by scholars like Adepetun (2006), who state that

"Nature and humans are not seen as separate in the African worldview. Humans are part of the natural environment, as well as part of the spiritual and social environment... For many African societies, man and nature come as a single package."

This entails that in African societies, the natural world is not regarded as a separate entity from the human community but rather as an indispensable part of it. This interconnectedness is often reflected in religious and cultural practices that emphasize a cooperative relationship between humans and the environment. As a theological response to climate change, this worldview offers a distinct perspective on humanity's relationship with the natural world. African theological and cultural practices emphasize the importance of stewardship towards the environment, including protecting and preserving natural resources. According to Okafor (2004:48),

"Numerous examples of African beliefs, practices, customs, and institutions demonstrate that many African societies have traditionally placed a high premium on respect for the environment. Such beliefs, practices, customs, and institutions contain philosophical and ethical concepts that can be used as a foundation for

developing a sustainable and ecologically sensitive approach to natural resource management and development."

Okafor highlights that many African societies have, since time immemorial, known the importance of protecting, respecting, and preserving the environment as an essential characteristic of their cultural and religious beliefs and practices. These ideologies and values served as a basis for developing sustainable approaches to environmental management and development that align with African cultural and theological traditions. The theological response to climate change that recognizes the interconnectedness of the African worldview with cultural and religious practices is an essential aspect of promoting sustainable environmental practices. The response involved addressing the multifaceted elements that have shaped religious and cultural beliefs in African communities related to climate change, and collaborating across various cultural and religious traditions towards a shared goal of environmental sustainability.

3.5.2. Stewardship.

According to Frans J. Verstraelen,

"The majority of African cultures... hold a worldview that stresses the importance of stewardship. This implies a unique pattern of living in which people view themselves as citizens of communities of living creatures and recognize a responsibility for maintaining the integrity of the web of life." (Verstraelen, 2001:121).

Verstraelen highlights the impression that various African cultures view humans as having a responsibility to care for the environment and maintain a balance within the natural world. This view of stewardship can be seen in many African theological and cultural practices, including traditional conservation practices, and spiritual beliefs that emphasize the interconnectedness of all things, and communal systems of resource management. In agreement, in the book "*African Religion: The Moral Traditions of Abundant Life*," Laurenti Magesa writes that "the African worldview recognizes the interconnectedness of all things in a web of life and acknowledges the

human responsibility for the sustenance and preservation of that life" (Magesa, 1997:79)¹. This African worldview's emphasis on stewardship replicates an unfathomable understanding of the interconnectedness of humans and their natural surroundings. It also emphasises the humans' responsibility to protect and preserve natural resources for future generations. In African communities, natural resources such as land, water, and trees are collectively owned and managed by communities. These were governed with rules and traditions on their use to ensure sustainability and avoid depletion in the spirit of Ubuntu.

The concept of Ubuntu emphasizes the connectedness of all beings and the importance of social solidarity. It also underlies many African cultural practices related to environmental protection and sustainability. In their article "Communicative Sustainability in African Culture," Kennedy Mkutu and Joash Mango argue that "Ubuntu is the foundation of sustainable development in Africa. It recognizes the interconnectedness of all things and promotes harmony, social cohesiveness, and mutualism as essential for sustainable development" (Mkutu and Mango, 2014:262).

3.6 Summary.

The chapter discusses the theological response to climate change, beginning with a reference to Lynn White's article, "The Ecological Roots of Our Crisis." The chapter's finding is that climate change is a global crisis that disproportionately affects vulnerable communities, especially women, and requires a response from the Church. Several theological responses to climate change have emerged, showcasing the diversity of perspectives on how to respond to the crisis. One of the most prominent debates focuses on the concepts of dominion and stewardship. While some scholars argue that Christianity's emphasis on dominion has led to the exploitation and devastation of nature, others contend that it implies the benevolent rule of the king. Still, others interpret the concept of dominion as humanity serving and caring for creation. Likewise, the notion of stewardship is viewed from a different perspective among scholars. Some hold that it is humanity's fundamental duty and responsibility to protect and maintain the natural environment. They argue

¹ Magesa writes that "the African worldview recognizes the interconnectedness of all things in a web of life, and acknowledges the human responsibility for the sustenance and preservation of that life" (Magesa, 1997:79).

against dominion and reject the notion that lordship over the world justifies excessive and abusive use of its resources without accountability. As for others, they assert that stewardship is all about care and orderliness as the expression of humanity's dominion over creation. Notably, the debates reveal the importance of understanding the relevant theological perspectives on climate change and how they can shape responses to the crisis. For African indigenous theological thought, the emphasis is on a community-based approach that recognizes the interdependence and mutual reliance of all living beings in the environment. The review also underlined the crucial significance of climate justice, a concept closely associated with the principles of human rights and sustainable development. The main churches examined in this review, including the World Council of Churches, Roman Catholic Church, Lutheran Church, Anglican Church, and United Methodist Church, all emphasize the urgent need for ecological justice and promoting sustainability. However, the review also notes the lack of a theological response from the UCZ in Zambia and the need to develop an indigenous African theological response. The research problem of exploring an indigenous theological response to climate change in Zambia by the UCZ emphasises the importance of such work in addressing the impact of climate change in vulnerable communities.

CHAPTER 4

THEORETICAL AND CONCEPTUAL FRAMEWORK.

4.1. Introduction.

Chapter 4 aims to introduce the theoretical and conceptual frameworks that guide this study. This chapter aligns with the research objectives of the study, which aim to determine an indigenous theological response to climate change by the UCZ. It defines the theoretical framework and its importance in guiding this research inquiry. The chapter then explores the Onachi framework, which emphasises the traditional African view of the universe and the importance of respecting the land in mitigating climate change. It also examines the Igwebuike theory, which highlights the relationship between humans, nature, and the environment, as well as the need for a kind, thoughtful, and respectful attitude towards other people and the physical and spiritual realities of nature. The association between African responses, indigenous knowledge, church/religious views, and climate change is articulated and elucidated in the chapter. This presents a conceptual framework aimed at aiding in the understanding of the variables and their relationships in verifying the claims of the study.

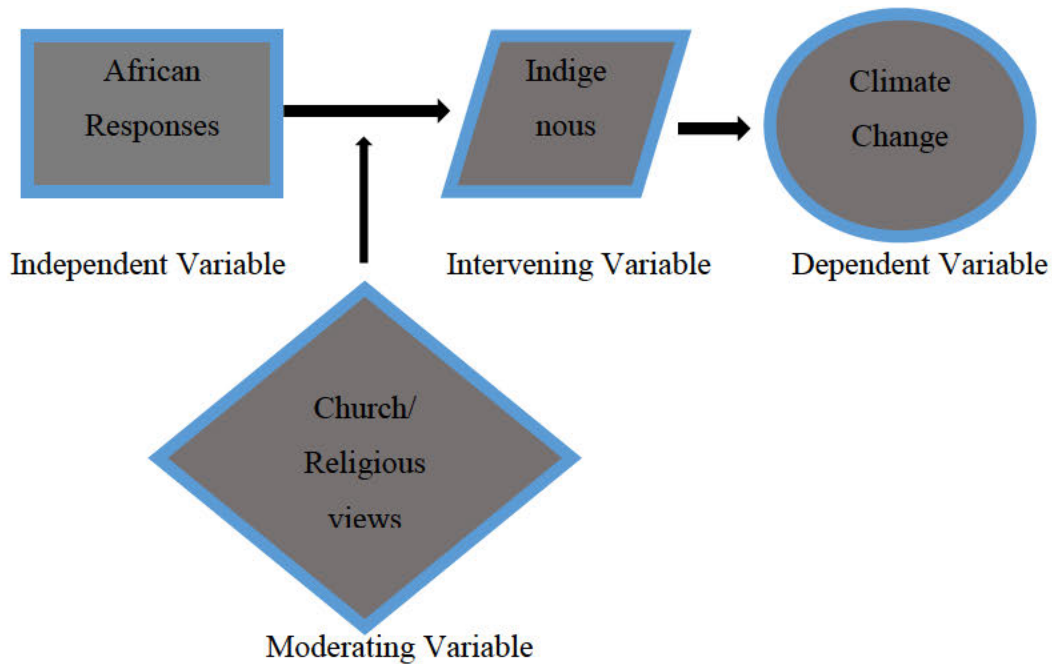
4.2. Conceptual Framework.

The previous section indicated the theoretical framework to be adopted for this study. The conceptual framework will provide the study with a mind map of the relationships among the identified variables. This will allow for guidance on how the study is going to be conducted and will assist in understanding the framework presented graphically.

Preliminary research was conducted to seek a concept that explains the existing claims of this study. From the existing literature, four variables were discovered: African responses (independent variable), church/religious views (moderating variable), indigenous knowledge (intervening variable), and climate change (dependent variable). The conceptual framework will be utilized to aid in understanding the relationships among these variables, with the objective of verifying the claims of the study.

The presentation below seeks to show that African responses, coupled with indigenous knowledge, can be used to find an indigenous African theological response to the mitigation of climate change. However, to fully understand and benefit from African indigenous knowledge, it is essential to adopt an approach that involves the church.

Figure 4.1: Integrating Indigenous Wisdom and Religious Perspectives



(Source: Author's own).

African responses to climate change arise from their understanding of their indigenous knowledge of their environment. However, with the inclusion of the local church or religious view, it may provide an appropriate indigenous theological response. According to Leal Filho *et al.* (2022), it is essential to probe deeper into the integration of indigenous African knowledge and religious perspectives in creating a comprehensive theological response to climate change. As indicated by Leal Filho *et al.* (2022), African responses to environmental challenges are deeply entrenched in indigenous knowledge systems that have guided communities in living sustainably with their environment. Moreover, incorporating religious views, particularly from the local church, has the potential to offer an indigenous theological response to addressing climate change issues, as highlighted by Makondo and Thomas (2018). By combining these two elements, a more holistic

and culturally relevant approach to mitigating climate change can be formulated, emphasizing the importance of integrating indigenous wisdom and theological insights into climate action strategies.

4.3. Nkechi Theoretical Framework.

In addressing the pressing issue of climate change, scholars have increasingly recognized the necessity of integrating indigenous perspectives into modern environmental strategies. A noteworthy example is a study conducted by researchers in Zimbabwe, published in the African Theology Review (ATR), which adopts the Onachi framework as a means of formulating an authentic African response to climate change. This framework identifies 11 principles that highlight the cultural, spiritual, and ecological dimensions of environmental stewardship in African societies.

To investigate these traditional perspectives more deeply, this section will explore the foundational beliefs held by these communities, particularly through the lens of the Karagwa religion. Central to this discussion is the understanding that the universe consists of interconnected spiritual and physical realms, both created and sustained by Mwari (God). This framework illustrates the significance of divine relationships in addressing climate challenges and underscores the communal obligations individuals have toward one another and the environment. By examining the cultural narratives and ethical practices that underpin these beliefs, we can uncover valuable insights that could inform effective climate action grounded in African traditions.

4.3.1 Traditional View.

In the Karagwa religion, as in many other African societies, the universe is created by Mwari (God), who encompasses two realms of existence: the spiritual (invisible) world and the physical (visible) world (Shoko, 2007:33). African societies believe that the spiritual world is populated by supreme beings, divinities, deities, spirits, and ancestors. In contrast, the physical world consists of the earth, inhabited by humans, animals, birds, and other animate and inanimate entities, such as land, rivers, seas, and mountains (Mehtu 1987:54). Additionally, the moon, stars, and clouds

are associated with the sacred spirit (Mehtu 1987:54). God is responsible for producing the rain that nourishes the earth and initiates life. Consequently, communication with God occurs through prayers, requests for blessings, and petitions or complaints.

According to Mawere (2020:10), the universe is arthropathic. Additionally, Masaka (2010:12) states that human beings should live in harmony not only with one another but also with their environment, as it is an integral part of their lives. To achieve this harmony, Africans have developed a set of beliefs, practices, and taboos woven into a religious tapestry that all community members are expected to adhere to strictly. Therefore, there are established laws, customs, and sanctions that guide human interactions with the environment. Such conservative and preservative mechanisms can be utilized to mitigate climate change and protect the environment. For instance, the Karangwa view climate change through a religious lens, facilitating interventions and strategies aimed at promoting effective responses to climate change (Mawere, 2020).

4.3.2 Respect for the Land.

African traditions and beliefs encourage communities to respect their environment because God cannot be separated from it (Gbenda 2010). Everything that is part of the ecosystem is understood to be deeply religious, with many objects on earth revered for religious reasons—especially those believed to be homes of spirits (Gbenda 2010). According to Onah *et al.* (2016), in Africa, humanity cannot survive without the divine, nor can the divine be separated from His creations. This perspective suggests that regard for the environment is divinely mandated (Onah *et al.*, 2016). Given that the environment plays an important role in human life, humanity is expected to live in harmony with the other elements of their environment. As a result, there are unchanging laws, traditions, and punishments that guide human interactions with the environment. The environment might be protected, and climate change could be mitigated through such conservative mechanisms. For instance, the land is revered and referred to as Mother Earth in many African societies.

The arch-divinities are dominated by land divinity. For instance, the earth goddess known as Ala, Ani, or Ana. Ala/Ani/Ana refers to the earth goddess revered among the Igbo people of Nigeria.

She represents the land, fertility, and the nurturing aspects of nature in Igbo cosmology and religion. Although this may vary slightly depending on regional and dialectical differences within Igbo culture, she is the most revered deity among the Igbo people of Nigeria. Along with the ancestors, she is considered the goddess of fertility and the protector of morals (Onah, Alphonsus, and Ekenedilichukwu, 2016).

Ilogu (1985:35), in further consideration, Onah, Alphonsus, and Ekenedilichukwu (2016) argued that many social offenses are considered aru² or pollution because they breach the laws of the soil goddess. Offenses such as incest, theft of food, murder, and adultery are viewed as directly opposed to the goddess of the earth. When these offenses occur, it is believed that both individuals and the community suffer from the adverse effects of the earth goddess, leading to consequences such as famine and drought.

This belief arises from the notion that an individual's actions may impact other community members. Mbiti (1969) emphasized the significance of community and communalism among traditional Africans when he remarked, "I am because we are, and since we are, therefore I am." The mother earth's sanctions and prohibitions are scrupulously followed to prevent this negative outcomes, and if broken, they are appeased by the required propitiatory and atoning sacrifices.

4.3.3. The Igwebuike Theory.

Kanu's (2022) investigation of African eco-theologies employs the Igwebuike theory. In this study, Kanu notes that since the advent of civilization, human activities have directly contributed to the real threat of extinction by degrading, polluting, and destroying the habitat that supports and shelters them. Furthermore, these actions have made the environment hostile and created breeding grounds for both common and uncommon illnesses.

²aru," it means it is impure, ritually polluted, or in violation of sacred norms and principles.

The formation of an African Eco-theology is grounded in the idea that climate change, which affects various parts of the world, warrants alternative perspectives and approaches, including in theological discussions. This theory advocates for a considerate, respectful, and courteous attitude towards others and the realities of nature. It emphasizes the understanding that every aspect of reality serves a predetermined purpose set by its creator while highlighting the close connection between the physical and spiritual worlds, where the physical realm is viewed as a manifestation of powerful spiritual forces (Kanu, 2022).

According to the Igwebuiké theory, no one person or group of people can define and pursue their goals independently without considering their shared origins and complementary natures. Refusing to understand the realities of unity, interdependence, and complementarity, as well as actions that deviate from its guiding principles, will have profound consequences in terms of discord and imbalance in the human world (Kanu, 2014). The Igwebuiké framework acknowledges that no one is an island (Kanu, 2017), which informs the development of African eco-theology. If physical and spiritual realities are interconnected, then this theory must be comprehensively constructed.

The link between people and nature or the environment is based on the Igwebuiké principle of wholeness. Simply caring for another person on a human level is insufficient; physical nature requires care as well. Since human beings and the physical world interact to form a home, together they constitute the whole. Maintaining harmony requires such care and respect (Kanu, 2016). Given their nature as rational beings, humans have the right to bear this duty. According to Kanu (2014), the relationship between religion, nature, and the inescapable presence of the divine element in human reality is highlighted as a theological concept, especially concerning environmental issues.

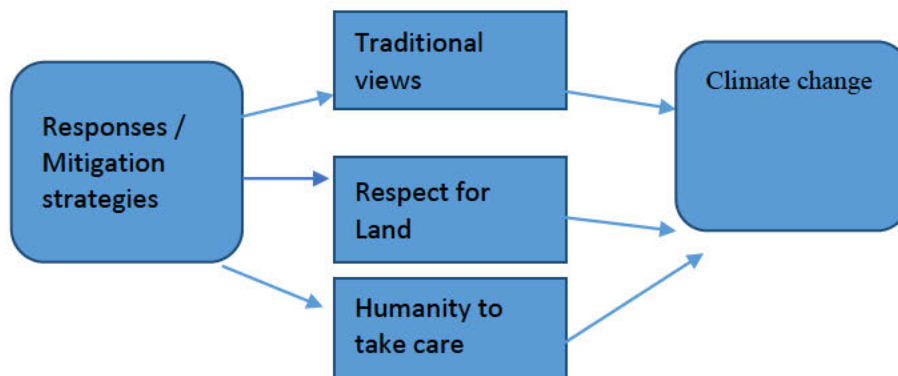
In 1995, Bartholomew I, the Ecumenical Patriarch of the Orthodox Church, made a notable effort to convene leaders from both society and religion to discuss strategies for addressing environmental challenges. Since nature is God's creation and a manifestation of His power and

love, it is ultimately His property. God gave humanity the earth along with a commensurate duty. While humanity depends on the resources of the planet to thrive, it also has the responsibility to care for creation. The preservation of the environment is a priority over its overuse. Creation is not to be viewed as someone's personal possession that can be dominated or willfully destroyed. God has entrusted humanity with a tremendous gift in creation, which must be treated with great respect and gratitude (Jonas, 1985).

4.3.4. Sustainable Cultural Resilience Framework for Climate Action.

According to Stokols, *et al*, (2013) the Sustainable Cultural Resilience Framework for Climate Action emphasizes the interconnectedness of culture and the environment. By valuing and integrating cultural perspectives into climate action, which can create strategies that not only tackle climate challenges but also promote sustainable communities that honor their heritage (Stokols, *et al*, 2013). This holistic approach is essential for building resilient societies that can adapt to and thrive in a changing climate while preserving their unique cultural identity. The figure 4,2 helps to understand Sustainable Cultural Resilience Framework used in this study.

Figure 4.2: Sustainable Cultural Resilience Framework.



Source: Author's own

According to Sanganyado, Teta, and Masiri (2018), their research on the impact of African traditional worldviews on climate change adaptation, published in *Integrated Environmental Assessment and Management*, indicates that responses to climate change are influenced by traditional views, respect for the land, and humanity's responsibility to care for nature. Similar results were found by Hamin, Abunnasr, and Ryan (2019) in their study entitled *Planning for Climate Change: A Reader in Green Infrastructure and Sustainable Design for Resilient Cities*. In

light of these findings, responses to climate change can be significantly enhanced by considering traditional views that emphasize respect for the land and a deep commitment to caring for nature. By drawing on these cultural perspectives, we can provide valuable insights and guidance for developing effective strategies to mitigate and adapt to climate change.

Sanganyado, Teta, and Masiri (2018) further found that integrating traditional values that prioritize stewardship of the environment and respect for the interconnectedness of all living beings can foster a more sustainable and harmonious relationship with the natural world. According to Hamin, Abunnasr, and Ryan (2019), embracing these traditions not only enriches our understanding of climate change but also underscores the ethical imperative of safeguarding the planet for current and future generations. Ultimately, honoring the wisdom embedded in cultural traditions can cultivate a holistic approach to climate action that prioritizes environmental sustainability and promotes the well-being of both humanity and the natural world.

In accordance with the objectives and nature of the study, the researcher adopted two theoretical frameworks as they address and guide the study, focusing on two aspects—climate change mitigation within the African context and the religious aspect to encompass God and the Church. Akanbi and Ezema (2021) observed the complex problem of climate change and suggested groundbreaking approaches within the field of theology. Therefore, in the context of African response theology, Kanu (2014) offers the Igwebuiké framework.

Adopting an approach to climate change rooted in the virtues of kindness, consideration, respect, and courtesy toward both people and the realities of nature is essential. The understanding is that "every reality serves a purpose predetermined by its creator" (Iroegbu, 2019). The Igwebuiké framework also recognizes the interconnectedness between the physical and spiritual worlds, viewing the physical world as a "manifestation of powerful spiritual forces" (Kalu, 2010). This African indigenous response to climate change aims to consider the complexity of the issue and the interconnection between humans and the environment (Iroegbu, 2019).

Furthermore, the relationship between humans and nature is another factor that explains why this theory is applicable and serves as a guide for this study. According to Kanu (2017), harmony is maintained by care and respect to sustain a comprehensive yet unique condition between an organism and other entities. Given their nature as reasoning beings, humans have the right to bear this responsibility (Kanu, 2016). On the grounds of the traditional view and religion, Mehtu (1987:54) argues that communication occurs through prayers, requests for blessings, and petitions or complaints. The conformist and protective mechanisms employed to mitigate climate change and protect the environment, as seen in the Karangwa community, perceive climate change through a religious lens. This perspective facilitates certain interventions and strategies that promote effective responses to climate change. African customs and beliefs emphasize the importance of valuing the environment, as they hold that God is inseparable from it.

In this view, every element of the ecosystem is considered sacred, and many natural objects are revered for religious reasons, especially those believed to be dwelling places for spirits (Gumo *et al.*, 2012). Furthermore, to support these frameworks for this study, other scholars suggest that since humans in Africa cannot survive without the divine, and the divine cannot exist apart from His creations, concern for the environment is viewed as divinely commanded (Opoku, 1993).

4.5. Summary

The chapter introduced the theoretical and conceptual frameworks employed in the research. The Onachi framework and the Igwebuiké theories were explored, and these traditional African perspectives on the universe highlighted the significance of respecting the land and the interconnectedness of humans, nature, and the environment. The chapter presents a conceptual framework illustrating the relationship between African responses, indigenous knowledge, church/religious views, and climate change. This framework aids in understanding the variables and their relationships, thereby verifying the claims of the study. By discussing the Karangwa religion's traditional view of the universe, the need for synchronization between humans and the

environment, as well as the importance of respecting the land, was emphasized. All of these frameworks and theories can effectively guide the UCZ's theological response.

CHAPTER 5

RESEARCH DESIGN AND METHODOLOGY

5.1. Introduction.

This chapter on research design and methodology provides an overview of the research methodology employed in this study. It includes a discussion of the quantitative research approach, mixed methods approach, and qualitative approach. The chapter also explores data collection methods, including secondary information sources, as well as the critical analysis of existing literature, archival search, and document analysis. The chapter outlines the criteria for inclusion and exclusion in the study, along with ethical considerations and study limitations. Finally, the chapter concludes with a summary of the key points discussed in the chapter.

5.2. Research Design

Research design refers to the overall strategy, plan, structure, and approach used to answer research questions and achieve research objectives (Tobi & Kampen, 2018; Creswell & Poth, 2016). Sekaran and Bougie (2016) describe research design as specifying the steps that must be taken in order to address the research challenge. Its main objective is to outline the framework for conducting a study and offer a roadmap for collecting and analyzing data to draw meaningful conclusions (Tobi and Kampen, 2018). The research design employed in this research is a qualitative design, focusing on exploring an indigenous African theological response to the impact of climate change by the United Church of Zambia (UCZ). The study endeavors to first examine the impact of climate change on communities in Zambia, including the UCZ. The study will then identify African resources that can be utilized for mitigation efforts and finally propose an indigenous African theological response to climate change within the UCZ. The study is motivated by the need to address the negative effects of climate change in rural communities, empower the UCZ to integrate cultural and spiritual values into their theological framework, and promote environmental stewardship, social justice, and community well-being.

5.3. Research Paradigm

The research paradigm serves as a framework that guides how research is to be conducted, encompassing the underlying assumptions, methodology, and techniques used to address research questions and achieve objectives (Musah *et al.*, 2020). The research paradigm of this research emphasises the necessity for an indigenous African theological response to climate change within the United Church of Zambia (UCZ). It will draw on the insights of African indigenous knowledge, which underlines the importance of incorporating indigenous knowledge systems, cultural values, and a contextualized theological outlook to respond to climate change more effectively and to promote community well-being, environmental stewardship, and social justice. By African indigenous knowledge, it refers to the body of beliefs, knowledge, and practices developed and practiced by indigenous African communities over generations concerning their relationship with the environment and sustainable resource management (Berkes, 2018). This indigenous knowledge system is deeply embedded and practiced in the cultural traditions of regional, indigenous, or local communities (Berkes, 2018).

In the African context, scholars like Mbiti (1991) have emphasized the deep-rooted connection between cultural beliefs and practices with the environment. This observation by Mbiti highlights the importance of drawing upon indigenous knowledge systems that have guided African communities for generations in responding to climate change. This further calls attention to the importance of integrating local cultural values into theological frameworks to develop meaningful and sustainable responses to environmental challenges. Similarly, scholars such as Idowu (1973) have stressed the need for African theology to be grounded in the unique realities of the social, economic, and political landscape of the continent. Idowu argues for the growth of a contextualized theological approach that resonates with the lived experiences and traditional beliefs of African communities. This paradigm supports the research focus on ensuring that the UCZ's response to climate change is culturally sensitive and relevant to the local context.

Furthermore, Orobator (2010) advocates for a holistic approach that addresses these concerns alongside environmental challenges within theological responses. Orobator's observations have highlighted the interconnected nature of climate change with pressing social issues such as social

injustice, poverty, and corruption in Africa. This aligns with the research paradigm's emphasis on integrating social justice and environmental concerns in the UCZ's theological framework to promote a comprehensive and impactful response to climate change.

The research paradigm underscores the importance of an indigenous African theological response to climate change within the UCZ. By drawing on the insights of African scholars, the research advocates for the integration of contextualized perspectives, cultural values, and indigenous knowledge to effectively address the adverse effects of climate change and promote sustainability within Zambian communities.

5.4. Research Approach

This research adopts the qualitative approach because it is well-suited for exploring complex phenomena such as indigenous theological responses to climate change (Berger and Kuckertz, 2016). This approach allows for an in-depth exploration of beliefs, values, and practices within the United Church of Zambia (UCZ) and the broader Zambian community. Qualitative research methods can help capture the nuances of indigenous perspectives on climate change and inform the development of culturally relevant responses (Berger and Kuckertz, 2016). There are three most commonly used research approaches: quantitative, qualitative, and mixed methods approaches (Saunders *et al.*, 2016).

5.4.1. Quantitative Research Approach

In quantitative research, deductive research methodologies are applied. Quantitative researchers also see the world as existing outside of themselves, with an objective reality distinct from their own observations (Rovai, Baker, and Ponton, 2014). Quantitative research may also be defined as a scientific investigation of a phenomenon based on the collection of measurable information. The results of the sample might be statistical. Surveys enable the researcher to distribute the questionnaires to the entire target population via email and at a low cost, requiring minimal effort from the respondents to complete the questionnaire.

5.4.2. Mixed Methods Approach

According to Creswell *et al.* (2017), the mixed-methods approach is an investigation that collects qualitative and quantitative data, then combines them to describe a specific theoretical framework that either of the two cannot adequately explain alone. The data-gathering method in this technique is divided into two sections. Depending on the research questions, data can be collected in two ways—sequentially or simultaneously (Morse, 2010). However, in this research, the qualitative data is quantified to explain the gathered replies and inform the quantitative data (Creswell *et al.*, 2017). The mixed methods approach frequently employs critical realism or pragmatic philosophical views, as well as deductive, abductive, or inductive approaches to theory development. These combinations are referred to as sophisticated mixed approaches (Saunders *et al.*, 2016).

5.4.3. The Qualitative Approach

According to Creswell *et al.* (2017), a qualitative method is one used to understand why a community or person ascribes to a phenomenon. According to Sekaran *et al.* (2016), the qualitative data technique entails gathering information in the form of words, such as notes from interviews, replies to questions, recordings, publications, and the internet. This information may be gathered from secondary sources.

Qualitative data analysis is carried out to extract persuasive insights from the enormous amount of data gathered. According to Mahlalela (2014), qualitative research is more useful because it produces in-depth and comprehensive information, seeking a wide understanding of the entire situation being studied. According to Group (2015), in qualitative research, the researcher serves as both the subject and the object of their research. The main aim of the qualitative methodology is to produce in-depth and illustrative information to help understand the various dimensions of the problem being analysed.

The technique used is influenced by a variety of factors, including the nature and topic of the research (Creswell *et al.*, 2016). For this research, a qualitative approach is employed, as scholars

like Creswell (2009) argue that the qualitative approach is predominantly suited for studies seeking to understand phenomena within specific contexts. In this case, the study explores the indigenous African theological response to climate change as articulated by the United Church of Zambia. This approach is relevant for gathering insights into the values, opinions, behaviors, and social context of a specific community. Given that the focus of this study is on exploring and articulating human responses and interactions with the natural environment, the qualitative approach can facilitate an in-depth examination of the subjective experiences, perceptions, and meanings that individuals in the community attribute to their interactions with climate change (Morse, 2010).

In the era of climate change, a qualitative approach is important as it can provide valuable insights and information regarding the human dimensions of the issue at hand. The use of qualitative research for this study is sustained by the idea that it produces more detailed and comprehensive information. Mahlalela (2014) emphasizes this point when stating that qualitative research is more useful because it produces more in-depth and comprehensive information and seeks a wide understanding of the entire situation that is being studied. Generally, qualitative methodology is well-suited for this study's objective of gaining a thorough understanding of the potential for an indigenous African theological response to climate change in the UCZ.

5.5. Location of the Study

The location of the study in this master's research paper is within the Zambian context. The research specifically focuses on the impact of climate change on vulnerable communities in Zambia, particularly rural communities. It specifically looks at the United Church of Zambia (UCZ) and explores an indigenous theological response to climate change within the Zambian context by the UCZ. The study addresses the challenges faced by the UCZ in responding to climate change, identifies effective strategies for combating its negative effects, and aims to improve the environmental, economic, and social well-being of communities in rural Zambia

5.6. Population and Sampling

The population of interest in this research includes secondary data collected, which encompasses members of the UCZ, rural communities affected by climate change, authorities in African

theology and environmental issues, as well as individuals and indigenous African communities impacted by climate change in the region. In order to gather insights from these diverse populations, a purposive sampling method will be utilized to select participants with specific knowledge or experiences related to the research topic. This will be helpful as Creswell (2014) proposes that purposive sampling might provide insight into the research question; this will involve purposefully selecting participants and literature because they might contribute something to the analysis. This approach helps ensure the validity and reliability of research findings by establishing a strong theoretical foundation.

5.7. Data Collection

The data collection methods involve the process of gathering data or information from appropriate sources to address the study topic at hand (Ingwenagu, 2016). This research examined formal documents, UCZ Synod minutes from 2010 to 2021, documents from UCZ departments such as the Community Development and Social Justice Committee (CDSJC), and UCZ Chipembi College of Agriculture official documents. Statements from ecumenical bodies such as the Council of Churches of Zambia (CCZ), the World Council of Churches (WCC), and Act Alliance, to which the UCZ is an affiliate; government climate change policies; climate change scholarly research; climate data online literature; and an online research thesis. These sources are directly relevant to the research question and offer an unfathomable understanding of the institutional response to climate change. These methods were used to determine an indigenous response to climate change by the UCZ. Comprehensive secondary content, such as documents from reliable sources and literature, was used to ascertain how Christian churches have managed to respond to climate change.

Care was taken with the data collected, based on other researchers' findings. It was sourced from reliable publishing entities and reputable universities' websites, like the UNZA and UKZN websites, Google Scholar, and others. These platforms are known for hosting peer-reviewed and scholarly content, adding to the reliability of the collected data. Such websites facilitated the gathering of all research and information, ensuring the data was coming from dependable sources, as well as legitimate websites and news pages that made information readily available. All

information was collected via the internet from off-campus facilities of the main library at the Pietermaritzburg Campus, alongside websites of the UKZN Library, United Church of Zambia University, the Justo Mwale University Theological Library, and widely consulted online resources that provided the necessary information. Ewuoso and Hall (2019) assert that these sources provide pertinent information relevant to this study. Bouchrika (2023) states that the process of gathering data from existing sources such as the internet, books, journals, articles, and other researchers' work is an attempt to address a study's problem statement and answer the research questions of a particular study. To gather pertinent information, three data collection methods have been employed: a critical analysis of existing literature, an archival search, and document analysis.

5.8. Archival Search and Data

The Synod UCZ Archive, located in Lusaka Synod House and at the United Church of Zambia University in Kitwe, was instrumental in acquiring information pertinent to the research. The archive contained minutes, policies, and documents related to the church and the UCZ specifically, which were thoroughly examined. The objective was to identify the church's resolutions regarding climate change, evaluate its responses, and assess its involvement in issues impacting both climate change and the UCZ. Additionally, the researcher conducted a critical review of contemporary church documents that address the process of Christian moral formation (Kangwa, 2020).

5.9. Data Analysis.

Analyzing secondary data proved effective in validating the effectiveness of the research questions being asked. For this reason, the researcher believes the method of data collection and analysis used has revealed evidence of the response of the UCZ to climate change. Therefore, an inductive thematic analysis was employed to analyze the data, as this will help determine the contextual relevance. Inductive thematic analysis is well-suited for capturing the context-specific nuances and complexities of the data. This method allows researchers to explore the data in its natural context, leading to findings that are relevant and grounded in the specific cultural, social, or organizational setting.

5.9.1. Thematic Analysis of Existing Literature

In this study, the literary research center of attention is on literature pertinent to the theoretical and methodological foundations of the study (Zainurrahman, 2023). The analysis of existing scientific studies relevant to this research encompasses communitarian ethics and responses to the impacts of climate change, with a particular emphasis on developing an appropriate African theological response. Using this process, a gap in the existing body of knowledge was identified, and the study aims to contribute to closing the gap. The use of thematic analysis on the existing literature has provided material relevant to a logical approach to the research question.

5.9.2. Onion Model

Using the onion model for thematic analysis is a valuable tool that can enhance researchers' understanding and approach to qualitative data analysis, facilitating rigorous and insightful research findings. In qualitative research, the onion model serves as a metaphorical framework for exploring layers of meaning within textual data (Saunders, Lewis, and Thornhill, 2016). Like peeling the layers of an onion, this approach involves delving deeper to uncover underlying themes and patterns. Each layer represents a level of analysis, with outer layers capturing broader themes and inner layers revealing more nuanced insights (Saunders, Lewis, and Thornhill, 2016). In this research, it will identify several key themes that are staged within the text. This stage will represent the overarching research design and methodology, which includes discussions on quantitative, mixed methods, and qualitative approaches, as well as data collection methods.

The next stage of the research will find the theme of research design, with a focus on the qualitative approach used to explore an indigenous African theological response to climate change within the UCZ. This stage explores specific objectives and strategies of the study, emphasizing the importance of cultural sensitivity and environmental stewardship. Further into the onion, we uncover the research paradigm theme, highlighting the need for an indigenous African theological response to climate change within the UCZ. This stage draws on insights from African scholars

and emphasises the integration of contextualized perspectives and indigenous knowledge for effective climate change responses.

The onion model of thematic analysis chosen is strongly related to UCZ's response to climate change. With the assistance of the literature review, the data was also analyzed, allowing the researcher to identify indigenous theological responses to the impacts of climate change. By analyzing the found data, the research helped to identify the impact of climate change on communities, identify African resources used for mitigation, and the UCZ response; this assisted in bridging the gap of literature found in the theological stance towards climate change. Reports, legal documents, scholarly research, and climate statistics were all analyzed in-depth for the researcher to gain knowledge of the theological stance towards climate change and collect the necessary data to answer the research questions and thus contribute to the understanding of the theological response to climate change. The data collected enabled the researcher to gain the theological stance towards climate change and views from across communities to determine an indigenous response to climate change by the UCZ. The use of secondary data became very important in understanding the theological response to climate change.

5.10. The Qualitative Approach.

The qualitative approach was chosen for its ability to determine the multifaceted perspectives on climate change within the UCZ and Zambian community. This stage emphasises the in-depth exploration of beliefs, values, and practices to inform culturally relevant responses. At the heart of this model lies the data analysis theme, where inductive thematic analysis will be used to explore the contextual relevance of the data collected. This stage allows researchers to identify the impact of climate change on the community, African resources that can be used for mitigation, and the UCZ response to climate change, bridging gaps in the existing literature on theological responses to climate change.

5.11. Validity and Reliability.

According to Denzin and Lincoln (2018), in highlighting the critical importance of key aspects in qualitative research, they stress the necessity for researchers to carefully evaluate the validity of their findings to ensure an accurate representation of the phenomena under study and to mitigate biases. Additionally, Denzin and Lincoln (2018) underscore the significance of reliability within qualitative research, advocating for the establishment of consistency and dependability in research methods and results to bolster the credibility of findings.

Conversely, in their work featured in "The Qualitative Report," Golafshani (2003:304) delves into the complexities of reliability and validity in qualitative research, stating, "By providing a framework for understanding these concepts, researchers are facilitated in navigating the intricacies of qualitative research and enhancing the overall quality of their work." This quote calls attention to the importance of having a structured approach to grasp the concepts of reliability and validity in qualitative research to improve the trustworthiness and accuracy of research studies. Golafshani's insights assist the researcher in steering the complexities of qualitative research and enhancing the rigor of the study by providing a clear framework for addressing these key methodological aspects. This offers insights to help the researcher ensure the trustworthiness and accuracy of the study.

Collectively, the perspectives of Denzin and Lincoln (2018) and Golafshani (2003) stress the essential nature of validity and reliability in qualitative research, providing valuable guidance for the researcher to conduct methodologically sound and credible studies within the field. In the context of the study on the UCZ's response to the climate change impact, methodological rigor is crucial for maintaining validity and reliability. This is achieved through rigorous research design, data collection methods, and analysis techniques as stated by Denzin & Lincoln (2018). By addressing internal and external validity concerns and ensuring internal and external reliability in line with Golafshani (2003), the study generated credible and rigorous findings that contribute to the understanding of indigenous African theological perspectives on climate change, enhancing the trustworthiness and applicability of the research outcomes in African theology and environmental studies.

5.12. Ethical Considerations

This study was exempted from ethics review by the Research Ethics Committee of the University of KwaZulu-Natal (reference: 00016996). Permission to conduct the study was also granted by the UKZN Research Ethics Office.

5.13. Summary

Chapter 5 provided an overview of the research design and methodology used in the study. The research design is qualitative and focuses on exploring an indigenous African theological response to climate change by the UCZ. The research paradigm emphasises the importance of integrating indigenous knowledge systems, cultural values, and contextualized theological outlooks to address climate change effectively. The research approach is qualitative, allowing for in-depth exploration of beliefs, values, and practices within the UCZ and Zambian community. The data collection methods used in this study include secondary information sources, the critical analysis of existing literature, archival search, and document analysis. The population and sampling focus on members of the UCZ, rural communities affected by climate change, and authorities in African theology and environmental issues. Data analysis involves thematic analysis of existing literature, archival search, and a comprehensive evaluation of the collected data. In terms of ethical considerations, the study was exempted from ethics review and obtained permission from the UKZN Research Ethics Office.

CHAPTER 6

DATA PRESENTATION, ANALYSIS, AND DISCUSSION

6.1 Introduction

This chapter will present and analyze the research findings, focusing on the essential role of indigenous knowledge and African traditional values in strategies for mitigating and adapting to climate change. The purpose is to explore how these indigenous knowledge and African traditional values viewpoints can serve as responses to the challenges posed by climate change. The chapter draws upon documents, journals, and peer-reviewed papers, including sources from the United Church of Zambia (UCZ), to offer in-depth insights into the subject matter.

6.2 Sources of Data

The data for analysis draws upon two main sources: UCZ documents and peer-reviewed papers. The UCZ documents from the church library include strategic plans, reports, meeting minutes, and other relevant materials that clarify the church's perspectives and actions regarding its response to climate change. Furthermore, the chapter incorporates insights from peer-reviewed papers that explore the intersection of indigenous knowledge, African traditional values, and climate change adaptation and mitigation strategies. Through synthesizing data from these two diverse sources, the chapter aims to provide a nuanced and thorough analysis of the church's perspectives and actions regarding its response to climate change.

6.3. Church Document Presentation of Results.

The outcomes of this thesis are laid out and addressed in UCZ documents, journals, and peer-reviewed papers. The discussion of this thesis has been thoroughly drawn upon through in-depth data analysis, essential in generating the themes that seek to answer the research question: "What would be an Indigenous African theological response to climate change?" The use of tables has been helpful in establishing and presenting this data, aiding in the identification of key patterns and insights. Through a thorough examination of both scholarly articles and firsthand accounts, this research explores how Indigenous African theological perspectives can significantly

contribute to tackling the obstacles presented by climate change. The following table displays key church documents that summarize the findings of this inquiry.

Table 6.1: Church Document Presentation

Title	Document Type	Content Summary	Results
Seeking the Church transformed: “a call to prudent stewardship in Church and Society” UCZ mission programme for 2011-2016) UCZ Publication @ 2011.	UCZ Strategic plan Report.	strategic plan and activities to addressing social problems	The UCZ acknowledges the significant effects of climate change and recognizes its responsibility to address the associated social challenges. However, there is a lack of detailed planning or information regarding UCZ's strategies and initiatives aimed at combating climate change.
UCZ Zambia Cover Tree Project. Enhancing Community Resilient Response to Climate . UCZ Publication @2018.	UCZ tree planting Plan	Strategically plan to plant trees Change	Indicate knowledge of the cause and impact of climate change. 10 years implementation plan to plant trees. Aware of the church role in collaboration with FBOs .
The UCZ Chama Rapid Assessment Report. May 2018.	Report on the UCZ response to floods	Assessment report on how the UCZ with other faith based organizations and the government responded to flooding in Chama	Indicate the awareness of impact of climate change on communities. No specific policy for the UCZ on climate change The UCZ worked with other FOB and the government.
UCZ Minutes of the Senior Management Committee Meeting. 16 TH MAY, 2020 UCZ Synod.	Senior Management Minutes	Tree cover Zambia" in item 17 under "Matters Arising From The Minutes	No progress on climate change resolutions.

UCZ Minutes of the Senior Management Committee Meeting. - 12 th FEBRUARY, 2021. UCZ Synod	Senior Management Minutes	SM2015 ,9.8 (i) in item 15"MATTERS ARISING FROM THE MINUTES	No progress on the Tree cover .Continue sensitizing the Church members
UCZ Minutes of the synod executive meeting: Action sheet 18th 19th April 2021.UCZ Synod	Synod Minutes.	SE/2017/21(ii)Implementing the Subject matter and action to be taken "	The first Saturday of November is designated as a day for each church member to plant a tree.

Source: Author

6.3.1. The UCZ Church Document Analysis.

The document analysis of the UCZ Church reveals several gaps. Upon analyzing the minutes of the senior management meetings, it becomes evident that there is consistent emphasis on responding to climate change, environmental conservation, and climate mitigation. According to the UCZ Strategic Plan Report of 2011, entitled *A Call to Prudent Stewardship in Church and Society*, it was resolved that the church would embark on plans to plant trees under the Zambia Cover Tree Project aimed at enhancing community response to climate change (UCZ Strategic Plan Report, 2011). During the 2017 meeting of the Synod Executive, a resolution was passed establishing the first Saturday of November as an official day for each church member to engage in tree planting and management activities. This initiative, intended to run from 2017 to 2030, encourages participation at each mission station in proximity to the respective congregations (SE/2017/21(ii)).

However, further analysis from previous Senior Management Committee Meetings, specifically from May 2020 and the minutes from the meeting held on 12th February 2021, indicated that these initiatives were still in progress. This suggests that progress on these initiatives has been slow, with resolutions yet to be implemented. The report titled *Seeking the Church Transformed: A Call to Prudent Stewardship in Church and Society* emphasizes that the UCZ recognizes the multifaceted challenges faced by communities beyond just Sunday church gatherings, including climate change, gender-based violence, and global health issues (UCZ Report, 2011). Despite this

awareness, the UCZ is seen to struggle in taking proactive steps to address these challenges and to tackle the severe impacts of climate change on local ecosystems.

The Minutes of the Senior Management Committee Meetings indicate discussions on the need to adopt the Tree Cover Zambia concept and to sensitize church members on environmental care, highlighting ongoing efforts to address climate change. Collaboration with Civil Society Organizations and Faith-Based Organizations is mentioned as a key strategy for the UCZ in effectively addressing the impact of climate change. However, the lack of a distinct climate change policy or theological response raises questions about the UCZ's commitment and effectiveness in responding to climate change impacts.

The UCZ Church's approach to climate change and environmental conservation exposes significant gaps in its policies and actions. Despite consistent stress on addressing climate change and environmental issues in senior management meetings, the UCZ Church currently lacks a formal climate change policy. This absence raises questions about the organization's effectiveness in addressing these critical issues concerning climate change and the environment. The 2017 Strategic Plan for the UCZ designates a specific day for tree planting by church communities, indicating an intention to respond to climate change. However, ongoing reports indicate slow progress and implementation delays (UCZ Report, 2017)

This clearly demonstrates a disconnection between the Church's awareness and action plans regarding climate change. The gaps in practical steps taken by the UCZ Church, as highlighted in the 2017 report *Seeking the Church Transformed: A Call to Prudent Stewardship in Church and Society* point to the need for tangible actions that the UCZ Church must bridge to fully address and respond to climate change and related issues. This report points to a crucial need for tangible actions that the UCZ Church must undertake to fully address and effectively respond to climate change and the related environmental concerns that are increasingly becoming critical global challenges. It is essential for the Church to recognize these gaps and to develop comprehensive strategies that not only raise awareness but also translate this awareness into action. Table 6.2 condenses the struggles made by the UCZ in response to climate change, along with any gaps or challenges identified:

Table 6.2: Church Document Analysis Results

DOCUMENT TITLE	DOCUMENT TYPE	SUMMARY OF RESPONSES	IDENTIFIED GAPS
UCZ Strategic Plan Report (2011)	Strategic Plan	- Call for prudent stewardship in Church and Society	No specific planning for UCZ involvement in climate change
UCZ Zambia Cover Tree Project (2018)	Report	- 10-year tree planting plan	Lack of specific policy on climate change
the UCZ Chama Rapid Assessment Report (May 2018)	Report	- Response to floods in Chama	No specific policy for UCZ on climate change
UCZ Minutes of the Senior Management Committee Meeting	Meeting Minutes	- Discussion on implementing tree cover Zambia concept	Slow progress on resolutions and implementation delays

Source: Author |

From the analysis of UCZ documents, it is evident that the church has made efforts to address climate change through initiatives such as tree planting and disaster response. However, notable gaps and challenges remain, including the lack of a specific climate change policy and delays in implementing resolutions.

6.4. Report and Peer Papers Results.

The analysis and findings of peer-reviewed papers on climate change and environmental sustainability reveal some interesting issues. In Thomas Hirsch's 2018 paper titled *Limiting Global Warming to 1.5°C: The Climate Risks and Irreversible Losses We Must Avoid*, Hirsch discusses the critical need for stringent climate policies to mitigate irreversible damage resulting from global warming. Hirsch emphasizes that responses to climate change are vital to protect vulnerable communities, including the poor. His paper sets the stage by highlighting the imperative need for practical responses to climate change to mitigate irreversible losses.

Transitioning to the second set of papers, Kennedy M. Kanene's (2016) work titled *Indigenous Practices of Environmental Sustainability in the Tonga Community of Southern Zambia*. investigates the indigenous knowledge employed by the Tonga communities to conserve the

environment and respond to climate change. In contrast, the study by Murphy *et al.* (2015), titled *Adapting to Climate Change in Shifting Landscapes of Belief*, emphasizes that culture and beliefs play an important role in adaptive capacity but are not static.

Furthermore, the third set, the study by Murphy *et al.* (2015), discusses how belief systems in Africa adapt to climate change. It explores the concept of interconnectedness within African beliefs, involving God, humanity, and the cosmos, as well as the African view of community. Furthermore, African perspectives underscore the significance of communal relationships and responsibilities. In a similar vein, George Christian Niche’s (2014) thesis, *African and Christian Theology of the Environment as a Model for the Control of Global Warming*, proposes a framework that blends African and Christian environmental theology to tackle the pressing issue of global warming. Niche presupposes the use of natural elements and the pervasiveness of religion in African culture.

Through a comprehensive analysis of these peer-reviewed papers, a multifaceted exploration of key themes, challenges, and potential solutions concerning climate change and environmental sustainability will be discussed. Distinctive themes, namely Climate Impacts, Indigenous Knowledge for Conservation, and Environmental Syncretism, emerge as critical areas necessitating further discussion, as shown in Table 6.2 below. It will serve as a compilation of knowledge, insights, and actionable strategies, stimulating stakeholders across sectors to engage in informed dialogue and collaborative action. By nurturing interdisciplinary conversations and promoting multicultural understanding, organizations will lay the groundwork for comprehensive approaches to address the interconnected challenges of climate change and environmental sustainability.

Table 6.2. Report and Peer Papers Results Presentation

DOCUMENT NAME	DOCUMENT TYPE	SUMMARY	RESULTS	THEME
Limiting Global Warming to 1.5°C The Climate Risks and Irreversible Losses We Must Avoid Year published: 2018 Author: Thomas Hirsch, (2018),	A thesis on climate change impact Peer Report	The report emphasizes the importance of effective climate change responses in protecting vulnerable communities, especially the impoverished.	1. Climate change poses a significant threat to communities around the world. 2. Even small increases in temperature can have profound effects on local communities.	Climate Impacts

			3. Climate change endangers the economic, social, and cultural fabric of communities.	
Indigenous practices of environmental sustainability in the Tonga community of southern Zambia Year: 2016 Author: Kennedy M. Kanene. Publishers: AOSIS Publishers	A research journal paper	Discusses the indigenous Knowledge employed by the Tonga communities to conserve the environment and to respond to climate change.	Selective harvesting, totemism and taboos, organic farming, crop rotation and intercropping, the sacredness of water sources, and traditional authority are essential instruments for environmental conservation.	Indigenous knowledge for conservation.
Adapting to climate change in shifting landscapes of belief Year: (2015) Author: Murphy <i>et al.</i> , Publisher research gate. publication	Article in Climatic Change	The findings indicate that culture and beliefs significantly influence adaptive capacity; however, these factors are not static and can evolve over time.	The thesis reveals that religious beliefs have tangible influences on the lived practices of individuals and communities, and vice versa, making them an important determinant of adaptive capacity	
African and Christian theology of environment as a model for the control of global warming	Journal of Interdisciplinary Studies	It explores the concept of interconnectedness within African beliefs, involving God, humanity, and the cosmos, as well as the African view of community	ATR when intertwined with nature, and Christianity respond to climate change. .	Environmental Syncretism ³
The Impact of Climate Change on African Traditional Religious Practices Year :2014 Author :George Christian Niche, Published : University of Nigeria,	Journal of Earth Science & Climatic Change	The thesis presupposes the use of natural elements and pervasiveness of religion in African culture. Concludes that climate change has affected African traditional religion.	ATR uses natural elements as a means of expressing faith and that religion pervades African culture. The analysis showed that climate change is affecting ATR, both directly and indirectly.	

Source: Author |

³ Environmental syncretism is in this thesis is defined as the merging of various environmental beliefs and practices from different cultures, religions, and philosophies into a unified approach to address environmental issues and promote sustainability.

6.4.1. Impact of Change.

In analyzing the document entitled *Limiting Global Warming to 1.5°C: The Climate Risks and Irreversible Losses We Must Avoid* by Thomas Hirsch (2018), the findings indicate that climate change poses significant risks to many communities (Hirsch, 2018). Hirsch's assertion is also confirmed by the IPCC (2012), which further claims that climate change poses a global threat with far-reaching implications for communities. These threats necessitate prompt responses, as Hirsch (2018:39) found that "climate change presents the single greatest threat to the livelihood, security, and well-being of Pacific people." Analyzing Table 6.2 suggests that climate change is a significant threat to communities globally. The table illustrates that small increases in temperature can have intense impacts on these communities. It also emphasizes that climate change threatens the economic, social, and cultural fabric of communities, underscoring significant risks such as extreme weather events, rising sea levels, ecological disruption, public health hazards, and food and water insecurity. These findings underscore the imperative need for action to mitigate the hostile effects of climate change on communities, as highlighted by Kennedy (2015), who has called for humanity to respond to the reality of climate change by urging collective action to address this critical issue. Therefore, it can be agreed that the UCZ has also been affected by climate change. This observation underscores the harshness of climate change as an impending danger to communities worldwide.

The observation further implies that the effects of climate change extend beyond environmental concerns, directly impacting the well-being and sustainability of communities. Potential threats encompass severe meteorological occurrences, increases in sea levels, loss of biodiversity, and challenges to vital resources such as freshwater and food supplies. Surprisingly, Hirsch (2018) reveals that even miniature temperature increases can result in significant changes in the climate and consequences for communities. Balasubramanian's (2013) findings echo Hirsch's revelations, noting a correlation between their observations regarding the impact of weather on the biomes discussed in Chapter Two of the thesis. This alignment highlights the significant influence of weather patterns on determining the characteristics and underlying forces of diverse ecosystems.

This highlights the sensitivity of biomes to changes in climate restrictions, underlining that even seemingly minor shifts can lead to noticeable and potentially harmful effects (Balasubramanian,

2013). These climate impacts not only affect communities but can also include implications for agricultural productivity, including increased frequency of droughts, floods, altered disease patterns, and shifts in ecosystems. Hirsch (2018) underscores the complex and multifaceted character of climate change risks, emphasizing that these threats go beyond environmental degradation to have major economic, social, and cultural consequences. This critical observation, derived from Hirsch's research, demonstrates that climate change does not function in a vacuum; rather, it interacts with and weakens numerous areas of communal life. This approach is supported by the work of other experts in the same field of study. Mulenga *et al.* (2020) contend that the vulnerability of many Zambian communities is compounded by their reliance on rain-fed agriculture, which is their principal source of income. Due to their dependency on this form of agriculture, these communities are especially vulnerable to the unpredictable effects of climate change.

Furthermore, Dankelin (2010) and Siwila (2015) have noted that the effects of climate change disproportionately affect women, significantly limiting their lives and economic opportunities. This gendered element of climate vulnerability is a considerable source of concern that should not be neglected. Additionally, Mokena and Dolan (2020) argue that the effects of climate change are not only economic and social, but also contribute to the perpetuation of gender inequality. Their findings suggest that women's experiences with climate change mirror deeper systemic disparities in society, exacerbating the challenges posed by this global issue. In conclusion, the connectivity of climate change with numerous components of community life, coupled with its differential impact on various genders, emphasizes the urgent need for comprehensive approaches. Economically, the majority of the impoverished rural populations are highly dependent on natural resources, agriculture, fisheries, forests, and traditional knowledge for their livelihoods (Hirsch, 2018:15).

These changes can disrupt industries reliant on natural resources, lead to increased costs for adaptation and mitigation measures, and exacerbate inequalities. Socially, they can strain community cohesion, exacerbate conflicts over dwindling resources, and disproportionately affect vulnerable communities. Culturally, they can lead to the loss of traditional practices and knowledge tied to local environments and ecosystems. These results highlight the far-reaching

nature of the impact and challenges posed by climate change to communities, traversing environmental, economic, social, and cultural domains. Analyzing these challenges brings the realization that the impact of climate change is universal; communities in Zambia, including the church, are affected by climate change. This calls for local, national, and international coordinated efforts to mitigate greenhouse gas emissions, adapt to the changing climate, and build resilience within communities.

6.4.2 Indigenous Knowledge for Conservation.

The findings of this thesis highlight the significance of African Indigenous Knowledge (IK) in addressing climate change, especially within the Zambian context. Western scholars, including Kumar (2021), Posner, and Weisbach (2010), have overlooked African indigenous knowledge. Chammah (2016) attributes this disregard for IK to the Western colonial concept of the environment based on cultural injustice. This Western concept, steeped in cultural injustice, sought to replace the African indigenous worldview with Western concepts and categories (Chammah, 2016). The failure of Western frameworks to recognize African indigenous knowledge not only neglects valuable insights and perspectives but also perpetuates a Western-centric narrative that hinders inclusive and comprehensive research efforts. By neglecting IK, valuable opportunities for understanding and addressing climate change are forfeited, strengthening power imbalances and eroding cultural heritage.

The overlooking of African indigenous knowledge creates an imbalanced power dynamic, deters the development of contextually appropriate solutions, encourages a one-sided narrative, and contributes to the erosion of cultural heritage. Therefore, recognizing and valuing African indigenous knowledge is critical for holistic and inclusive academic and societal progress in the area of climate change. Kanene's (2016) research findings on indigenous practices of environmental sustainability in the Tonga community of southern Zambia provide evidence that the use of selective harvesting, totemism, taboos, organic farming, crop rotation, intercropping, the sacredness of water sources, and traditional authority are essential instruments of environmental conservation that indigenous Africans, including the Tonga, possess to mitigate climate change.

It could be further argued that although the indigenous communities may not have understood climate change from a scientific perspective, they possess an extensive record of using indigenous and local knowledge (IK) to guide responses to climate change. Leal Filho *et al.* (2021) agree with the finding that Indigenous Knowledge (IK) provides effective measures for mitigating climate change. They believe that IK has been overlooked in efforts to address climate change, contributing to the increasing problem of food insecurity in Africa. The Tonga people of Southern Zambia exemplify the effective use of Indigenous Knowledge (IK) in climate change mitigation strategies (Kanene, 2016). Their conservation practices include sustainable methods such as selective harvesting, totemic beliefs, the establishment of taboos, as well as organic farming techniques and crop rotation. Additionally, the Tonga people emphasize the sacredness of water sources and adhere to traditional authority practices, all contributing to their extensive environmental stewardship (Kanene, 2016). It could be argued that these practices employed by the Tonga people serve as their main instruments of environmental conservation. According to Kanene (2016), it could be posited that these practices exhibit the Tonga people's deep understanding of their environment and their commitment to preserving and protecting it. Sustainable management of natural resources can be achieved through various practices. Selective harvesting helps to ensure that resources are used responsibly. Traditional beliefs, such as totemism and cultural taboos, foster respect for specific species and habitats, promoting ecological balance.

Additionally, organic farming techniques, including crop rotation and intercropping, play a crucial role in maintaining soil fertility and overall ecosystem health. Governance provided by traditional authorities is essential for enforcing environmental conservation measures, such as recognizing the sacredness of water sources to protect aquatic ecosystems. Together, these practices create a holistic approach that supports both the environment and local communities. The combination of these practices showcases the Tonga people's holistic approach to environmental sustainability and the importance they place on maintaining a harmonious relationship with their surroundings.

The thesis finds that the Tonga culture promotes ethical and responsible behavior toward their environment (Kanene, 2016). As shown by Kanene (2016), the Tonga community ensures that fruit trees are left unharmed while cutting down other trees to prepare fields for crops. Regarding the conservation of animals and birds, it could be argued that these were conserved due to the

belief that the Tonga people trace their descent from these animals and birds, creating different clans and resulting in taboos against killing or consuming their descendants, including the killing of scavenger birds. According to Kanene (2016:6), most elderly members and traditional leaders believe that eroded soils from fields increase siltation, leading to the 'death' of water sources. This insight suggests that African indigenous knowledge of the environment can be harnessed to address climate change and promote sustainable development. Such cultural practices may serve as a foundation for enhancing environmental sustainability in other communities.

Research conducted by Chibuye and Buitendag (2020) among the Lamba people of the Copperbelt Province of Zambia revealed that in indigenous ethical and responsible behavior toward their environment, everything in the biome system and nature is considered genuinely religious and should be respected. It is through the belief and understanding that God cannot be separated from it. It is believed that spirits residing in forests, streams, hills, and mountains are responsible for the welfare of individuals, families, and communities. This interconnection perspective is echoed by Oduyoye and Mombo (1998). This view holds that human beings are an integral part of the natural environment and emphasizes the importance of living in harmony with all forms of creation.

Therefore, recognizing the interconnectedness of humanity with nature can foster a sense of responsibility toward preserving ecological balance and promoting sustainability. This holistic view inspires practices that respect and uphold natural ecosystems and further advocates for a lifestyle that aligns human activities with environmental stewardship. Similarly, the Tonga mitigation measures were achieved by respecting the land, as it was considered sacred and as God's gift to humanity (Kanu, 2020). These findings are significant concepts in African theological philosophy that are embedded in Zambian culture. It could be argued that these concepts, which promote ethical and responsible behavior toward the environment, align with the Onachi framework and the Igwebuiké theory. This inspires fostering a sympathetic, thoughtful, respectful, and polite demeanor towards both individuals and the natural world.

Chibuye and Buitendag (2020) argue that one critical resource for responding to climate change is the ontological perspective. They propose that understanding the interconnectedness of humanity, nature, and the spiritual world is essential for developing effective responses to climate challenges.

The African ontology is that humanity, nature, and the spirit world are interconnected in relationship with each other and should live in harmonious community. It acknowledges that humanity is a part of a larger cosmic order and that well-being is linked to maintaining harmonious relationships with the divine, other human beings, and nature. This perspective aligns with the assertion made earlier in this study by Barga (2021), which emphasizes that African theological thought is strongly based on the concept of a connection between God, humanity, and the cosmos. This communal view includes both living beings and non-living entities. It also calls attention to the responsibility of humanity to care for and steward the natural environment.

The acknowledgment of this perception is vital for maintaining life and emphasizes the interconnectedness of people with nature and the larger community of creation. According to Chibuye and Buitendag (2020), the Lamba people believe that everything in the ecosystem and environment is deeply religious and should be respected, as they understand that God cannot be separated from it. The spirits that reside in forests, streams, hills, and mountains are responsible for the welfare of individuals, families, and communities. Considering these factors, this thesis holds that the destruction caused to the environment leads to an alienation of humanity from their relationship with the deity and the spiritual world. The loss of this connection can have intense consequences for human well-being and can also compromise the social structure that binds communities together. Mkandwire (2020) attributes this loss to the inherited colonial conception of dominion rather than the indigenous knowledge of the community.

The ontological and ethical perspectives on responsible behavior among the Lamba people resonate with the principles of Igwebuiké thought, which underscores that neither individuals nor groups can establish and pursue their objectives in seclusion. Instead, they must acknowledge their interconnected origins and the harmonizing nature of their relationships. This thesis observes that the indigenous knowledge found among the Lamba people reflects a deep spiritual connection to nature and emphasizes the importance of environmental conservation, stewardship, and living in harmony with the natural world, encapsulating an environmentally friendly perspective. Consequently, this concept of African environmental theology could contribute to formulating an indigenous response to climate change.

From an African ontology viewpoint, the interdependence between humans and the natural world can inspire a more respectful and responsible use of the environment. Kaoma (2021) asserts that the preservation and stewardship of the earth are crucial for humanity, as the earth is not only humanity's definitive home but also the definitive home to all living beings, ancestors, spiritual entities, and future generations of life. The practices utilized by these communities for environmental conservation have implications for climate change mitigation. They promote biodiversity, carbon sequestration, soil health, water conservation, and community resilience, all of which help in reducing the impacts of climate change and promoting environmental sustainability. Mythology, when viewed through Western perspectives, can provide vital knowledge and inspiration for preserving the natural environment and promoting sustainable practices. The findings in this thesis, focusing on the Tonga communities of the Southern Province of Zambia and the Lamba communities of the Copperbelt Province of Zambia, propose that Zambia's indigenous communities possess significant eco-theological potential rooted in African traditional thought. This perspective can be drawn upon to mitigate the impacts of climate change.

6.4.3. Environmental Syncretism

The findings of this thesis suggest that the amalgamation of African and Christian theology can be a prevailing tool in reducing global warming. As Olusakin and Udoh (2018) suggest, integrating African and Christian environmental theology could contribute to efforts aimed at mitigating global warming. This viewpoint emphasizes the importance of community and interconnectedness, which is reflected in the Igwebuiké view (Kano, 2017). According to the Igwebuiké view, "all aspects of the environment, including living and non-living things, are essential and should be respected and protected" (Kano, 2017). In addition to the African view of community, as emphasized in Chapter 2, it highlights the significance of interconnectedness between humans and the environment (Ngwena, 2020). The interconnectedness perspective challenges the linear view of development that has been dominant in Western society, which often prioritizes individual interests over communal well-being. As Ngwena (2020) notes, "the African view of community emphasizes the interconnectedness between humans and the environment."

However, this contrasts with Christian theology, which emphasizes the importance of responsible stewardship of the environment, as held in the eschatological view (Olusakin and Udoh, 2018).

This Christian eschatological view discourages undue consumption and manipulation of natural resources, which is seen as contributing to global warming. This sentiment is echoed in indigenous knowledge (Pardee, 2013; Barga, 2021; Jenkins, Berry and Kreider, 2018). Olusakin and Udoh (2018) argue that the Christian eschatological view discourages excessive materialism, which they identify as a root cause of global warming. This eschatological perspective fosters a holistic attitude toward environmental matters that prioritizes the well-being of the environment and all living beings. This perspective can play a significant role in determining the appropriate indigenous African theological response to climate change in Zambia by the UCZ. The view's emphasis on responsible stewardship and the discouragement of excessive consumption and exploitation of natural resources aligns with the African worldview's emphasis on interconnectedness and harmony with nature. This thesis sees a striking resemblance in the eschatological views of both IK and Christianity concerning the preservation of nature.

This thesis suggests that environmental syncretism can be a productive response to addressing environmental issues such as climate change. By combining African and Christian perspectives on environmental issues, emphasizing community, interconnectedness, and responsible stewardship, a more holistic approach to responding to climate change can be developed.

6.5. Summary

This chapter presented an analysis and discussion of UCZ document data that offers insights into the responses to climate change within the United Church of Zambia (UCZ) and broader African contexts. The discussion and analysis were drawn from the documents from the UCZ and peer-reviewed papers to analyze the church's perspectives and actions on climate change. It discussed and analyzed the role of indigenous knowledge and African traditional values in climate change mitigation and adaptation. The analysis exposes gaps in the UCZ's policies and actions, which included a lack of a distinctive climate change policy and slow progress on initiatives such as tree planting and disaster response. The chapter also highlighted key themes, challenges, and potential solutions for climate change and environmental sustainability, including the importance of indigenous knowledge and environmental syncretism, and concludes that these critical areas necessitate further discussion.

CHAPTER 7.

CONCLUDING OBSERVATIONS AND RECOMMENDATIONS

7.1 Introduction

Chapter 7 provides a comprehensive conclusion to this investigation, with a focused emphasis on how indigenous African theology can effectively and appropriately address the pressing issue of climate change, particularly within the context of the United Church of Zambia (UCZ). The main objective of this chapter is to synthesize the key findings and crucial insights obtained during the research process. Overall, the study seeks to provide a thorough understanding of how indigenous African theology can inform and significantly enhance climate action strategies at both local and broader levels. This chapter also presents a detailed synopsis of the research findings, particularly highlighting the critical need for the UCZ to prioritize the integration of indigenous African theological responses into its teachings and practices. The deep connection between spiritual beliefs and environmental concerns is underscored as a central theme, emphasizing the potential influence of the UCZ in fostering this connection to contribute towards a more sustainable and equitable future for all individuals in the face of escalating climate change challenges. Additionally, the chapter offers concluding reflections and considerations regarding the implications of the research findings for the broader theological dissertation, specifically within the wider field of environmental theology and its relevance to the UCZ. In order for the UCZ to enrich its response to climate change, a focus on practical steps that can be undertaken to further integrate indigenous knowledge systems and strengthen environmental stewardship initiatives is presented as a set of recommendations for the UCZ to consider seriously. Therefore, by presenting a well-organized synthesis of key insights, conclusions, and actionable recommendations, this chapter aims to guide the way forward for the UCZ in its mission to effectively address climate change through a well-considered theological lens.

7.2 Summary of the study

This research sought to explore the ways in which the United Church of Zambia (UCZ) can effectively respond to the environmental crisis in a manner that aligns with established African values, traditions, and spiritual beliefs, ultimately leading to a more sustainable and just future for

all. The central question posed by this research seeks to answer, “*What* would be an indigenous African theological response to climate change in Zambia by the UCZ?” This inquiry has been addressed using a structured approach that incorporates multiple facets of the research objectives.

Chapter 1 provides an introduction and background to the study on climate change and its profound impact on Zambian communities, particularly within the United Church of Zambia (UCZ). It emphasizes the disproportionate effects that climate change imposes on marginalized communities and underscores the pressing need for an indigenous theological response. The text explores the implications of climate change on human rights and social justice, highlighting the inadequacies present within the current theological framework for addressing climate change, while also delving into the motivation behind the study. It establishes the foundation of the research problem, research questions, objectives, and limitations, culminating in the development of a focused approach aimed at incorporating local values to combat climate change effectively in Zambia. The foundation of Chapter 1 probes into the perceptive importance of understanding climate science in relation to global ecosystems and the consequential effects of climate change on various sectors, particularly agriculture, water resources, health, and household well-being. Within this context, the crucial role of the atmosphere in regulating carbon and water within the climate system is underscored, illuminating the intricate interplay of factors that define our changing climate. Overall, Chapter 1 provides a comprehensive overview of the background, research questions, the significance of the study, and the motivation for exploring an indigenous theological response to climate change in Zambia.

Chapter 2 reveals a critical ongoing debate surrounding the driving forces behind climate change. Scholarly perspectives are contrasted, with some scholars like Emanuel (2018) and Glaab (2017) ascribing climate change primarily to anthropogenic activities, particularly the combustion of fossil fuels, while others, such as Brown and Sonwa (2015), contend that natural occurrences serve as the primary drivers of climate change. Furthermore, the chapter probes into indigenous African viewpoints on climate change articulated by (Mawere (2013), which emphasize the imperative of sustainable practices and equitable utilization of natural resources to foster resilience in the face of environmental challenges.

The chapter shifts its specific focus on Zambia, and in this section, it candidly examines the noticeable consequences of climate change experienced by various communities throughout the country. The chapter highlights the recurring devastations of floods and droughts, alongside rising temperatures, indicating that communities in Zambia grapple with multifaceted climate-related risks that pose significant threats to their livelihoods. Additionally, it elucidates the unequal effects of climate change on women, exposing prevalent gender disparities in agricultural practices, household welfare, and access to essential resources, particularly in the water sector (Siwila, 2014). As part of the literature review, this chapter highlights fundamental factors that drive progress in agrarian economies such as Zambia, revealing that investments in infrastructure, equitable land rights for women, and enhanced access to agricultural inputs emerge as vital components for poverty alleviation and economic advancement. The chapter advocates for acknowledging and addressing these key drivers of sustainable development as a critical pathway toward effective solutions. This approach not only fosters resilience but also promotes prosperity in the face of climate-induced challenges.

Chapter 3 explores the theological responses to climate change, primarily influenced by Lynn White's (1967) article 'The Ecological Roots of Our Crisis.' While some, like White (1967), argue that the concept of dominion has led to the exploitation of nature, others, such as Cambry (2013), interpret it as a call for caring stewardship, emphasizing humanity's responsibility for creation. Within this debate, stewardship is similarly interpreted alternately as a duty to protect the environment or as a principle focused on care and orderliness over creation. The chapter further highlights climate change as a global crisis disproportionately affecting vulnerable communities, particularly women (IPCC 2014), calling for immediate action from the Church. It identifies various theological responses to climate change, reflecting diverse perspectives on how to address this pressing crisis. A significant emphasis is placed upon the prominent debate surrounding the concepts of dominion and stewardship within Christianity, elucidating that understanding these theological perspectives is integral in shaping effective responses to climate change.

Furthermore, the chapter delves into African indigenous theological thought, highlighting its emphasis on a community-based approach that acknowledges the interconnectedness of all living beings. In this context, climate justice emerges as a key concept closely intertwined with principles of human rights and sustainable development. The chapter underscores the importance attached by major churches such as the World Council of Churches and the Roman Catholic Church to ecological justice and sustainability, while also noting a discernible gap in the theological responses emanating from the UCZ. This gap signals an urgent need for a more indigenous African perspective. The chapter advocates for an exploration of an indigenous African theological response to climate change by the UCZ, underscoring the necessity of addressing the effects of climate change on vulnerable communities with the utmost urgency and care. The chapter subsequently delves deeper into African indigenous theological thought, emphasizing a community-based approach that recognizes the interdependence of all living beings. Climate justice, which is closely linked to concepts of human rights and sustainable development, is posited as an essential consideration (Chitando, 2022). It becomes clear from this chapter that main churches such as the World Council of Churches and the Roman Catholic Church stress the importance of ecological justice and sustainability.

However, the chapter also highlights the notable absence of a theological response from the UCZ, concluding that this underscores the critical need for a distinctly indigenous African perspective. The chapter calls for a thorough exploration of an indigenous theological response to climate change by the UCZ, emphasizing the significance of addressing climate change's pervasive impact on vulnerable communities. Having established that responses to climate change are potentially shaped by how we perceive and address environmental issues—whether through the lens of dominion or stewardship—Chapter 4 introduces the theoretical frameworks utilized in this dissertation. This framework is informed by the reflections of Nkechi, Ali, and Enze Ekendichukwu (2016), which recognize that African traditional religious values and practices, such as honoring land divinity and preserving sacred graves and forests, can offer alternative approaches for effectively addressing climate change.

The theoretical framework of Igwebuikwe offers another crucial perspective, emphasizing that humans are called to live in harmony with the environment. These theoretical frameworks underpin the thesis by providing a robust conceptual foundation that guides the research design and analysis. The conceptual frameworks articulated by Nkechi, Ali, Enze Ekendichukwu, and Igwebuikwe provide a pivotal basis for understanding and studying the role of African traditional religious values and eco-theologies in the pursuit of climate change mitigation. The frameworks provide conceptual lenses through which scholars can comprehend the cultural, spiritual, and ethical components that underpin environmental stewardship in various African contexts. The theoretical frameworks significantly influence the design of the thesis, particularly concerning research questions, objectives, and methods. Research topics will be generated to address how African traditional religious beliefs and eco-theologies affect climate change mitigation initiatives. These frameworks also guide the selection of pertinent research techniques, such as interviews or focus groups, to collect rich qualitative data associated with the perspectives and practices founded within these frameworks. The frameworks articulate a profound respect for the land as a core principle in African tradition, acknowledging that the universe is constructed of both spiritual and physical realms. Mankind is divinely mandated to respect the environment, and specific customs and taboos serve as vital guides for human interactions within this context. Kanu's (2022) study utilized the Igwebuikwe framework, noting that humans have often succeeded in making the environment hostile, consequently creating a breeding ground for various illnesses and diseases.

In Chapter 5, the research methodology was introduced and systematically employed, specifically designed to investigate the indigenous African theological responses to climate change within the UCZ in Zambia. This methodological approach is particularly complementary for inquiring into the values, opinions, behaviors, and social contexts of the communities under study. It involved the collection and analysis of data expressed in the form of words, such as those from UCZ church documents, scholarly papers, and additional documents concerning climate change. The data collection methods utilized in this research encompass critical analysis of existing literature, archival searches, and document analysis. By adopting a qualitative approach, the researcher aimed to gain a deeper understanding of the potential for an indigenous African theological response to climate change within the UCZ in Zambia. This chapter outlines the comprehensive methodology

utilized to explore this response. The chosen research design and methodology suit the thesis's purpose as they facilitate the investigation of the values, opinions, and behaviors of the specific community in the context of the climate change challenge. The established inclusion and exclusion criteria ensured that only pertinent data sources were utilized, while ethical considerations prioritize confidentiality and researcher safety.

Chapter 6 delves into the UCZ's strategy to address the critical issue of climate change. The chapter sought to identify various areas where the church might enhance its response to this pressing global problem by conducting a thorough analysis of UCZ documents and peer-reviewed articles. One of the chapter's core findings emphasizes the vital importance of honoring African indigenous knowledge systems and acknowledging their indispensable role in responding to climate change effectively. The chapter emphasizes the necessity of incorporating local understanding and traditional practices into UCZ's environmental policies. The thesis argues that these indigenous approaches have proven effective in adapting to environmental changes over millennia. It is noted that by doing so, the UCZ may tap into a vast repository of knowledge that has been passed down through generations and utilize it to respond to climate change intelligently.

Additionally, the chapter emphasizes the importance of teamwork and cultural sensitivity in developing strategies for environmental sustainability and resilience. It also investigates the possibilities of Environmental Syncretism, which is defined as a synthesis of African and Christian theological perspectives, aimed at combating global warming. According to the findings presented in this chapter, recognizing and embracing African indigenous knowledge systems is critical for devising a more holistic and inclusive strategy to respond effectively to climate change. To address the implications of climate change on local people and their livelihoods, the chapter concludes by emphasizing the significance of developing sustainable and adaptable agricultural practices and policies. Overall, this chapter emphasizes the pressing need for the UCZ to take proactive measures toward achieving a sustainable future in Zambia, reinforcing the importance of an indigenous approach that effectively incorporates scientific knowledge alongside traditional knowledge systems.

7.2 Observations from the thesis.

The research was conducted with the goal of determining the nature of a theological indigenous African response to climate change as articulated by the UCZ. After systematically examining the responses to climate change offered by the United Church of Zambia (UCZ), several key observations have emerged. Firstly, it is noted that indigenous knowledge plays a critical and indispensable role in shaping the UCZ's theological response to climate change, while also contributing significantly to climate adaptation and sustainability efforts. This observation is supported by scholars such as Leal Filho *et al.* (2021) and Zvobgo *et al.* (2022), who argue that for climate action to be effective, it is vital to recognize indigenous peoples and their knowledge as key agents in addressing the multifaceted challenges posed by climate change. The second observation draws attention to the considerable consequences of climate change for Zambian communities, including those within the UCZ, affecting various aspects of life such as agriculture, water availability, and exacerbating social disparities—further underscoring the urgency for concerted action. Furthermore, indigenous resources within the African context offer valuable opportunities for alleviating the effects of climate change in Zambia, thereby also supporting broader efforts toward resilience-building and sustainable development initiatives.

The observation emerges that a theologically responsive approach must recognize the sacredness of nature and underscore the importance of human stewardship toward the environment. Such an approach necessitates the integration of indigenous perspectives into theological teachings and practices. Nevertheless, despite identifying the disproportionate impacts of climate change on both the environment and vulnerable groups, the UCZ currently lacks a clear and coherent theological stance on pressing environmental issues, indicating a noteworthy gap in response. This disconnect suggests that Indigenous communities are effectively employing practical environmental sustainability strategies, emphasizing the importance of integrating these valuable traditional practices into broader policy frameworks.

There appears to be a critical disconnect within the UCZ regarding the inhumane impacts of climate change on the environment and its far-reaching consequences for marginalized communities, highlighting a

pressing need for theological reassessment and proactive measures. Moreover, African scholars within the thesis emphasize the essential role of the Church in actively addressing a variety of environmental challenges, calling for the integration of ecological concerns into theological discussions and actions. However, the UCZ's failure to engage with these scholarly insights presents a significant opportunity lost for impactful response and action. This oversight highlights the potential to enrich theological understanding and advocacy efforts within the UCZ. Recognizing and integrating indigenous knowledge and practices into established theological frameworks is imperative for the UCZ to effectively respond to the pressing issue of climate change and fulfill its responsibility toward environmental stewardship. Therefore, by incorporating scholarly perspectives and indigenous strategies, the UCZ can develop a more inclusive and workable approach to environmental responsibility

7.3 The call to Holistic approach to climate change

The incorporation of indigenous knowledge and spiritual beliefs into the theological framework of the UCZ is of paramount importance, particularly in relation to building resilience against climate change. This thesis acknowledges the immense value that indigenous knowledge and spiritual beliefs offer in supporting sustainability, resilience, and community-driven approaches to address the environmental challenges and crises we face today. It is evident that a comprehensive approach is necessary—one that amalgamates scientific knowledge with traditional wisdom—to develop effective and meaningful solutions to the multifaceted issue of climate change. Through integrating indigenous knowledge into the theological framework of the UCZ, a more holistic, relevant, and culturally meaningful understanding of climate change can be achieved.

Moreover, this thesis argues for a just and equitable response to climate change that takes into careful consideration regional and local conditions while promoting sustainable development and acknowledging the vital role of indigenous communities alongside the Church. By incorporating indigenous knowledge and spiritual beliefs into its theological framework, the UCZ can significantly enhance its response to climate change by integrating local perspectives and traditional practices into its environmental programming. Additionally, this research explores theoretical frameworks that provide a strong foundation for understanding the role of African traditional religious values and eco-theologies in mitigating climate change impacts. Utilizing a

qualitative research approach, the thesis examined the indigenous African theological response to climate change within the UCZ in Zambia, shedding light on the unique beliefs and practices that contribute to climate change resilience.

In effectively addressing climate change implications, this research underscores the importance of collaboration, cultural sensitivity, and the adoption of sustainable agricultural practices and policies. By recognizing the significance of integrating indigenous knowledge and spiritual beliefs, the UCZ can play a pivotal role in building collective resilience against climate change while promoting sustainable development initiatives within Zambia.

7.4 Future research

The research highlighted the critical significance of indigenous knowledge in addressing climate change effectively. Future research endeavors could investigate the contributions of indigenous knowledge to climate change mitigation impacts by examining its potential for scaling up and integrating into wider policy frameworks. This could involve conducting case studies on successful indigenous climate change adaptation strategies while analyzing their effectiveness and potential for replication. For instance, future researchers could examine the approaches utilized by indigenous communities across Africa to adapt to climate change, including shifts in farming practices, migration patterns, and the utilization of traditional medicine. By critically assessing these strategies, researchers can identify paramount practices and teachings that can prove practical to diverse contexts and communities.

The study has also identified that a culturally sensitive theological response to climate change is essential. It highlights the urgent need for integrating indigenous standpoints and practices into theological teachings and practices within the Church. Developing a culturally sensitive theological response to climate change could emerge as a prospective area for future research. This could involve examining the potential for indigenous perspectives to inform and enhance Christian theology and practical applications. Such efforts may include developing a framework for integrating indigenous perspectives into theological dissertations, which explores the implications

for Christian theology and practice. Additionally, it is vital to investigate the role of indigenous communities within the Christian faith, exploring their lived experiences and perspectives on environmental issues. By embedding these perspectives into theological discourses, researchers can cultivate a more distinct and inclusive understanding of Christian theology, particularly its relationship with the environment.

Furthermore, scholarly insights can also play a critical role in enriching theological understanding and advocacy efforts within the UCZ. Hence, future research could explore the potential for scholarly insights to inform theological understanding and advocacy efforts, examining the impact of integrating indigenous knowledge and practices into established theological frameworks. This could be achieved through conducting interviews with African scholars to capture their perceptions regarding environmental challenges, along with exploring their insights regarding the role of the Church in responding to and addressing pressing environmental issues. Through the examination of these insights, researchers can develop a nuanced and multifaceted understanding of the intricate relationships that exist between environment, faith, and culture. Furthermore, researchers could investigate the essential role of indigenous peoples in shaping environmental policies and practices while examining their lived experiences and perspectives on environmental governance. Future research on these topics could provide valuable insights that inform and inspire action toward a more sustainable, equitable, and just future for all.

7.5 Implications of the thesis

This thesis on appropriate indigenous African theological responses to climate change in Zambia, as advocated by the United Church of Zambia, presents a compelling narrative for the incorporation of indigenous knowledge and practices into theological approaches crafted to address the multifaceted impacts of climate change. The study highlights the urgent necessity for actionable strategies to be taken on a global scale, emphasizing the critical role religious institutions have in responding to the challenges posed by climate change. By identifying and elucidating the connections between spirituality and the environment, the UCZ and other religious organizations can establish a significant contribution towards promoting environmental stewardship and sustainability initiatives.

The pressing issue of climate change affects communities globally, with particularly pronounced impacts being felt across Africa. In Zambia, as in various other African nations, the adverse effects of climate change are increasingly evident, significantly affecting marginalized communities, including women, children, rural populations, and indigenous peoples. The UCZ, akin to other religious institutions, holds a moral obligation to protect vulnerable groups while preserving the integrity of life and all forms of creation. By grounding their responses to climate change within indigenous African theological perspectives, the UCZ can contribute meaningfully to enhancing resilience and well-being in local communities.

One outstanding key aspect emphasized throughout the thesis is the importance of valuing indigenous knowledge systems. Indigenous communities have cultivated rich traditions and practices over generations that have enabled them to coexist harmoniously with their respective environments. By incorporating these valuable knowledge systems into theological responses to climate change, religious institutions can gain valuable insights and practical solutions that are inherently rooted in local indigenous wisdom. Such an approach not only improves the efficacy of climate change responses but also nurtures a richer and deeper connection between spirituality and environmental stewardship.

The thesis also emphasizes the implications of community-based approaches in responding to climate change. By actively engaging local communities in decision-making processes while empowering them to take meaningful action, religious institutions like the UCZ can play a pivotal role in building resilience and promoting sustainable practices. Community involvement is essential when addressing the complex challenges posed by climate change, as it ensures that responses are tailored to meet the specific needs and contexts of the communities affected.

Importantly, the implications of this thesis extend beyond the UCZ and Zambia, providing valuable insights that could be applied to similar religious institutions and communities worldwide. By

recognizing the spiritual connection between humanity and the environment, promoting indigenous knowledge systems, and fostering active engagement within local communities, religious institutions can significantly contribute to addressing the global challenge of climate change. Through collaborative efforts and a committed stance toward environmental stewardship, religious organizations can play an instrumental role in forging a more sustainable and resilient future for all.

7.6 Contribution

This thesis highlights the importance of interdisciplinary collaboration and dialogue in addressing the environmental crisis, specifically within the context of an African theological response to climate change. It emphasizes the potential of interdisciplinary approaches to tackling the complex challenges associated with climate change by facilitating engagement among African theologians, policymakers, scientists, and practitioners. Additionally, the thesis underscores the significance of incorporating indigenous knowledge and spiritual beliefs into theological frameworks, bolstering sustainability, resilience, and community-driven approaches to confronting environmental challenges.

Furthermore, the thesis emphasizes the need for combining scientific knowledge with traditional wisdom to devise effective solutions to climate change. This recognition adds depth and richness to the theological discourse on development and sustainability. The thesis contributes to the fields of theology and development by advocating for a just and equitable response to climate change grounded in local understanding and traditional practices. It encourages collaboration and inclusivity as integral components in addressing the profound environmental crisis faced by communities around the world.

7.7 Application

The research conducted provides noteworthy contributions within the realm of theology, particularly in relation to the United Church of Zambia (UCZ) and the School of Theology and Development. Notably, it emphasizes the significance of integrating indigenous knowledge pertaining to climate change into the theological framework of the UCZ. Additionally, the research

advocates for African theologians to incorporate traditional wisdom and spiritual practices into their initiatives aimed explicitly at addressing climate change. A pivotal argument put forth by the research compels a comprehensive and inclusive approach to climate change response through acknowledgment and acceptance of African indigenous knowledge systems. The thesis posits that a holistic approach, one that amalgamates scientific knowledge with traditional wisdom, is fundamental for the development of effective and meaningful solutions to the environmental challenges posed by climate change.

Moreover, the research thoroughly explores various theoretical frameworks that establish a solid foundation for comprehending and studying the role of African traditional religious values and eco-theologies in effectively mitigating climate change. The research, in terms of its relevance to the UCZ, underscores the moral duty of the Church to safeguard vulnerable populations and preserve the integrity of life and creation amidst the escalating climate crisis. It posits that by integrating climate change considerations into its broader theological framework, the UCZ can significantly contribute to safeguarding the well-being and resilience of local communities. Furthermore, the research effectively identifies specific areas where the UCZ can strengthen its response to climate change by integrating localized knowledge and traditional practices. It reinforces the critical necessity of prioritizing social justice and environmental conservation, thereby enriching the UCZ's holistic approach to climate change challenges.

7.8. Mtsinje wa nzeru zopatulika

In light of the emphasis on spiritual interconnectedness, indigenous wisdom, and community engagement, I have developed the theological framework of '*Mtsinje wa nzeru zopatulika*'. This Zambian name represents an innovative indigenous theological response that I have formulated, translating to 'River of Sacred Wisdom.' This name beautifully symbolizes the flow of ancestral knowledge and spiritual guidance, fostering a deep respect for the environment while empowering communities to safeguard their ecological heritage. I found that the words in the Chichewa language encapsulate the following meanings:

1. "*Mtsinje*" refers to "river," particularly in reference to the Zambezi River, one of the most significant rivers in Southern Africa, flowing through six countries, including Zambia, Angola, Namibia, Botswana, Zimbabwe, and Mozambique.
2. "*wa nzeru*" signifies "wisdom" or "knowledge," and can also refer to a person who is recognized as wise or knowledgeable.
3. "*Zopatulika*" translates to "sacred things" and is commonly used to describe the River, which numerous individuals in the region consider sacred.

These words collectively relate to the theme of rivers and wisdom, creating rich resonance within the context explored. In essence, "*Mtsinje wa nzeru zopatulika*" encapsulates the ethos of the proposed African indigenous theological response for the UCZ, reflecting its commitment to integrating African spirituality, indigenous knowledge, and community-based action in effectively addressing the urgent challenges posed by climate change.

7.9 Recommendations

Based on the findings outlined in this thesis, the following recommendations are proposed: Indigenous knowledge and ethnically rooted practices should be systematically included into the UCZ's theological framework for tackling climate change impacts. This may be accomplished by recognizing the profound relationship that exists between spirituality and environmental concerns, valuing indigenous knowledge systems, and actively promoting community-based initiatives.

When addressing climate change, the UCZ should prioritize social justice and environmental protection prior to economic development. Accordingly, the Church should consider the needs of marginalized groups, particularly women, children, the rural underprivileged, and indigenous communities. Additionally, it should develop extensive programs aimed at educating its members on sustainable agricultural techniques while implementing policies that emphasize environmental conservation and resilience building.

In light of the ever-pressing current environmental crisis, the UCZ must actively foster a culture of environmental stewardship by incorporating pertinent environmental issues into its theological teachings and practices, as well as reassessing its theological and biblical perspectives regarding creation care, justice, and stewardship. By adopting these recommendations, the UCZ can enhance a more inclusive and culturally relevant understanding of climate change while fostering sustainable development in Zambia. Moreover, in addressing the environmental catastrophe at hand, the proposals encourage inclusivity, social justice, and the embracing of cultural diversity.

7.10 Conclusion

This thesis sought to rectify the notable absence of indigenous knowledge concerning climate change issues within the theological framework of the United Church of Zambia (UCZ). The study meticulously explored the impact of climate change on local communities, examined indigenous knowledge utilized by these communities, and identified appropriate indigenous response strategies. It underscored the significance of indigenous knowledge and spiritual beliefs in promoting sustainability, resilience, and community-driven approaches to methodically address environmental challenges. Additionally, it emphasized the necessity of prioritizing social equality and environmental preservation over unbridled economic development. The study advocated for a comprehensive approach that integrates scientific knowledge with traditional wisdom as a holistic means to effectively tackle climate change challenges. It recognizes the unique perspectives and solutions offered by traditional ecological knowledge and culturally grounded practices, which can enhance the effectiveness, relevance, and sustainability of climate change responses, all while safeguarding cultural heritage and harmonizing with ecological equilibrium. The thesis also sheds light on areas warranting further investigation, such as attempting to comprehend indigenous knowledge systems, successfully integrating these systems with scientific knowledge, and taking ethical considerations into account when engaging with indigenous communities. As a religious institution, the UCZ holds a moral responsibility to protect the vulnerable and preserve the integrity of life and creation within its ministry. Ultimately, this thesis asserts that the UCZ can harmoniously contribute to the well-being and resilience of its communities by effectively addressing climate change within its theological framework, incorporating indigenous wisdom

such as the concept of "*Mtsinje wa nzeru zopatulika*"—the River of Sacred Wisdom—to thoughtfully guide their actions in this crucial endeavor.

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9.0. Appendices



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31/May2022

Dear Rev Christopher Njovu,

Original application number: 00018996

Project title: CLIMATE CHANGE AND THE UNITED CHURCH OF ZAMBIA: AN APPROPRIATE AFRICAN THEOLOGICAL RESPONSE

Exemption from Ethics Review

In response to your application received on _____, your school has indicated that the protocol has been granted **EXEMPTION FROM ETHICS REVIEW**.

Any alteration/s to the exempted research protocol, e.g., Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through an amendment/modification prior to its implementation. The original exemption number must be cited.

For any changes that could result in potential risk, an ethics application including the proposed amendments must be submitted to the relevant UKZN Research Ethics Committee. The original exemption number must be cited.

In case you have further queries, please quote the above reference number.

PLEASE NOTE:

Research data should be securely stored in the discipline/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours sincerely,



Prof Philippe Marie Berthe Raoul Denis
Academic Leader Research
School Of Rel Phil & Classics

UKZN Research Ethics Office
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS

Ethical clearance

CLIMATE CHANGE AND THE UNITED CHURCH OF ZAMBIA: AN INDIGEOUS AFRICAN THEOLOGICAL RESPONSE

ORIGINALITY REPORT

17%	13%	10%	4%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	edocs.maseno.ac.ke Internet Source	1%
2	hdl.handle.net Internet Source	1%
3	"Handbook of the Philosophy of Climate Change", Springer Science and Business Media LLC, 2023 Publication	<1%
4	link.springer.com Internet Source	<1%
5	sci-hub.se Internet Source	<1%
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8	Sumudu Atapattu. "Human Rights Approaches to Climate Change - Challenges	<1%

Report