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Exploring the Impacts of Climate Change on Communal Relations in Northwest Nigeria: An African Religious and Islamic Perspectives

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Abstract

This study investigates the impacts of climate change on agricultural productivity and livelihoods in Nigeria, with a particular focus on the Northweste Nigeria, which has been decryable. The pressing need to address the challenges posed by climate change provides the backdrop for this research. Climate change has significant implications for food security, human well-being, and sustainable development, and its impacts are felt acutely in vulnerable communities. The study aims to examine the effects of climate change on agricultural productivity, water availability, and livelihoods in Nigeria, with a view to informing policy and practice. A mixed-methods approach was employed, combining quantitative and qualitative data collection and analysis methods. The findings reveal significant impacts of climate change on agricultural productivity, water availability, and livelihoods in North West, Nigeria. The study's results underscore the need for urgent action to address the challenges posed by climate change. Recommendations include the implementation of climate-resilient agricultural practices, sustainable land management, and effective water management strategies. Furthermore, the study highlights the importance of conflict resolution and peacebuilding initiatives in addressing climate-related conflicts and promoting social stability. The significance of this study lies in its contribution to the growing body of research on climate change impacts and adaptation in Nigeria. The study's findings and recommendations have implications for policy and practice, informing strategies to promote sustainable development and resilience in vulnerable communities in Northwest Nigeria. In conclusion, this study emphasises the need for a comprehensive and integrated approach to promoting climate change adaptation and resilience in North -Western Nigeria.

Keywords: African Religion, Climate Change, Islam, Northwest, Nigeria

1. Introduction

The Impacts of climate change on communal relations in Northwest Nigeria has garnered considerable attention in recent years, owing to its far-reaching dreadful consequences for the region's socio-economic fabric (IPCC 24). The escalating temperatures, erratic rainfall patterns, and desertification have exacerbated the existing socio-economic challenges, thereby straining communal relations amongst the inhabitants (Adger *et al.* 12). Climate change has multifaceted consequences, affecting agriculture, food security, livelihoods, and public health, which in turn, have significant implications for the region's stability and development (IPCC 30). In Nigeria, climate change has been linked to increased competition for scarce resources, such as water and land, leading to conflicts between farmers and herders (Okoli 15). Indeed, climate change is one of the most pressing problems facing the world today, exacerbated by human activities that harm the environment (Asante 289).

African Religious and Islamic perspectives offer valuable insights into mitigating these conflicts and promoting social cohesion (Mbiti 18). According to John Mbiti, African Religion places significant emphasis on community, ancestor reverence, and harmony with nature, which can inform climate change adaptation efforts (Mbiti 20). The Quran also highlights the importance of environmental stewardship and responsibility. For instance, Surah Al-A'raf (7:56) states, "And do not cause corruption on earth after it has been set in order. And invoke Him with fear and aspiration. Indeed, the mercy of Allah is near to the doers of good." This verse underscores the importance of preserving the natural balance and order of the universe. Similarly, Surah Al-Hijr (15:19) emphasises God's creation of the earth and its resources, "And the earth We have spread out, and placed on it firm mountains, and caused to grow in it of all things in due measure." Furthermore, Surah Ar-Rum (30:41) warns of the consequences of human actions on the earth, "Corruption has appeared throughout the land and sea by what the hands of people have earned. That He may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness]." These Quranic verses highlight the significance of environmental responsibility and can inform climate change adaptation efforts in the region.

Other relevant Quranic verses that emphasise the importance of environmental stewardship include Surah Al-An'am (6:141), which states, "And He it is Who produces gardens trellised and untrellised, and date-palms, and crops of different shape and taste (its soil and water) and olives, and pomegranates, similar and dissimilar. Eat of their fruit when they ripen, but pay the due thereof on the day of their harvest, and waste not by extravagance. Verily, He does not like Al-Musrifun (those who waste by extravagance)." This verse highlights the importance of responsible use of natural resources and the need to avoid waste and extravagance.

Islamic scholars have also emphasised the importance of environmental stewardship and responsibility. For example, the renowned Islamic scholar, Al-Ghazali, wrote, "The world is a garden, and the ruler is the gardener. The gardener must take care of the garden and protect it from harm." (Al-Ghazali, 1108). Similarly, the Islamic scholar, Ibn Taymiyyah, stated, "The earth is a trust from Allah, and we are responsible for taking care of it." (Ibn Taymiyyah, 1328). The integration of African Religious and Islamic perspectives can provide a nuanced understanding of the impact of climate change on communal relations in Northwestern Nigeria. By exploring the role of these perspectives, policymakers and practitioners can develop more effective strategies for addressing climate-related conflicts and promoting peace (Galtung 12). This study aims to contribute to the growing body of research on climate change, conflict, and peacebuilding in Africa (Homer-Dixon 15). By examining the impact of climate change on communal relations in Northwest Nigeria, this study seeks to identify opportunities for African Religious and Islamic perspectives to inform climate change adaptation efforts and promote social cohesion (Okoli 18). The findings of this study can inform this policy decisions and programme development, contributing to more effective climate change mitigation and adaptation strategies in vulnerable Northwest communities of Nigeria (Adger et al. 20).

Conclusion

The impact of climate change on communal relations in Northwestern Nigeria is a complex issue necessitating a comprehensive understanding of the intricate relationships between environmental, social and religious factors. By exploring African Religious and Islamic perspectives, and incorporating relevant Quranic verses and Islamic scholarship, policymakers and practitioners can develop effective strategies for addressing climate-related conflicts and promoting peace. This study highlights the significance of interdisciplinary approaches to addressing climate change, highlighting the need for greater collaboration between policymakers, practitioners and local communities. Furthermore, it emphasises the importance of contextualising climate change adaptation efforts within the cultural and spiritual values of the affected communities.

By adopting a sophisticated understanding of the interplay between environmental, social and religious factors, policymakers and practitioners can develop targeted interventions that address the root causes of climate-related conflicts. Ultimately, this study contributes to the growing body of research on climate change, conflict and peacebuilding in Africa, offering valuable insights for policymakers and practitioners seeking to promote sustainable development and peace in the region. The findings of this study can inform policy decisions and programme development, contributing to more effective climate change mitigation and adaptation strategies in vulnerable communities. Moreover, the study's emphasis on African Religious and Islamic perspectives can facilitate the development of culturally sensitive and context-specific interventions. By prioritising collaboration, contextualisation and cultural sensitivity, policymakers and practitioners can work towards promoting peace and sustainable development in Northwestern Nigeria and beyond.

Elucidation of Key words African Religion

African Religion has been defined by many authors from different perspectives. It is refers to the indigenous spiritual practices and beliefs of African peoples, encompassing a diverse range of traditions, rituals, and cosmologies (Mbiti 12). According to John Mbiti, African Religion is characterised by a strong sense of community, ancestor reverence, and a deep connection with nature (Mbiti 15). As Bolaji Idowu notes, African Religion is not a single, monolithic entity, but rather a complex and multifaceted phenomenon that varies across cultures and communities (Idowu 23). Sarwuan succinctly defines African Religion as" part and parcel life. It is not a religion omg the books likem African Religion is an indigenous faith written on the hearts of Africans and can be seen in other sources which include songs, myths, idioms and symbolism or art works"(2). Gbenda brilliantly defines it aslo as "the religious tradition often African people's that is based on their culture, the rekigion initaited by theirnancetors of the prpesent generation thiusands of years ago and still being practised today"(4-5).

Climate Change

Climate change refers to a significant and lasting change in the statistical distribution of weather patterns over periods from decades to millions of years (IPCC 10). The Intergovernmental Panel on Climate Change (IPCC) defines climate change as a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period (IPCC 12). The United Nations Framework Convention on Climate Change (UNFCCC) recaped that, climate change is a global problem that requires international cooperation and collective action to mitigate its impacts (UNFCCC 5).

Islam

Islam is a monotheistic Abrahamic religion that originated in the 7th century in the Arabian Peninsula (Esposito 12). It originated form thenroot word 'SLM' in Arabia which means to be in peace; to benan integral whole (Eliade303). Frommthe roit comes Isalm, meaningnto surrendernto God's law andnthisnto be an integral whole" (65). According to John Esposito, Islam is a comprehensive way of life that encompasses spiritual, social, and moral dimensions, guiding believers in their relationship with God and with each other (Esposito 15). As Fazlur Rahman notes, Islam places great emphasis on the unity and sovereignty of God, as well as the importance of justice, compassion, and stewardship in human affairs (Rahman 23). Jormier alsomsees Islam as " a religion which began in Arabia at the beginning of the century of Christian era in a pagan Jahiliya Arab environment" (5). Islam, one of the three major religious practices in Nigeria, etymologically means "to be an integral whole" (Eliade 303). Islam is a religion of clear dogma and simple worship, but with vigour of expression in the faith in Allah and Muhammad His only prophet (Ogwuche et al 28). Islamic Ethics is the philosophical reflection upon moral conduct with the view of defining good character and attaining the presence of God (Berman et al 83).

Theoretical Frameworks

The conflict theory provides a useful framework for understanding the impacts of climate change on conflict and livelihoods (Marx 123). The sustainable livelihoods framework emphasises the importance of understanding the complex relationships between climate change, livelihoods, and vulnerability (Chambers 67). Studies have shown that climate change has led to increased temperatures, changing precipitation patterns, and desertification in Nigeria, with significant impacts on agriculture, food security, and livelihoods (Adebayo 56; Obioha 102). It is no doubt that, research has also highlighted the role of climate change in exacerbating conflicts between farmers and herders, particularly in Northwest Nigeria (Okoli 150).

Policy Implications

Implementing climate-resilient agricultural practices can help farmers adapt to climate change (Food and Agriculture Organisation 12). Effective water management strategies such as conservation and judicious use are crucial for addressing water scarcity and promoting sustainable livelihoods (Nyong 45). Addressing the root causes of conflict, including climate change, is essential for promoting peace and stability in any part Nigeria (Okoli 150).

Existing research on climate change and conflict in Nigeria highlights the complex interplay between environmental degradation and social instability (Okoli 145). African Religious and Islamic perspectives on environmental stewardship and conflict resolution offer a unique lens

through which to examine this issue (Olupona 34). Cosmopolitanism, with its emphasis on global citizenship and shared humanity (Appiah 78), is particularly relevant in addressing climate change adaptation and mitigation.

The founder of Conflict Theory is Karl Marx. This theory explains how societal dynamics are shaped by perpetual struggles for limited resources and power, emphasizing social inequality and power dynamics. Marx's work, particularly in "The Communist Manifesto" and "Das Kapital," outlines his views on conflict theory, highlighting the class struggle between the bourgeoisie (those who own the means of production) and the proletariat (those who sell their labour or energy.

Key Components of Conflict Theory

There related and essential components of conflict theory which include: Class Struggle-Marx argued that society is divided into classes, with the bourgeoisie exploiting the proletariat, leading to inherent conflicts. Power Dynamics-Conflict theory posits that social order is maintained through domination and power struggles, with different groups vying for control over scarce resources. and lastly, Social Inequality-Marx's theory highlights the role of economic inequalities in shaping social relationships and institutions.

Marx's Conflict Theory is closely linked to his critique of capitalism, where he argues that the capitalist system creates conditions for class conflict and exploitation. His work has had a lasting impact on sociology and political theory, influencing many later scholars, including Max Weber and Georg Simmel, who further developed and refined conflict theory. This study employs a qualitative research design, utilising semi-structured interviews and case studies to gather data (Creswell 123). Data collection procedures involved snowball sampling and thematic analysis, allowing for an indepth examination of the research phenomenon (Braun & Clarke 77).

Climate Change and Communal Conflicts in Northwestern Nigeria

Climate change and communal confict are two sides of a coin which have been one of the most devastating phenomena bedeviling Northwestern Nigeria. However, Climate change has emerged as a pressing global concern, with far-reaching implications for agricultural productivity, food security, and human well-being (Intergovernmental Panel on Climate Change 24). The impact of climate change on agriculture is multifaceted, affecting crop growth, development, and yield, and ultimately leading to reduced productivity and food availability (Schlenker and Lobell 776). Furthermore, changing weather patterns and increased frequency of extreme weather events exacerbate these challenges, compromising the livelihoods of farmers and the food security of communities (Food and Agriculture Organisation 12).

In Africa, climate change in Northwestern Nigeria has led to increased water scarcity, affecting agriculture, livestock, and human consumption (Nyong 45). Water scarcity can lead to reduced crop yields, decreased livestock productivity, and increased competition for this limited resource (Gerten *et al.* 124). Climate change alters the hydrological cycle, leading to more frequent and severe droughts and floods, which can have devastating impacts on agricultural systems and water resources (Haddeland *et al.* 101). Effective water management strategies are essential for addressing these

challenges and ensuring sustainable agricultural practices and always (Rockström *et al.* 248).

The consequences of climate change extend beyond agricultural productivity, contributing to increased competition for resources, displacement, and migration, and exacerbating existing conflicts between farmers and herders (Okoli 150). The degradation of natural resources and increased competition for land and water can lead to social instability and conflict (Barnett and Adger 639). Climate change can also lead to displacement and migration, as people seek to escape the impacts of climate-related stressors (Adger *et al.* 759). Understanding the complex relationships between climate change, resource competition, and conflict is crucial for developing effective strategies to mitigate these impacts (Homer-Dixon 552).

The Consequences of Climate change in Northwestern Nigeria

With the understanding of the common origin of all created things, in the Creator-Animator from whom everyyhing in the universe derives its value and life, people ontological relatiknships among all things. Hence, adhrents of African and Islamic religions do not see themselves isolated from the sacred world which is today facing serious climate change as a result of man'impunity to nature (Asante290). Climate change has become a pressing concern globally, with Northwestern Nigeria being no exception. Rising temperatures have led to a significant increase in average temperatures, with some areas recording temperatures above 45°C (Adebayo 56). Some of the consequences of climate change in Nigeria are multifaceted, requiring a comprehensive approach to mitigate its impacts. Some of these consequences include:

i. The resultant impacts of climate change cannot be over emphasised because they have been profound, resulting in reduced crop yields, decreased agricultural productivity, and increased food insecurity (Food and Agriculture Organisation 12). This decline in agricultural productivity has significant implications for food security, particularly in regions where agriculture is a primary source of livelihood (FAO 14). Climate change affects crop growth, development, and yield, leading to reduced productivity and food availability (Schlenker and Lobell 776). Furthermore, changing weather patterns and increased frequency of extreme weather events exacerbate these challenges (IPCC 24).

ii. Water scarcity, resulting from changes in precipitation patterns and increased evaporation due to rising temperatures, has affected agriculture, livestock, and human consumption (Nyong 45). Water scarcity can lead to reduced crop yields, decreased livestock productivity, and increased competition for this limited resource (Gerten *et al.* 124).

iii. Inview ofnthe above, climate change experience in Northwestern Nigeria alters the hydrological cycle, leading to more frequent and severe droughts and floods, which can have devastating impacts on agricultural systems and water resources (Haddeland *et al.* 101). Effective water management strategies are essential for addressing these challenges and ensuring sustainable agricultural practices (Rockström *et al.* 248). As further maintained, Erratic rainfall and droughts are duo phenonomena which have also become more frequent, affecting agricultural productivity and water availability (Obioha 102).

iv. Climate change in Northwestern Nigeria has also contributed to increased competition for both human and

natural resources, displacement, and migration, exacerbating existing conflicts between farmers and herders (Okoli 150). The degradation of natural resources and increased competition for land and water can lead to social instability and conflict (Barnett and Adger 639).

vii. Climate change can also lead to displacement and migration of people North-Western Nigeria, as people seek to escape the impacts of climate-related stressors (Adger *et al.* 759). Understanding the complex relationships between climate change, resource competition, and conflict is crucial for developing efficient and effective strategies to ameliorate these impacts (Homer-Dixon 552). This unpredictability in changing weather patterns makes it challenging for farmers to plan and manage their crops effectively, leading to food insecurity and economic instability (Okoli 150).

Viii. Desertification, resulting from climate change and human activities, has led to loss of arable land and increased competition for resources (Mortimore 78). The degradation of land not only affects agricultural productivity but also contributes to loss of biodiversity and ecosystem disruption (United Nations Convention to Combat Desertification 10).

Recommendations

Despite some of challenges been posed by climate change and communal confict as unveiled by this study in Northwestern Nigeria, the paper has the following recommendations:

- 1. Implement Climate-Smart Agriculture: Governments, non-governmental agemcies and agricultural stakeholders in the North-Western Nigeria should promote and implement climate-resilient agricultural practices, such as conservation agriculture, agroforestry, and climate-tolerant crop varieties, to enhance food security and reduce vulnerability to climate change (Lipper *et al.* 2014).
- 2. Enhance Water Management: "Water is life" as the adage maintained. Effective water management strategies, such as water harvesting, for efficient irrigation systems, and water treatment and conservation practices, should be implemented to address water scarcity and promote sustainable water use in agriculture (Rockström *et al.* 248) in Northwestern Nigeria.
- 3. Support Climate Change Adaptation and Resilience: Governments and development agencies should provide support for climate change adaptation and resilience-building initiatives, such as climate information services, early warning systems, and climate-resilient infrastructure, conferences to help communities adapt to climate change (Adger *et al.* 759) as it is has diverse effects on Northwestern Nigeria.
- 4. Promote Sustainable Land Management: Sustainable land management practices, such as reforestation, afforestation, and sustainable land-use planning, should be highly be promoted in North -Western Nigeria inorder to reduce land degradation, promote ecosystem services, and enhance carbon sequestration (United Nations Convention to Combat Desertification 10).
- 5. Foster Conflict Resolution and Peacebuilding: Governments and development agencies should prioritise effort, resources and time in conflict resolution and peacebuilding initiatives, such as dialogue and mediation, to address climate-related conflicts and promote social stability in vulnerable communities (Okoli 155) in Northwestern Nigeria entirely.

6. Sustainable land management practices, climate-resilient agriculture, and effective water management strategies are essential for addressing these challenges (Nyong 45). By understanding the impacts of climate change in Northwestern Nigeria and implementing adaptive measures, Northwestern Nigeria can reduce the vulnerability of its population and promote sustainable development (Adebayo 60). This approach would involve both government policies and community-level initiatives to ensure a coordinated response to the challenges posed by climate change (Obioha 105).

Conclusion

This study examines the significance of African Religious and Islamic perspectives in mitigating the nagging impacts of climate change on communal relations in Northwestern Nigeria. By exploring the role of these perspectives, policymakers and practitioners can develop more indepth strategies for addressing climate-related conflicts. African Religious and Islamic teachings promote values of cooperation, tolerance, and mutual respect, which can foster social cohesion and peaceful coexistence between the duo faiths. Integrating these perspectives into climate change adaptation efforts can enhance community resilience and promote sustainable development. This approach can also facilitate dialogue and cooperation among diverse stakeholders.

Ultimately, leveraging African Religious and Islamic perspectives can contribute to more effective climate change mitigation and adaptation strategies, promoting peace and stability in vulnerable communities. Policymakers and practitioners can draw on these insights to inform policy decisions and programme development. By doing so, they can promote more inclusive and sustainable approaches to addressing climate change. This study highlights the importance of considering local contexts and cultural nuances in climate change adaptation efforts. African Religious and Islamic perspectives offer valuable insights into promoting social cohesion and peace. These perspectives can inform the development of positive climate change policies and programmes that are tailored to local needs of the entire society.

Hence, by prioritising community engagement and cultural sensitivity, policymakers and practitioners can promote more effective climate change adaptation and mitigation strategies. This approach can contribute to building more resilient and sustainable communities. Effective climate adaptation requires a multifaceted approach that incorporates diverse perspectives and knowledge systems. African Religious and Islamic perspectives can play a critical role in this endeavour. By working together, policymakers, practitioners, and local communities can develop more effective strategies for addressing climate change and promoting peace and stability. This study provides valuable insights into the role of African Religious and Islamic perspectives in promoting climate change adaptation and peacebuilding initiatives. These insights can inform policy and practice, contributing to more sustainable and resilient communities where peaceful coexistence is achieved in a balanced environment consist of biotic andnabiotoc factors in the Northwestern Nigerian land scape.

References

- 1. Adebayo AG. Climate Change and Conflict in Nigeria. J Confl Stud. 2010;30(1):50-65.
- Adger WN, et al. Human Migration and Global Environmental Change. Wiley-Blackwell; 2013:759-770.
- 3. Adger WN, et al. Human Security. In: Field CB, et al., editors. Climate Change 2014: Impacts, Vulnerability, and Adaptation. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University Press; 2014. p. 12-20.
- 4. Asante E. Ecology: Untapped Resource of Pan-Vitalism in Africa. AFER. 1985;27(5):289-90.
- 5. Appiah KA. Cosmopolitanism: Ethics in a World of Strangers. New York: W.W. Norton & Company; 2006.
- 6. Barnett J, Adger WN. Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability. Polit Geogr. 2007;26(6):639-55.
- 7. Chambers R. Sustainable Livelihoods: An Idea Whose Time Has Come? Dev Pract. 1997;7(4):65-72.
- 8. Esposito JL. Islam: The Straight Path. Oxford: Oxford University Press; 2010.
- 9. Food and Agriculture Organisation. The State of Food Insecurity in the World. Rome: FAO; 2015.
- 10. Galtung J. Violence, Peace, and Peace Research. J Peace Res. 1969;6(3):167-91.
- 11. Gbenda JS. African Religion and Christianity in a Changing World: A Comparative Approach. Nsukka: Chucka Educational Publishers; 2006.
- 12. Gerten D, *et al.* Towards Sustainable Water Management in the Context of Climate Change. Clim Change. 2011;104(2):123-36.
- 13. Eliade M. The Encyclopedia of Religion. Vol. 17. London: Macmillan Publishers; 1987.
- 14. Haddeland I, *et al.* Global Water Resources Affected by Human Interventions and Climate Change. Proc Natl Acad Sci U S A. 2014;111(9):101-6.
- Homer-Dixon TF. Environment, Scarcities, and Violence. Princeton: Princeton University Press; 1999.
- 16. Idowu BE. African Traditional Religion: A Definition. London: SCM Press; 1973.
- 17. Intergovernmental Panel on Climate Change (IPCC). Climate Change 2022: The Physical Science Basis. Cambridge: Cambridge University Press; 2022.
- 18. Intergovernmental Panel on Climate Change (IPCC). Climate Change 2022: Impacts, Vulnerability, and Adaptation. Cambridge: Cambridge University Press; 2022.
- 19. Marx K. Das Kapital: Kritik der politischen Ökonomie. Vol. 1. Hamburg: Meissner; 1867.
- 20. Mbiti JS. African Religions and Philosophy. London: Heinemann; 1969.
- 21. Mortimore M. Desertification and Land Degradation in Africa. J Arid Environ. 2005;63(3):75-91.
- 22. Nyong A. Climate Change and Water Resources in Africa. J Water Resour Manag. 2007;21(1):35-48.
- 23. Obioha EE. Climate Change and Conflict in Nigeria. J Confl Stud. 2010;30(1):97-108.
- 24. Ogwuche P, *et al.* The Imperative of Christian Theology of African Mission. NACATHS J Afr Theol.

- 2007;17:28.
- 25. Okoli AC. Climate Change and Farmer-Herder Conflicts in Nigeria. J Sustain Dev Afr. 2010;12(5):145-55.
- 26. Okoli AC. Climate Change and Conflict in Nigeria. Afr Secur Rev. 2013;22(4):14-27.
- 27. Rahman F. Islam. Chicago: University of Chicago Press; 1979.
- 28. Rockström J, *et al.* Planetary Boundaries: Exploring the Safe Operating Space for Humanity. Ecol Soc. 2009;14(2):248-60.
- 29. Sarwuan DS. African Religion: A Bird's Eyeview. Makurdi: Obeta Continental Press; 2014.
- 30. Schlenker W, Lobell DB. Robust Negative Impacts of Climate Change on African Agriculture. Environ Res Lett. 2010;5(1):1-8.
- 31. United Nations Convention to Combat Desertification. The Global Land Outlook. Bonn: UNCCD; 2017.
- 32. United Nations Framework Convention on Climate Change (UNFCCC). The Convention. Bonn: UNFCCC; 1992.