

Religious interpretation and response to climate and its changes in the pluralistic Ghanaian perspective

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ABSTRACT

In a place like Ghana, with its diverse religious creeds and the cultural norms of pluralistic societies, climate change is understood through a number of religious epistemologies. Many people of different religions take different actions as if the problems are natural and therefore unique. However, limited attention has been paid to how Ghana's major religious traditions shape climate interpretations and environmental responses. This study examines how Christianity, Islam and African Traditional Religion shape interpretations of climate change, environmental behaviour, and climate governance in Ghana. Based on multi-disciplinary research in fields of environmental ethics, theology, and climate governance, the study argues that climate change in Ghana should be understood as a scientific, moral and spiritual challenge requiring interdisciplinary responses. It is thus not just managed with policy and technical measures, however, but is also managed through religious imagination, ritual practice, and moral language. The paper grounds Ghana in global conversations about religion and climate change through a qualitative interpretive synthesis of data. It finds that religious traditions in Ghana offer strong moral models for environmental stewardship, but also generate interpretive tensions that serve to heighten or hinder climate action. ATR stresses ecological balance and sacred-nature relations; Christianity vacillates between stewardship and dominion interpretations; and Islam values trusteeship (amanah) and moral accountability. The authors draw the conclusion that a dialogical interfaith environmental ethic is necessary for an effective climate response in the pluralistic Ghana. The study recommends that climate change in Ghana needs to be treated in a manner not reliant only on technological and policy solutions. Since religion continues to play a central role in generating public opinion, values and behaviour, climate governance should deliberately use the religious diversity of the country as a strategic resource for environmental sustainability.

Keywords: Climate Change, Environmental Ethics, Ghana, Religion, Religious Pluralism

I. INTRODUCTION

Climate change moved from a distant environmental issue to an immediate socio-ecological reality, affecting food security, health systems, livelihoods, and cultural stability in Ghana. The Intergovernmental Panel on Climate Change (IPCC, 2023) argues that global warming is accelerating, with differing effects between regions, and Sub-Saharan Africa is becoming more vulnerable due to structural inequality, heavy reliance on rain-fed agriculture, and weak adaptive infrastructures. Ghana is no exception as illustrated by growing differences in drought variability in the northern parts of the country, coastal erosion in the south, and flooding in urban areas (World Bank, 2022). But it is more than biophysical understanding of climate change in Ghana. It requires consideration of cultural systems of interpretation and how they structure the experience and responses to environmental change.

Religion is among the leading interpretive apparatuses in the context of Ghanaian life. Churches, mosques, and other religious institutions are not just religious settings they are moral settings that construct how to address environmental issues, what social behaviour is appropriate, and who makes our society and culture into groups. For example, Hitzhusen and Tucker (2013) have shown that religious environmentalism contributes significantly in mediating scientific discourse and public involvement. Haluza-DeLay (2014) contends, likewise, that religion is not outside of climate talk but exists inside it as a system of meaning-making which is shaped by and reflects on social and environmental events.

The strong embeddedness in Ghana is accentuated by high religiosity and persistence of indigenous cosmologies. But even so, religious reactions to climate change are still uneven. Some have a focus on stewardship, stewardship of natural systems, while others see environmental change from some degree of apocalyptic or spiritual perspective which may result in a reduced sense of urgency towards mitigation (Barker & Bearce, 2013; Taylor, 2015). This tension also positions Ghana as a vital site for investigating how religious pluralism shapes environmental ethics and practice.

1.1 Statement of the Problem

Climate change has emerged as one of the chief environmental and development problems facing modern civilization. Within Africa, the impacts of this are becoming far more apparent in the form of higher temperatures, irregular rainfall regimes, prolonged droughts, flooding, loss of biodiversity, and falling agricultural productivity (IPCC, 2023; Anya et al., 2012). Ghana is vulnerable as it is heavily reliant on climate-sensitive industries like agriculture, fisheries, and natural resources. Increasing trends of flooding, coastal erosion, and shifting weather patterns illustrate that climate change is not just a future risk but an urgent yet present reality (World Bank, 2022; Brugnach et al., 2017), impacting livelihoods, food security, and social and livelihoods of the communities in which we live. Appallingly, more is known scientifically about climate change and many adaptation and mitigation strategies have been developed, but a chasm separates science and implementation (Brugnach et al., 2017).

Many environmental policies and interventions are focused on scientific and technical methods, which ignore the cultural, moral, and spiritual dimensions by which people frame environmental realities (Hulme, 2009, 2017). Religious beliefs and worldviews not only shape worldviews in highly religious societies which help them understand environmental issues; they also make them interpretable, which creates their attitudes, values, and a response within the behaviour of individuals. This challenge is even more significant in the religiously pluralistic Ghana where Christianity, Islam, and African Traditional Religion (ATR) are influential in public and private aspects of life. Religious institutions are one of the longest-standing systems of social trust and one of the most powerful in determining public opinion and community behaviours.

Religion appears to be both a valuable resource for understanding the environment and a key driver of our attitudes toward and responses to ecological threats (Arbuckle & Konisky, 2015; Arbuckle, 2017). Yet, there are varying religious interpretations of climate change (Brugnach et al., 2017). Indeed, a section of them believe that ecological catastrophes result from divine judgment, moral degeneration, or even the end of time, a perception that can inhibit people's actions on the one hand for taking an environmentally active stance and on the other (Barker & Bearce, 2013; Ecklund et al., 2017). Other religions, however, stress responsibility, taking responsibility for creation and encourage sustainability and the protection of the environment (Dwivedi, 1996; Foltz et al., 2012; Golo & Yaro, 2013). In the same manner, African Traditional Religion provides ecological values founded on sacred relations among human, nature, ancestors, and spiritual forces (Mbiti, 1969; Obasola, 2013; Shoko, 2022).

Despite a wealth of scholarship which explores religion and climate change internationally (Hitzhusen & Tucker, 2013; Taylor, 2016; Veldman, 2013), much does not exist to explore how Ghana's leading religious traditions interpret and accommodate climate change collectively for these contexts. As a result, we have very little understanding of how these beliefs shape environmental ethics, approaches to adaptation, or climate resilience. This study fills the gap on this front by exploring religious interpretations and responses to climate change in Ghana, claiming that proper adaptation and response to climate change must seek not only scientific and policy solutions but also a dialogue with the religious worldviews that shape attitudes and behavior toward the environment that underpin what is called environmental awareness.

1.2 Research Objectives

- i. Examine religious interpretations of climate change in Ghana.
- ii. Analyze how these interpretations influence environmental behaviors.
- iii. Compare Christianity, Islam, and African Traditional Religion in climate discourse.
- iv. Explore the role of indigenous ecological knowledge in climate adaptation.
- v. Assess implications for environmental governance in Ghana.

1.3 Research Questions

- i. How do major religious traditions in Ghana interpret climate change?
- ii. In what ways do these interpretations shape environmental responses?
- iii. What convergences and divergences exist among religious frameworks?
- iv. How does indigenous knowledge contribute to climate resilience?
- v. What policy implications arise from religious-climate interactions?

II. LITERATURE REVIEW

2.1 Theoretical Review

The study applies an integrated multi-theoretical framework to show how religion structures how a religion's interpretation of climate change presents itself in Ghana's religiously pluralistic society. From a framework that is composed of four theoretical points of view, the framework makes out the fourfold approach: Climate Interpretation Theory, Religious Environmental Ethics, African Relational Ontology and Social Constructionism. These conceptual frameworks were chosen because the recognition is developed that climate change is not only a scientific or environmental phenomenon. It is processed, instead, through values, cultural meanings, moral beliefs, spirituality, religious customs and social practices (Bamiji, 2025). As such no one theoretical approach can adequately elucidate the myriad ways in which Ghanaian religious communities perceive and respond to climate change. The study kept the four frameworks as they dealt with different analytical aspects of the study. Climate Interpretation Theory offers a theory for interpreting and framing environmental realities through religious and cultural myth and discourse (Essex, 2011). Religious Environmental Ethics provides the ethical framework to understand environmental ethics and the moral principles that inform environmental responsibility and behaviour (Guenther et al. 2024). African Relational Ontology provides indigenous views on the interconnectedness of man, nature, ancestors, and spirituality. As Social Constructionism explains, environmental meanings are socially negotiated, transmitted, and reinscribed through religious institutions and leaders with social relationships as well as communal practices (Nche & Michael, 2024).

Used together, they constitute our lens through which to offer a complete interpretation of religious response in Ghana one that includes the entire world and not some too small section of it. Climate Interpretation Theory: We borrow a first theoretical approach from Hulme (2009, 2017) who contends that we need to realise climate change as something other than a physical event, the result of scientific measurements. The climate changes, instead it is understood through cultural, historical, political and religious lenses shaped by how people see the environmental risks and develop responses. This is particularly crucial in the case of Ghana, since faith narratives are also instrumentalized to provide the environment as being a spiritual cause and in a divinely guided context that is the source of things such as duty, the moral implication of good or evil, spiritual causation, or eschatological expectations. For this reason, Climate Interpretation Theory supports the study of perceptions by Christian, Muslim and African Traditional Religious communities of the meanings assigned to environmental change.

Religious Environmental Ethics: The second approach is informed by Religious Environmental Ethics from the viewpoint of the Religious Environment (Taylor, 2015; Veldman, 2013) and Haluza-DeLay (2014). This view is premised on the idea that environmental attitudes and behaviours are influenced by moral doctrines in religious traditions. Including stewardship, trusteeship, accountability, moderation, sacred responsibility and caring for creation, have ethical underpinnings for safeguarding environmental needs. Yet theological perspectives can also block activism for what's wrong with the environment through the dominance of God over nature or our eschatological expectations. Religious Environmental Ethics thus gives the study the capability to study the ecological promise as well as pitfalls of religious belief in dealing with climate threats. African Relational Ontology: The third perspective is based on African philosophical and religious traditions, in particular Mbiti (1969), Daneel (1998) and current scholars of African ecological thought. African Relational Ontology sees reality as a living tapestry connecting human beings, nature, ancestors, spirits and the divine. From this worldview, the environment is thought to be not simply a resource of material goods, but a sacred domain of the world inside of the greater spiritual relationship structure. As such, the destruction of the environment is regarded as an interruption of both ecological and spiritual balance. The latter is particularly relevant on a broader level of understanding African Traditional Religious viewpoints on climate change, because one should consider for awareness of indigenous ecological knowledge systems in relation to perspectives from traditional religion in Ghana.

Social Constructionism: Social Constructionism implies that "meaning, value, and social reality are not imposed but are created from interaction and discourse and shared life experiences." Academics, like Iyer et al. (2026), show that environmental perceptions are molded through religious teachings, institutional authority, community expectations, and communal narratives. Churches, mosques, traditional authorities, and faith-based organizations are essential players in shaping public understandings about climate change within the Ghanaian context. So, Social Constructionism also helps understand how climate narratives are constructed, transmitted, challenged, and reproduced in religious communities.

2.2 Empirical Review

2.2.1 Climate Change, Skepticism, and Moral framing

Climate skepticism is rarely just scientific but moral and theological. As Barker and Bearce (2013) show, end-times theology can undermine the motivation to mitigate climate change by interpreting environmental decline as divinely ordained. Ecklund et al. (2017) also note that religious worldviews can similarly impact skepticism toward climate science, especially when evolutionary or material explanations conflict with doctrinal commitments. However,

this is not uniform. Hulme (2017) show that in highly religious societies, some believers acknowledge climate risks at the same time as holding doctrinal reservations. This coexistence of scientific and spiritual explanations illustrates Climate Interpretation Theory, which suggests that climate change is interpreted through culturally embedded systems of meaning rather than scientific evidence alone

2.2.2 Religion as an Environmental Knowledge System

An increasing amount of scholarship treats religion as more than belief but a knowledge system that shapes environmental perception and action. Iyer et al. (2026) reveal a relationship between substantive religious belief and attitudes towards the environment, while Arbuckle and Konisky (2015) also demonstrate the extent to which religion, even when mediated by political ideology, plays a powerful role in promoting ecological concern. Arbuckle (2017) builds on this by arguing that religious identity interacts with ideology to generate differentiated climate responses. Therefore, in plural societies such as Ghana this does not mean we have environmental attitudes that can be understood independent of religious worldviews. The implication is not mere causality but interpretive mediation in which religion functions as a social institution through which environmental meanings are constructed, negotiated and translated into everyday environmental behaviour.

2.2.3 Christianity, Islam, and Environmental Responsibility

Christian attitudes about the environment differ within these faiths. There are some tensions between dominion theology and ecological love ethics. Luetz and Leo (2021) describe various Christian perspectives on nature, from technological mastery to sacramental ecology. Golo (2012; 2018) advances this argument in African Christianity claiming that salvation theology has to include ecological redemption. Islamic ecological ethics, as expressed in Foltz et al. (2012), emphasize amanah (trusteeship), framing humans as stewards of creation. This theological orientation is similar to Christian stewardship and ATR relational ethics, providing space for inter-faith convergence. Dwivedi (1996) adds that all the major religions have underpinnings of ecological wisdom that can also work as a resource in sustainable development if it is put back in modern terms.

African Traditional Religion (ATR) is particularly strong on this ecological epistemology. Mbiti (1969) represents African spirituality in a relational manner as land, water, animals, and ancestors comprise a cosmic or transcendent moral order. According to Obasola (2013), this relational ontology is furthered in that ATR locates environmental stewardship in communal ethics and not in abstract doctrine. According to Chitando (2017), ATR is “sacred ecology,” wherein environmental interactions are governed by spiritual accountability. This agrees with Shoko (2022), suggesting that tradition as ecological knowledge is a living resource management system—not merely a myth. Shoko (2022) and Tarusarira (2017) additionally demonstrate that African religions understand climate disruptions not only as environmental change, but as disturbances of spiritual equilibrium warranting both ritual and ecological response.

2.2.4 African Climate Vulnerability and Socio-Ecological Impacts

Ghana's increasing climate vulnerability provides the socio-ecological context within which religious interpretations emerge (World Bank, 2022). While climate change threatens agriculture, health and livelihoods, adaptation responses are influenced not only by physical exposure but also by spiritual understandings of environmental change (Anya et al. 2012).

2.2.5 Climate Change, Justice and Global Governance

Climate change can never be seen too distant from what is perceived to be a matter of justice. As Jenkins (2013) points out, sustainability requires integrating social justice and ethical responsibility. Katharina (2019) shows that faith-based organizations have an important role in climate advocacy work within the United Nations, and that religion is a transnational actor on issues of climate change. As Veldman (2013) note, climate change has “human faces,” and ethical intervention goes beyond technical solutions. Furthermore, World Bank (2022) show that climate change affects global economic systems unevenly, further reinforcing inequality. For Ghana, these global inequalities reflect vulnerability despite the comparatively low emissions contribution and hence moral and religious framing play a decisive role.

To ensure analytical consistency, the study applies the four frameworks across all major themes examined in the analysis.

Table 1*Theoretical Integration Matrix for Analysing Religious Interpretations and Responses to Climate Change in Ghana*

Major Theme	Climate Interpretation Theory	Religious Environmental Ethics	African Relational Ontology	Social Constructionism
Religious interpretations of climate change	Explains how climate change is interpreted through religious narratives	Identifies moral implications of those interpretations	Highlights spiritual meanings attached to environmental change	Examines how interpretations are socially produced
Environmental behaviour and stewardship	Explores how interpretations influence action	Explains ethical motivations for environmental responsibility	Connects environmental care to spiritual harmony	Shows how communities reinforce environmental practices
Indigenous ecological knowledge	Recognizes culturally embedded climate meanings	Identifies moral obligations toward nature	Provides the primary explanatory framework	Explains transmission of indigenous environmental values
Interfaith convergence and divergence	Reveals differences in interpretation	Compares ethical principles across traditions	Highlights indigenous distinctiveness	Examines negotiation of shared meanings
Climate governance and public engagement	Explains competing climate narratives	Evaluates ethical contributions to policy	Demonstrates relevance of indigenous knowledge	Explains institutional influence on public attitudes

Managing Theoretical Complementarity and Tension: Combining several theories inevitably raises doubts about possible problems in theory. A possible point of tension exists between African Relational Ontology, which posits spiritual relationships between humans and nature as the only meaningful social existence, and Social Constructionism, which describes how meaning is socially produced. This study takes a different approach on that basis, considering these perspectives in multiple levels of the analysis to not be mutually exclusive. African Relational Ontology explains beliefs many religious actors have about reality, while Social Constructionism explains how they are communicated, retained, and reproduced among communities.

Climate Interpretation Theory, for example, is based on subjective interpretation, while Religious Environmental Ethics emphasizes normative moral duties. The present study aims to resolve this tension, since interpretation and ethics share a natural interdependence. Religious communities interpret environmental realities, then derive moral obligations from those interpretations. Thus the four frameworks are used here not as competing theories but as complementary analytical instruments. When taken together, they offer an encompassing account of the ways climate change is conceptualised, morally appraised, socially negotiated and spiritually experienced in Ghana's religiously plural community. This integrated perspective enhances our study's ability to account for both the diversity of religious reactions to climate change and the shared ethical themes that bring together contrasting religious traditions in environmental concern.

III. METHODOLOGY

3.1 Research Design

The study uses a qualitative interpretive research design employing a narrative synthesis of existing scholarly literature, policy documents, and relevant ethnographic studies in a systematic manner. This qualitative interpretive approach is highly appropriate for this study, since the object of study is not measuring climate variables but exploring their meanings and beliefs, values, and responses within the religiously pluralistic context of Ghana. The understanding of climate change as socially and culturally mediated means qualitative inquiry is a suitable methodological choice in this study. The integrated approach of narrative synthesis combines, through a shared analytical context, a range of theological, environmental, indigenous, and social studies, climate science, and religious knowledge. In this model, the convergence and divergence between Christianity, Islam, and African Traditional Religion on climate change and environmental stewardship are also possible.

3.2 Data Sources

All sources of information used were in secondary studies of various backgrounds. These sources included: Peer-reviewed journal articles from leading international journals like Climatic Change, WIREs Climate Change, Environment and Behavior, and various interdisciplinary publications. Books in the academic, and edited volumes, on issues of religion, ecology, environmental ethics, climate justice, and indigenous epistemology. Studies focusing on religion and environment in Ghana specifically, theological, anthropological, and sociological. Reports from organizations, including the IPCC, the World Bank, the FAO, among others, on institutional and policy matters relating to climate governance. Literature on indigenous ecological knowledge systems and climate adaptation at

various levels in Africa. The inclusion of different source domains strengthened the completeness of the study and enabled triangulation across evidence types.

3.3 Inclusion Criteria

Sources were chosen based on specified criteria. 1) Materials had to be directly connected to religion and climate change. Secondly, African contexts and Global South studies received a preference but large amounts of global scholarship were also included where theory was relevant. Third, every source chosen had to be of academic credibility (including peer-reviewed literature, academic literature, and respected institutional reports). Sources were finally assessed for thematic relevance to religious pluralism, environmental ethics, climate adaptation, and ecological responses.

3.4 Analytical Approach

The analysis followed the methods applied in the study was thematic content analysis. Data were curated and organized in ways around five interrelated thematic areas: (1) religious interpretations of climate change, (2) environmental ethics and moral framing, (3) indigenous ecological knowledge systems, (4) climate adaptation behaviors and (5) interfaith convergence and divergence. Coding was carried out iteratively such that themes appeared, changed, and converged towards conceptual abstraction. This procedure helped to explore the presence of patterns, interpretive frameworks and important relationships in the literature.

IV. FINDINGS & DISCUSSION

4.1 Findings

Thematic analysis of the literature identified six interrelated patterns that explain how climate change is viewed, comprehended and reacted to in the religiously pluralistic environment of Ghana. The results show that climate change is seen not only as a scientific and environmental project. The church's approach to this crisis shows us how a cultural shift cannot do all of the work to address it, and how that is the product of cultural, religious and moral frameworks. Climate change cannot be considered as a problem that is isolated to either Christian or Muslim belief systems, nor is its specific understanding of its impact on global politics limited to the religious or political context. Despite different interpretations by different religious traditions, considerable inroads are made through convergence in terms of shared responsibility for environmental and climate affairs.

Theme 1: Climate Change as a Moral and Spiritual Fact. One of the most important findings of the literature has been an emergence of the understanding of climate change as a moral, spiritual fact. While scientific accounts stress greenhouse gas emissions, environmental degradation, deforestation, industrialization and unsustainable use of natural resources as the prime causes of climate change, many religious communities in Ghana interpret environmental disruptions through wider ethical and spiritual frameworks. Climatic events like prolonged droughts, irregular rainfall patterns, destructive floods, declining agricultural productivity, warming temperatures, for example, are often seen not just as natural events but as more profound existential or moral and spiritual issues. Environmental crises are often seen not so much as natural disasters as signals of ecological disturbance as manifestations of an altered connection between mankind and the divine — which is clear from historical literature. Many religious organizations interpret ecological instability as evidence of a moral downfall, failures to fulfill spiritual duties, defying the dictates of God or as evidence of the lost harmonious, relational arrangement they claim should be existing with man and the earth for all eternity. Indeed, reactions to climate-related challenges are not limited to adaptation and environmental management but also to prayer, fasting, repentance, communal reflection, moral renewal, and collective moral renewal as well as social response. Such a result highlights the point that climate change has both a material and symbolic dimension, and can only be understood in material terms through our material and symbolic dimension inside Ghanaian society. The religious world often seeks an accounting connecting environmental events to larger issues of justice, morality, accountability, responsibility, and spiritual accountability when it comes to environmental events of paramount importance for society. These interpretations affect not just the grasp of environmental problems but also the dreams of solutions. Hence climate adaptation is no longer just a technical act, but also a moral one, of personal reformation, communal service, spiritual piety. The evidence also suggests that moral framing of climate change plays a substantial role in engagement with the public. Environmental issues have more relevance when they are tied to values to which communities already cling. Religious stories contribute a language in which complicated scientific phenomena can be articulated as ideas that are relevant to daily life and to beliefs that people already hold dear. Therefore, religion plays a powerful role as an interpretive device to social importance and moral imperative of environmental facts.

Theme 2: African Traditional Religion and Ecological Embeddedness. The results indicate that among Ghana's major religious traditions African Traditional Religion presents among the most expansive and interrelated ecological worldviews. Rather than framing the experience as one between humans and the natural world, ATR sees

existence as a web of connections between people, ancestors, spirits, natural phenomena, and a god/spiritual realm. This relational idea about reality situates environmental care as sacred rather than as a practical duty. Based on the existing literature, rivers, forests, mountains, animals, farmlands, and other features of nature are often felt to be sacred with spiritual importance. These ideas promote a respect for the sacredness of nature and set parameters for the moral behaviour of humanity towards nature. Environmental degradation is seen as a physical destruction along with a denial of sacred rights and duties at both communal and sacred-based levels. Multiple researches highlight that old ecological practices of traditional eco-systems have long been used for environmental conservation and the sustainable management of resources. In practice, sacred groves, seasonal practices, rituals, taboos, cultural practices, and village rule rituals played as an indigenous means to conserve biodiversity and control natural resources. These activities have assisted in helping communities to uphold ecological equilibrium and to create a sense of shared responsibility towards nature. A third key result is that indigenous ecological knowledge is still an important resource for climate adaptation. Such knowledge entails weather patterns, soil conditions, seasonality, biodiversity conservation, and sustainable agriculture. Indigenous systems, in particular, can address environmental problems at the local level and are crucial to community resilience. However, the literature suggests considerable challenges to ATR-based ecological systems. The processes of modernization, urbanization, globalization, formal education, religious transformation, and many others have undermined many of the traditional institutions that are charged with environmental stewardship. While scientific and technological explanations serve as their primary means of explanation, younger generations increasingly rely on such explanations, and the impact of indigenous ecological values diminishes. As a result, many of the traditional conservation practices that once safeguarded ecosystems have diminished their effectiveness. Yet despite the difficulties, ATR is an important provider of ecological wisdom. Its emphasis on interconnectedness, communal responsibility, and sacred relationships would be of substantial application to current environmental governance and climate adaptation approaches.

Theme 3: Christianity and Environmental Ambivalence. The literature indicates that Christianity presents a nuanced ambivalence on climate change and environmental responsibility. On the one hand, Christian theology includes robust ethical bases for the stewardship of the environment. Nevertheless, some theological accounts may minimize the seriousness of climate action. A primary observation addresses the effect of stewardship theology. Many Christian traditions teach that the Earth is God's creation and mankind has been assigned to take care of it. This attitude cultivates environmental care, sustainable resource use, and concern for future generations. Environmental stewardship is commonly portrayed as a sign of discipleship. Our literature shows that countless churches and Christian organizations everywhere have been increasingly incorporating environmental concern into broader mission. Ecological sustainability integrates itself into theological reflection, community building, and social work. As we increasingly recognize climate change has come to be known for human welfare, social justice, and the integrity of creation, this point of departure becomes increasingly obvious. In consequence, numerous Christian figures have championed responsible environmental stewardship as a key part of religious duty. But the data also indicates that there is massive theological diversity in Christianity. Others stress eschatological understanding, eschatology, belief that God intervenes in the end times with humanity and the eventual event of God's part in all human history. From these points of view, environmental deterioration may be perceived as part of a divine-ordained design for the future or prophetic prediction that is coming soon. This means that long-term environmental interventions may be considered to be secondary to spiritual preparation for events to follow. And this tension manifests in the differing levels of environmental engagement amongst Christian communities. Some readers may support climate adaptation and environmental protection and some focus on spiritual answers or divine initiatives, and not so much on addressing it through physical or industrial adaptation. Accordingly, the literature depicts Christianity as having some Christians who are consistently supportive but not all of them are hostile to climate change. Instead Christian attitudes to climate change depend on theological stance, denominational dogma, leadership type, leadership position, and local culture. The implications are that Christian environmental work is strengthened where stewardship theories are placed side-by-side with the general issues of justice, compassion, and responsibility. Such strategies allow Christian communities to take action in an effective manner for climate adaptation without breaching theology.

Theme 4: Islam and Trusteeship Ethics: This review points to African Islamic environmental ethics as one of the best theological underpinnings of environmental responsibility in Ghana's religious framework. A key feature of this model are amanah (trusteeship) and khalifa (stewardship), which are defining for man and nature. As stated in the literature, Islam provides a belief in the primacy of God that all creation belongs to God for which men have been entrusted in taking care of it. The trusteeship model is based on accountability, moderation, fairness, and good stewardship of resources. Thus, protection of the environment is perceived not as a purely social duty, but a religious mandate, with its basis in obedience to the divine. It was found, among other things, that Islamic teachings promote sustainable consumption, the sustainable use of the environment, the conservation of natural resources, reducing waste, and the preservation of an ecological community and ecosystem. Environmental ruin is often perceived in terms of the trust that God has placed in man and that this is a breach. As such, climate action is generally perceived to be a moral responsibility, ethical responsibility, and a matter of accountability. Another significant discovery was the

good correspondence between Islamic environmental science and the modern-day sustainability aspirations. Values of moderation, balance, social justice, and intergenerational responsibility resonate with international initiatives to foster environmentally sustainable practices and global climate resilience. Yet, the literature also mentions that there is a gap in the application of Islamic environmental ethics, both in literature and in practice. Although environmental values are evident in Islamic belief, institutional infrastructure for converting these values into concrete climate action may not always emerge in a mature form. The success of Islamic environmental action usually lies in local authorities, educational initiatives, and community mobilization rather than the global government's action. Nevertheless, the findings reveal the strong potential available from Islam for future climate governance. In this way we can believe that by weaving in ecological education as well as environmental theory into theological teachings or the community itself, Muslim communities will play major roles in producing better sustainability practices for the environment and climate control.

Theme 5: Indigenous Knowledge as a Resource for Climate Adaptation. The results consistently reaffirm the significance for climate adaptation and resilience of indigenous knowledge systems. Traditional environmental knowledge is a collective body of observations, experiences, and practices constructed over generations in close contact with the local ecosystems. Indigenous adaptation strategies abound: They include traditional weather forecasting, biodiversity conservation, water management, agricultural diversification, and community-based resource management. Such techniques were developed from an ecological mindset rooted in local knowledge and practical responses to changing ecological conditions. A major finding is that indigenous knowledge is rarely separated from what is culturally and religiously recognized. Environmental knowledge is often interwoven with the community, religion, spiritual beliefs, morality, and social structures. This unification makes it more legitimate and facilitates the involvement of the community in the process of adaptation. The studies we have identified to date indicate that indigenous knowledge systems provide various benefits for adaptation to climate change. They are context specific, culture related, available to indigenous communities, and generally cost-effective. They enhance local ownership of adaptation programmes by utilizing prevailing cultural resources and social architecture. The literature has also shown that linking indigenous knowledge with science can improve climate resilience. Instead of seeing science and traditional knowledge as competing systems, many of the work encourages complementary ones that weave together local knowledge and current environmental science. Integration of these factors can produce better adaptation and adaptation responses in consideration of social norms. The results thus support the relevance of protecting, documenting, and integrating indigenous ecological knowledge in national climate policies and environmental planning systems.

Theme 6: Religion as a Climate Mobilizer and a Barrier. The concluding theme demonstrates this bifurcated nature of religion – both as facilitator of climate action but also as a barrier on some fronts to engage environmentally. That paradox has been repeated throughout this literature and is one of the most remarkable results of the study. Yet there is a strong role for the church on the other hand, to say the least, religious institutions have tremendous social, moral authority and organizational power, and they have huge numbers of followers. Churches, houses of worship, mosques, traditional authorities and faith-based institutions are usually well-respected in the society and often closely integrated into community life, while the levels of public trust is generally extremely high and close. By extension, the latter are highly effective vehicles to communicate environmental messages, mobilize collective action and motivate environmental behaviour. Many religious teachings often offer ethical incentives to act responsibly with respect to the environment. Responsibility, moderation, justice, compassion, accountability, and care for creation are among the values that encourage believers to protect the environment and sustainable resources. Thus, religious groups can serve as essential actors in advancing climate awareness and adaptation. Simultaneously, the results show that some interpretations also are indicative of discouragement of taking a forward approach. Fatally-mindedness, over-reliance on holy grace, or determinism with regard to environmental change may dampen the incentive for doing so. When climate change is viewed as something bound to happen and inevitable in a spiritual sense, or as divine judgment, people may feel that human intervention is unneeded or simply not effective. The findings from the literature therefore suggest that religion serves to influence climate action to largely affect religious and political discourse and therefore religion's impact on climate action is contingent to the interpretation of environmental realities in certain theological and cultural contexts. Religion is not inherently supportive and it is not inherently obstructive by definition. Its impact is dependent on leadership, lessons, institutional agendas and community interpretations. On collective note, the findings suggest as a whole that religion continues to be a primary determinant among climate attitudes, environmental ethics and adaptive responses in Ghana. The question for policymakers and environmental workers isn't whether religion is important, but rather how their moral and social resources can be marshaled to contribute to responsible climate protection and environmental stewardship.

4.2 Discussion

4.2.1 Climate Change as a religious and cultural reality

Climate change in Ghana: Many dimensions are involved and at times, these have to do with religion, culture and morality, meaning not just "scientific" explanation. This discovery provides powerful grounds for Hulme (2009, 2017) theory of climate interpretation that proposes that climate change is an issue not only of physical and environmental occurrence, but that there are cultural meanings as well for the meaning of the events through various social, political, historical and religious stories. Evidence drawn from the literature shows that religious communities in Ghana often interpret environmental changes like droughts, floods, anomalous rainfall patterns and agricultural productivity being evidence of other moral and spiritual aspects. Climate change becomes relevant not just from ecological impact, but from the moral conundrums with which we, as human beings, are bound, the questions we address in our conduct, with regard to social responsibility, the issues we raise, and with respect to our relationship to the divine itself. The results show that Christians, Muslims and adherents of African Traditional Religion believe environmental disruptions to be moral, spiritual, or corroding communal values. Such explanations are consistent with Clingerman and O'Brien (2017) observation that environmental crises are commonly conceived through theological imagination and moral reasoning. Many Ghanaian communities are not opposed to the scientific explanation, although they may not altogether adopt a dichotomous notion between science and religion, since they embrace both. This conclusion supports Hulme (2017) concept of "cognitive plurality" which contends that one keeps scientific explanations and religious beliefs and interpretations parallel from one another, but does not perceive the opposition between them. In terms of Social Constructionism, these results imply ways in which the meaning-making process of climate change is socially constructed and transmitted within religious institutions. For communities, religious institutions such as churches, mosques, traditional councils and faith-based organisations are powerful sites which are shaped by and continue to reproduce environmental discourses. Environmental truths receive sociocultural value in their interpretation via sermons, prayers, communal talks, rituals, religious teachings. Thus, climate change is not simply an observable environmental phenomenon but is a socially inflected phenomenon that has meaning according to a societally constructed belief system. The discussion reveals an important implication for climate governance in Ghana. Climate policy informed solely by scientific rhetoric risks disconnecting from the lived experiences of a lot of people due to the marginalization of moral and spiritual norms with which environmental affairs are viewed. Efficient climate responses, accordingly, necessitate programs that combine scientific knowledge with narrative that is meaningful culturally and sensitive to local religious worldviews.

4.2.2 African Traditional Religion and the Ecology of Interconnectedness

From the review, we conclude that among the religious traditions examined, African Traditional Religion maintains the most integrated ecological worldview. This result directly corroborates the ideas that underpin African Relational Ontology, which conceptualizes reality as a network of relational interconnections that span human beings, nature, ancestors, spirits and divine. In this worldview, environmental degradation is framed not just as destruction, but as breakdowns of sacred connections that form the basis of ecological and social life. Consistently, the literature reviewed in this research shows that ATR sees rivers, forests, mountains, animals and farmland as sacred spaces located within a moral universe. And this view is buttressed by Mbiti (1969), in his classic work on African religions and philosophy, who emphasizes the inseparability of humanity from nature as well as spirituality. In the same vein Obasola (2013) and Shoko (2022) demonstrate that ATR environmental stewardship derives from obligations owed to ancestors, to spiritual beings and to the broader community, and not mere conceptually based ecological concerns. Traditional forms of ecological management including sacred forests, ritual prohibitions, seasonal taboos, and customary conservation measures had historically functioned in the environmental management industry, according to the findings. Such practices governed the expropriation of resources, conserved the biodiversity and supported sustainable connections with the environment. The evidence reviewed strongly aligns with Chitando (2017) description of African religion as "sacred ecology". Environmental conservation was not only a matter of necessity, but also of life ethics based ontological duty of community. Theoretical significance of the results is that this work questions dominant environmental paradigms that tend to abstract a spiritual reality out of the reality of the earth. African Relational Ontology offers an illustration of how ecological responsibility can derive from relational knowledge of existence, rather than regulation alone. These findings indicate that environmental sustainability in Ghana could be enhanced by appreciating cultural and spiritual aspects of indigenous ecological knowledge. The study further validates the concerns of Tarusarira (2017) about the deterioration of traditional ecological institutions. Many customary social systems that informed environmental behaviour have been destroyed by urbanization, modernization, globalization, and religious change. Younger and younger generations are coming across environmental issues not only technologically-oriented, but also through a scientific and technological paradigm, often without much exposure of their lived experience to indigenous ecological knowledge. It leads to a dissonance between old environmental ethics and modern environmental stewardship. Despite this, the results indicate that ATR continues to be a highly valuable storehouse of ecological knowledge that has the potential to enhance climate resilience. Include indigenous

environmental wisdom in your national climate adaptation policy to ensure culturally appropriate solutions that resonate better with the local population.

4.2.3 Caring for One another vs. Eschatological Expectation

The results indicate a major tension within Christian interpretations of climate change. Christianity offers compelling theological tools for environmental stewardship; on the one hand, some eschatological outlooks might undermine the urgency of environmental action. This dualism plays out at intersections in Christian environmental thought and highlights the multidimensionality of religion's role in climate attitudes. The stewardship perspective from the findings relates closely to Religious Environmental Ethics. Stewardship theology teaches that God created the Earth and entrusts responsibility for the care of the Earth to people. Golo and Yaro (2013) contend that this understanding becomes a powerful moral basis for environmental stewardship in Ghanaian Christianity. Likewise, Golo (2018) argues that the nature of salvation should be redefined for African Christians to include ecological renewal and environmental sustainability. The result shows that numerous believers were increasingly considering environmental stewardship as a faith-based claim to God. Climate-action transforms from a matter of scientific necessity into a moral imperative based upon faith, discipleship, justice and care for creation. This interpretation of the environment is consistent with Religious Environmental Ethics in that theological doctrines produce ethical obligations to the environment. Yet the outcomes also testify to the enduring power of eschatological interpretations that view environmental decline as a pre-ordained event in God's final plan of time. Barker and Bearce (2013) suggests that this might be a case of diminished faith in climate mitigation efforts as such beliefs can decrease support for attempts at combating climate change because decay in a natural setting can be taken as a foregone conclusion. The results would indicate that some Christian communities may treat climate change as proof of prophetic fulfillment rather than the need for human action to confront it. The disparity between these two might be somewhat accounted for by Climate Interpretation Theory. Theologically, the same environmental realities may be interpreted differently by Christian groups (as the same world of the environment by different theology), leading to very different reactions from different Christian communities/secular traditions. Some emphasize stewardship, and others are more concerned with divinely governed stewardship as responsibility and the eschatological hope. The result is that climate change becomes a disputed theology project, and not a universally understood reality. That is, the results are consistent with Clingerman and O'Brien (2017), who argued that religious imagination is a critical driver of perceptions of environmental responsibility. Thus, perhaps, it is not in the establishment of new theological frameworks as necessary for engaging Christian environmental concerns but in strengthening readings that uphold an active stewardship approach, without negating doctrinal content. Having this ability would help Christian institutions to play a more substantial role in climate change mitigation and sustainability.

4.2.4 Islamic Environmental Ethics and Climate Responsibility

The study reveals that Islamic values offer a consistent source of ethical guidance for environmental stewardship, based on amanah (trusteeship) and khalifa (stewardship). These findings provide strong support for the Religious Environmental Ethics as they demonstrated how theological principles provide practical implications for environmental responsibility. According to Foltz et al. (2012), while a focus on humanity as a trustee of God's making, Islamic environmental ethics emphasize humanity's role as trustee of God's creation. The natural world is like a divine trust, which needs to be managed carefully and preserved for a common future. As such, environmental degradation is not only ecological destruction and environmental decline but also violates religious duties. This comprehension provides a rigorous moral base from a foundation of values for environmental protection. The results suggest that what it suggests is that Islamic environmental principles support moderation, conservation, justice, accountability, responsibility and responsible use of resources. The principles are closely aligned with current sustainability targets and offer very rich ethical guidance in terms of climate responses. Responsibility for the environment is constructed as obedience to God and moral responsibility. From a Religious Environmental Ethic of the Christian tradition, the result speaks to religious teachings' ability to encourage environmental behavior not through the enforcement of law, but through moral obligations. Environmental stewardship turns into a form of spiritual devotion and ethical liability. These motivations may work quite well in very religious religions whose moral authority tends to condition public conduct. The findings also show, however, that implementation is not uniform. While Islamic environmental values are articulated explicitly in religious teachings, the institutional means to implement these principles, such beliefs become organized action on climate action are quite diverse with respect to climate. This finding is in line with Ecklund et al. (2017) discussion that religious belief does not automatically generate environmental action. Applied participation also frequently relies on leadership, education and mobilisation of communities. Social Constructionism offers valuable insight into this discovery. Environmental values can only have social impact when they are communicated, reinforced, and institutionalized in a community. And religious leaders thus must be able to convert theological teachings into tangible environmental efforts. Stronger partnerships

between environmental agencies and Muslim institutions, as noted by the findings, could lead to increased climate awareness and public resilience, which the authors argue could make a substantial difference, the paper added.

4.2.5 Indigenous Knowledge and Adaptation to Climate Change

A related finding involves the ongoing importance of indigenous ecological knowledge as an important resource in climate adaptation. These findings show how traditional environmental knowledge offers practical solutions to change in response to climatic variability and environmental uncertainty. African Relational Ontology and the theory of climate interpretation converge here when explaining how environmental knowledge and skills emerge from socially embedded relationships with the environment. The literature that is reviewed shows multiple instances of indigenous adaptation practices that were observed from the perspectives of seasonal forecasting, biodiversity conservation, waterbody protection, sustainable agriculture, and community-based resource management. And those practices draw upon generations of environmental observation and experiential learning. Shoko (2022) likewise cites indigenous ecological knowledge as a resource of ecological resilience. The results show that indigenous knowledge is seldom divorced from religious and cultural beliefs. Environmental knowledge is incorporated into spiritual values, community traditions, and in moral responsibilities. This inclusion gives legitimacy to adaptation efforts, as they are presented not only as technical remedies but as culturally relevant reactions to environmental difficulties. This discovery is significant beyond climate change adaptation. It challenges the assumption that scientific knowledge must suffice for solving ecological problems alone. Instead, the evidence points to a close relationship between indigenous and scientific knowledge systems. Indigenous knowledge provides local specificity, cultural legitimacy, and historical continuity; scientific knowledge takes up a broader analytical and predictive role. Consequently, climate adaptation strategies in Ghana will benefit from greater recognition of indigenous ecological knowledge systems. Integrating traditional knowledge with modern scientific approaches may elicit more inclusive, culturally appropriate, and sustainable responses to climate change.

4.2.6 Religion: Climate Mobilizer and Constraint

Maybe what is perhaps most striking about this study here is the contradictory status of religion as a mobiliser of climate as well as a deterrent. In all three religious communities studied, religion offers significant potential to advance ecological responsibility, even as it also can produce readings that could weaken climate action. The results are consistent with Taylor (2015) assertion that religion can be one of the most potent sources of moral inspiration, community mobilization, and ethical regulation. Churches, mosques, traditional religious authorities and faith-based organizations all have powerful social power and trust as well, and tend to generate greater amounts of trust than institutional bodies. The impact they can exert on the attitudes and behaviour makes them important players in climate governance. From a Social Constructionist perspective, religion helps direct action on climate change by building common meanings, collective identities and moral responsibilities. When environment matters are connected to such values as stewardship, accountability, sacred responsibility, and care for creation, social significance emerges. It is in this context that religious institutions become essential vehicles for converting scientific learning to culturally relevant stories. The results also suggest that some interpretations can promote passivity, fatalism, or undue dependence on divine intervention. When climate change is seen only as a spiritual event out of human control, the motivation to adapt/mitigate can decrease. This fact reaffirms Barker and Bearce (2013) contention that in some religious narratives there could be a dampening of support for environmental action. And crucially, the research shows that religion does not, by implication, support or resist climate action. The influence is contingent on how environmental realities are understood, conveyed and institutionalized in specific localities. Religious belief can encourage stewardship, conservation, and sustainability but can also generate competing narratives that limit environmental activism. Cumulatively, the findings confirm that religion is still one of the factors most influencing environmental perceptions and responses in Ghana. A climate governance that overlooks religious institutions leaves aside an important social influencer and moral authority. This means that any serious attempt at climate action needs to lead to positive engagement of religious groups as partners in environmental education, adaptation and environmental sustainability practices.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

Thus far, this study has examined the relationship between religion and climate change in Ghana's pluralistic context and has illustrated that climate change is about much more than science and the environment. It is also a cultural, ethical, and spiritual fact, and it is viewed through a multiplicity of religious perspectives. So in a world where religion is thoroughly ingrained in daily life, environmental change rarely only works as a result of technical or scientific methods. Rather, they are refocused through beliefs that condition how people interpret environmental risks and attribute responsibility and develop responses to ecological threats. These findings demonstrate that the three

religions of Christianity, Islam and African Traditional Religion each provide a unique interpretive lens by which climate change is perceived and responded to.

The African Traditional Religion offers one of the most integrated ecological outlooks that focuses on the oneness of human beings with nature, ancestors and spiritual beings. Within that framework, environmental degradation is seen – as in many contemporary societies – not only as an ecological damage, but also as an upsetting of the moral and spiritual foundation that supports social life. Christianity offers great ethical resources, such as its teachings on stewardship, care for creation, and moral responsibilities, but tensions between ecological and eschatological principles could also undermine commitment to environmental conservation and a sense of urgency. Likewise, Islam offers a solid basis on which to ground the responsibility towards the environment around the principles of stewardship, accountability, moderation, and justice, and the natural environment would, in the eyes of believers, be a sacred trust that is meant to be safeguarded for future generations.

One important learning this study makes is that the difference among these religious traditions is not necessarily a barrier to taking collective measures on climate. Instead, they are multiple moral resources that can be utilized to enhance environmental consciousness and community toughness: as resources that can be used in positive ways to promote social and environmental literacy. All three traditions however disagree on theology, but also share important ethics over responsibility, care, moderation and preservation of life concerns. These common values are the groundwork of more general environmental cooperation. The research also underscores the constraints of climate policies that use scientific and technological policies in isolation from the social and moral dimension of religious institutions by excluding and ignoring the religious institutions. Religious figures, faith communities and traditional leaders have considerable ability to influence both public opinion, mobilize action together and generate demand for responsible citizen behaviour such as environmental sustainability. Accordingly, successful climate governance in Ghana necessitates closer engagement with religious actors as partners in environmental education, adaptation and sustainability efforts.

At the same time, the study notes, however, that religion doesn't inherently support climate action. Religions can provide encouragement for environmental responsibility, but such interpretations can also encourage passivity, fatalism at best, or resistance at worst when the narrative framing of climate change is framed in deterministic and apocalyptic terms. Hence, it seems that what is less interesting is that religion exists, but in the form of religious stories, which find expression and application in the light of modern environmental discourse. This study ultimately argues that Ghana's climate future is not separable from its religious realities. Climate resilience will not be determined just by technological innovation, economic investment, and government policy, but also by the extent to which religious communities are resilient to creating ecological and moral responsibility. Inclusive of the interfaith environmental ethic that values science alongside religious wisdom, this project offers an innovative model for the sustainable stewardship of the environmental sector and the resilient future of Ghana.

5.2 Recommendations

The implications of this study indicate that climate change in Ghana needs to be treated in a manner not reliant only on technological and policy solutions. Since religion continues to play a central role in generating public opinion, values and behaviour, climate governance should deliberately use the religious diversity of the country as a strategic resource for environmental sustainability. First, it will be imperative to build national and regional interfaith climate action platforms that converge Christian leaders, Muslim scholars, traditional authorities, environmentalists and policymakers. Those platforms would facilitate conversation to encourage collective action, mutual respect for the environment, and community efforts to combat climate-themed issues through religion. Climate change touches virtually all societies regardless of their religion, which therefore suggests that collective responses will be more effective than unilateral measures.

Second, indigenous ecological knowledge embedded in African Traditional Religion need to be acknowledged and integrated into planning as a part of environmental planning and adaptation to climate change. Traditional conservation methods, sacred groves, traditional limitations on resource exploitation, and indigenous weather prediction systems still offer valuable ecological insights. And so policymakers need to work towards documenting, preserving and incorporating these knowledge systems within national climate models. Third, religious leaders should be given ongoing instruction on climate science and environmental sustainability. Their leadership in their communities can make them valuable mediators between science and the wider public. Increased climate literacy among faith leaders would allow them to properly explain environmental issues while making them consistent with moral and spiritual teachings which will appeal to the followers.

Fourth, theological institutions, seminaries, Islamic educational centers and traditional custodians of beliefs and knowledge must promote new interpretations of religious teaching with a focus on stewardship of the environment and the environment through practicing an ecological relationship with the environment. These reinterpretations may counteract the narrative that leads to environmental fatalism or to mere responses to climate challenges. Fifth, climate interventions must seek purposefully to foster gender inclusive engagement. Despite the disproportionate impact of the

climate crisis on women, women continue to be underrepresented in environmental decision-making. Religious communities therefore should facilitate the active participation of women and youth in environmental leadership and climate activism. Finally, strengthened partnerships need to be forged among government agencies, educational institutions, civil society organizations and faith-based organizations. Realizing a successful national climate action in Ghana, will entail a joint action that combines scientific capacities, policy assistance, community engagement and the moral persuasion of religious establishments. It is only through collaborative engagement of this type, that Ghana can construct a more resilient, inclusive and environmentally sustainable society, which is in a position to address the challenges posed by climate change.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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