Climate Change and Politics of Regional Security in the Niger Delta Region, Nigeria: Implications for Peace, Stability, and Resource Management

Emmanuel Selome FASINU
Department of Political Science, Wesley University, Ondo, Nigeria
fasinu4christ@gmail.com, +2348067609055 +2349067623184
https://orcid.org/0009-0001-9028-6609

Oluwaseun Mercy OLALEYE, PhD
Department of Geography, Adeyemi Federal University of Education, Ondo, Nigeria
smakolaleye@gmail.com+2348033720695

Babawale Akin ADEYEMI
Department of Geography, Adeyemi Federal University of Education, Ondo, Nigeria
babawaleadeyemi@gmail.com+2358038465126
DOI: 10.56201/ijgem.v10.no8.2024.pg15.28

Abstract

The paper explores the complex interplay of climate change, environmental degradation, resource conflicts, and social inequalities in the Niger Delta region of Nigeria. Drawing on focus group discussions, literature review, and other data sources, the study highlights the importance of understanding local experiences and perspectives in promoting adaptive capacity, resilience, and peace in the region. The findings suggest that traditional knowledge and practices can play a valuable role in addressing climate change and security challenges, and that marginalised groups, including women and youth, are often excluded from decision-making processes. The research also reveals the potential for innovative community-driven initiatives to support adaptive capacity and resilience in the Niger Delta, and highlights the importance of participatory and democratic governance approaches for addressing the underlying causes of resource conflicts and environmental degradation. In conclusion, this study contributes to our understanding of the complex and interconnected challenges facing the Niger Delta region, and suggests that promoting resilience and peace requires a holistic and multi-faceted approach that draws on local knowledge and practices, engages marginalised groups, and fosters democratic governance.

Keywords: Climate change, Environmental degradation, Resource conflicts, Social inequalities, Adaptive capacity

Introduction

In recent decades, the Niger Delta region of Nigeria has been facing a multifaceted crisis driven by the exploitation of oil resources, political instability, and environmental degradation. The rapid extraction of oil and gas has not only led to wide spread pollution of the region's lands and waters, but also fuelled social and political tensions that have culminated in violence, armed conflict, and a loss of trust in government institutions. Against this backdrop of instability and insecurity, the region is now confronted with a new and grave threat: the impacts of climate change. As global temperatures continue to rise, the Niger Delta region is experiencing a range of environmental and social disruptions that are placing increasing strain on its fragile ecosystems and communities. Rising sea levels threaten to inundate coastal areas and erode the already-degraded mangrove forests, which provide a natural buffer against storms and floods. Warmer ocean temperatures are leading to more intense and frequent hurricanes, which can cause devastating damage to infrastructure, crops, and livelihoods (Adams, Ukaga, & Ekanem, 2022).

Moreover, the region's dependence on oil production and its associated infrastructure make it particularly vulnerable to the impacts of extreme weather events. The region's extensive network of oil pipelines, refineries, and offshore drilling platforms are at high risk of damage from floods, storms, and other disasters, which can lead to spills and environmental contamination. In the context, climate change is not just and environmental problem, but a pressing threat to regional security and peace. As the impacts of climate change intensify, tensions over land, water, and resources are likely to escalate, leading to increased social conflict, displacement, and political instability (Do, Henry, & Ahmed, 2016). The implications of climate change for the Niger Delta region extend beyond the immediate threat to regional security. Climate change is also disrupting traditional livelihoods and cultural practices, threatening food security, and undermining the already fragile health and educational systems. In addition, climate change is exacerbating existing socio-economic inequalities, as poorer and marginalised communities are disproportionately impacted by environmental disasters and lack access to resources for mitigation and adaptation. It is within this complex and volatile landscape that the need for urgent action becomes clear (Gbadeyan & Demariya, 2022; Mgbemena, Adekoya, & Oyemade, 2023).

Statement of the Problem

In the Niger Delta region, the impacts of climate have the potential to exacerbate existing tensions and conflicts, posing a significant threat to regional security and stability. This complex interplay between climate change and regional security underscores the urgent need for research that can inform effective strategies for adaptation and mitigation. By clearly articulating the statement of the problem, researches can identify the specific challenges and knowledge gaps that must be addressed in order to develop robust and comprehensive solutions to the region's climate and security concerns. The Niger Delta region is a complex and dynamic system, in which the effects of climate change are intricately intertwined with the region's socio-economic and political realities. Understanding these interconnections is essential for addressing the pressing challenges that confront the region. To do so, researchers must delve into the intricate web of factors that shape the region's vulnerability to climate change and its impacts on security. This includes exploring the complex interactions between natural and built environments, as well as the role of non-state actors, such as multinational corporations and community-based organisations, in

shaping climate change and security dynamics. By identifying and analysing these factors, researchers can develop a more holistic understanding of the challenges that the region faces, as well as the potential pathways for adaptation and mitigation. This will enable policymakers, practitioners, and civil society organisations to develop evidence-based and context-specific solutions that address the unique needs and circumstances of the region. Ultimately, the goal of this paper in this area is not just to understand the complex dynamics of climate change and regional security in the Niger Delta, but to provide practical and effective solutions that can help to build resilience, promote peace, and foster sustainable development in the region.

Objective of the Study

The objectives of the study are stated as follows:

1. To assess the impact of climate change on the Niger Delta region of Nigeria, including its effects on the environment, local communities, and the economy.
2. To examine the relationship between climate change and regional security in the Niger Delta, with a focus on the potential for conflict and instability resulting from environmental degradation, resource scarcity, and forced migration.
3. To explore the implications of climate change and regional security challenges in the Niger Delta for peace, stability, and resource management at the local, national, and regional levels.
4. To provide recommendations for policymakers, civil society organisations, and local communities on effective strategies for mitigating the impact of climate change, promoting regional security, and ensuring sustainable resource management in the Niger Delta region.

Research Questions

The research questions are formulated based on the research objectives as follows:

1. What is the impact of climate change on the Niger Delta region of Nigeria, particularly in terms of its effects on the environment, local communities, and the economy?
2. How does climate change influence regional security in the Niger Delta, specifically in relation to potential conflicts and instability resulting from environmental degradation, resource scarcity, and forced migration?
3. What are the implications of climate change and regional security challenges in the Niger Delta for peace, stability, and resource management at the local, national, and regional levels?
4. What recommendations can be provided to policymakers, civil society organisations, and local communities for effective strategies to mitigate the impact of climate change, promote regional security, and ensure sustainable resource management in the Niger Delta region?

Significance of the Study

The paper holds significant importance in addressing the pressing issues of climate change and regional security in the Niger Delta region of Nigeria. As global warming continues to intensify, its impacts on vulnerable regions such as the Niger Delta can no longer be ignored. The paper intended to contribute to the growing body of knowledge on the interconnectedness between

environmental change, resource management, and security concerns. By exploring the unique challenges faced by the Niger Delta region, this study will help policymakers, researchers, and practitioners better understand the dynamics of these interconnected issues. It provides valuable issues. It also provides valuable insights into the potential consequences of climate change and regional security challenges on local communities, national stability, and the broader global community.

In summary, this study's significance lies in its potential to contribute to the development of evidence-based solutions for addressing climate change and regional security challenges in the Niger Delta, while also serving as a model for other regions grappling with similar issues. The study, however, addresses several gaps in the existing research on climate change, regional security, and resource management in the Niger Delta region of Nigeria. While previous studies have explored the individual impacts of climate change or regional security challenges in the Niger Delta, few have examined the interconnected nature of these issues and their combined implications for peace, stability, and resource management. The paper seeks to bridge the gap by adopting a holistic approach to understanding these complex dynamics. More importantly, existing research on climate change and regional security in the Niger Delta has primarily focused on the national and regional levels, with limited attention paid to the experiences and perspectives of local communities. The paper intended to address the gap by incorporating the voices and experiences of local stakeholders in its analysis. Finally, the paper also intended to proffer practical solutions and policy recommendations for addressing these issues which have been abandoned by other existing literature.

Scope of the Study

The scope of the study is intended to be both broad and deep. Broad, in the sense that it has addressed the complex interconnections between climate change, regional security, and development in the Niger Delta. Deep, in that it has delved into the nuances and complexities of these issues, drawing on multiple sources of data and diverse disciplinary perspectives. Specifically, the paper focused on unravelling the intricate relationship between climate change and regional security in the Niger Delta region of Nigeria. By exploring the potential impacts of climate change on the region's natural and built environments, we planned to gain insight into the risks and vulnerabilities that communities and ecosystems face in the face of a changing climate. In addition, by delving into the security implications of climate change, we have uncovered the ways in which these environmental changes can interact with and exacerbate existing political, social, and economic tensions in the region.

However, the findings of this study will not only provide a deeper understanding of the complex dynamics of climate change and security in the Niger Delta, but also inform the development of more for effective and targeted strategies for adaptation and resilience. By considering the full spectrum of climate-related threats and vulnerabilities, and the ways in which they interact with existing security challenges, we will be better equipped to identity and mitigate risks, build community resilience, and promote sustainable development in the region. It is through this comprehensive and integrated approach that the paper hoped to contribute to more effective and sustainable solutions for the region's communities and ecosystems, fostering a path towards a more resilient and peaceful future.

Review of Relevant Literature

In our literature review, we draw on recent and relevant academic literature to provide a critical and comprehensive overview of the existing knowledge on climate change, security, and resilience in the Niger Delta region. Our review highlights the connections between these issues and contextualises them within the political and historical context of the region. We begin the review by tracing the history of oil exploration and extraction in the Niger Delta, which has been a significant driver of environmental degradation and conflict since the 1950s. Next, the paper examined the impacts of climate change in the region, including rising sea levels, increased flooding, and more frequent and intense storm events, which have exacerbated existing social and environmental vulnerabilities.

The paper then explored the connections between climate change and security in the Niger Delta, highlighting the potential for climate-related stresses to exacerbate existing conflicts over resources and power, as well as the role of climate-induced displacement in contributing to instability. Furthermore, the paper also examined the adaptive strategies and coping mechanisms that local communities have developed in response to environmental and social stressors in the region. These include traditional knowledge systems, community-based adaptation, and environmental justice movements, which can contribute to local resilience and adaptation. Finally, the paper provided a critical assessment of existing policies and programmes aimed at addressing climate change, security, and resilience in the Niger Delta region, highlighting both their strengths and limitations.

For instance, according to Adams (2024), the Niger Delta is characterised by a "mosaic of resilience," with different communities demonstrating varying levels of resilience in response to environmental and social stressors. This heterogeneity is influenced by factors such as livelihood patterns, governance structures, and social networks (Adams, 2024). Expanding on the work of Adams (2024), Odoko (2024) argues that resilience in the Niger Delta region is a process that emerges from the interaction between environmental and social factors. He however, suggested that adaptive strategies and coping mechanisms in the region are shaped by the region's history of resource exploitation, conflict, and governance structures, which created opportunities for both resistance and adaptation. Odoko's work however, highlighted the importance of understanding the power dynamics that shape resource access and decision-making in the Niger Delta, and the ways in which communities navigate these dynamics to promote resilience.

Building on this body of literature, a scholar highlighted the role of indigenous knowledge systems in shaping resilience in the Niger Delta region. It has been argued that traditional knowledge, including practices such as indigenous farming, fishing, and medicine, can play a significant role in promoting local adaptation and resilience to climate change and environmental stressors. The work further highlighted the importance of integrating local knowledge and practices into adaptation and resilience-building strategies in the Niger Delta, and of recognising the diverse ways in which communities respond to environmental change (Akpan, 2022). More significantly, Akpan (2022) examined the potential for community-based adaptation strategies in the region, arguing that such strategies can promote resilience by building on local knowledge and resources. He highlighted the importance of community participation, access to information, and capacity-building in facilitating adaptation.

In the area of community resilience, Egbewale (2024) discussed the role of social works in building community resilience in the Niger Delta. The work argues that strong social networks and community solidarity can promote collective coping strategies, and can help to buffer the impacts of environmental stressors and conflicts. Egbewale further suggested that policies aimed at promoting community resilience should take into account the importance of social networks and community-based initiatives. Turning to the intersection of climate change and security, Okoro (2024) provided a case study of the Niger Delta to explore the relationship between climate change and conflict. The work argues that climate-induced migration, competition for resources, and weak governance all contributed to heightened conflict risks in the region. The work also suggested that climate change adaptation strategies should incorporate security considerations to promote resilience and peace-building. The study underscores the importance of an integrated approach to climate change, security, and resilience in the Niger Delta.

To examine literature on environmental justice in the Niger Delta, Ezeh (2024) in his work investigated how oil extraction and environmental degradation in the region have disproportionately impacted marginalised groups, particularly women and indigenous communities. The work however, argues that environmental injustice in the region is a product of broader political and economic structures, including the extractive oil industry and weak governance. The study suggested that efforts to promote environmental justice in the region should focus on empowering marginalised communities and supporting their rights to land, resources, and decision-making. To explore the role of indigenous knowledge in resilience, the paper considered Nweke (2024). According to Nweke (2024) there are ways in which indigenous farming practices in the Niger Delta contribute to community resilience in the face of climate change and environmental degradation. The author argues that indigenous farming practices, including rain-fed agriculture and agroforestry, are adapted to local conditions and support diverse and resilient ecosystems. The work further suggested that policies aimed at promoting resilience in the region should support and strengthen indigenous farming practices, as well as traditional knowledge and cultural practices that support resilience.

While these studies provided valuable insights into the complex issues facing the Niger Delta region, they are by no means an exhaustive list of the relevant literature. There are many other academic studies and reports that explored different aspects of climate change, security, and resilience in the region. However, the literature review have covered so far provided a solid foundation for the paper to enhance the understanding of the issues, and as well to help guide the research questions and conceptual framework. While the literature review covers important aspects of climate change, security, and resilience in the Niger Delta region, there are still important gaps in the existing research that should be addressed in future studies. In particular, the experiences and perspectives of women, girls, and youth have often been overlooked in existing research. This is problematic because these groups are often disproportionately affected by the impacts of environmental degradation and conflict, and their experiences and expertise can provide valuable insights into the challenges facing the region.

Another gap in the literature is a lack of attention to the long-term and intergenerational impacts of climate change and conflict in the Niger Delta. Many studies focused on immediate impacts or short-term adaptation strategies, but less attention has been paid to the long-term consequences of

these issues and how they shape the region's future. Furthermore, while there is a growing body of research on community-based adaptation and resilience-building strategies, there is less understanding of how these strategies can be scaled up and supported by government policies and programmes. Finally, the existing literature has not fully explored the links between climate change, security, and governance in the Niger Delta. There is a need for more research on the role of governance, both at the local and national level, in promoting or hindering climate change adaptation and security in the region. While the literature review provided a strong foundation for our understanding of climate change, security, and resilience in the Niger Delta, there is still much work to be done in exploring the experiences and perspectives of marginalised groups, the long-term impacts of these issues, and the governance factors that shape them.

Theoretical Framework

The paper draws on Resilience theoretical framework that has been developed to shed light on the complex intersections between climate change, security, and development in the Niger Delta religion of Nigeria. Based on this, the resilience theory emerged from the fields of ecology and disaster management in the 1970s and has since been applied to a wide range of social, economic, and environmental issues. The theory posits that systems, whether ecological or social, have the capacity to absorb, adapt to, and recover from shocks and stresses, thereby maintaining the essential functions (White & Adams, 2013; Holling & Mern, 2006). In the context of the Niger Delta region in Nigeria, resilience theory provides a valuable lens through which to understand the complex and dynamic nature of climate change and security challenges. The region is characterised by high levels of vulnerability to climate change impacts, including sea-level rise, coastal erosion, and extreme weather events, which are expected to identify in the coming decades.

These impacts are likely to exacerbate existing social and economic tensions, as well as security challenges, such as resource conflicts and political instability. At the same time, the region has demonstrated remarkable resilience in the face of adversity. Despite the decades-long struggle with environmental degradation, resource conflicts, and political instability, communities have developed a range of adaptive strategies and coping mechanisms that allow them to persist and even thrive in challenging circumstances. By applying resilience theory to the Niger Delta region, the paper has identified and understood these adaptive strategies and coping mechanisms, as well as the factors that enable or inhibit their development and effectiveness. This will inform the development of more effective and context-specific adaptation and resilience-building strategies in the region (Park, 2015; Ehaghe, 2017).

In addition to these factors, the role of governance and institutional structures in promoting or undermining resilience in the region has also been an essential factor contributing to the development of the region. The Niger Delta is characterised by weak governance, corruption, and a history of conflict between local communities, the state, and multi-national oil companies. Understanding the role of governance and institutional structures in shaping vulnerability and resilience in the region will be essential for developing effective adaptation and resilience-building strategies (Agbaire, 2010).

The justification for applying resilience theory to the Niger Delta region lies in the interconnections between climate change, security, and local adaptive strategies. First, the region

is characterised by high vulnerability to climate change impacts, including sea-level rise, coastal erosion, and increased frequency of extreme weather events. These impacts have far-reaching implications for the region's ecosystems, communities, and security. Second, the region has experienced decades of conflict over natural resources, including oil, gas, and fishing, which have weakened local governance structures and undermined the resilience of communities and ecosystems. Third, local communities and civil society organisations in the Niger Delta have developed a range of strategies for responding to environmental, social, and economic stresses, such as community-based adaptation, traditional knowledge systems, and environmental justice movements. By applying resilience theory, we can however, gain a more nuanced and contextualised understanding of these adaptive strategies and their effectiveness in responding to the challenges of climate change and security in the region. In sum, applying resilience theory to the Niger Delta region can as well support a more comprehensive and integrated approach to climate change adaptation, security, and development in the region.

Methodology

In order to truly understand the complexities of climate change and security in the Niger Delta region, it is essential to listen to the voices and experiences of those who are most directly affected. By employing ethnographic and participatory methods, the paper has sought to create an immersive and empathetic understanding of the challenges and opportunities faced by local communities. This involved engaging with stakeholders through in-depth interviews, focus group discussions, and participatory mapping exercises, which have provided insights into the unique social, cultural, and environmental factors that shape the region's resilience and vulnerability. In addition to these, participatory mapping techniques, such as participatory geographic information system (PGIS) and community-based mapping, have also been incorporated to elicit local knowledge of the environment and risks associated with climate change. Moreover, by engaging in open and respectful dialogue with communities within the region, we created knowledge and solutions that are grounded in local experiences and perspectives. This process of co-creation will not only generate valuable data, but also build trust and relationships between researchers and community members, which are essential for successful and sustainable interventions in the region. Moreover, by centering the voices and experiences of local communities, the paper hoped to promote more just and equitable approach to climate change adaptation and mitigation, one that prioritises the needs and priorities of marginalised and vulnerable groups. By integrating these diverse perspectives and experiences into our research, the paper hoped to foster a sense of shared ownership and responsibility for addressing the region's challenges, and to create a more democratic and equitable research process that empowers marginalised voices and communities.

In analysing the rich and diverse data gathered from local communities and civil society organisations, the paper drew on techniques that sought to uncover the complexities and nuances of their experiences with climate change and security challenges. By employing thematic analysis, the paper identified the common threads and patterns that weaved through the issues and perspectives of our participants, allowing the development of a more comprehensive and layered understanding of the issues at hand. Similarly, by engaging in narrative analysis, the paper is presented to enhance the ways in which individuals and communities construct meaning and respond to the challenges they face, providing valuable insights into their resilience and coping

mechanisms. More so, the paper employed a critical lens to the data analysis, considering the broader social, economic, and political context within which the issues studied emerged.

This will enable a proper understanding on how climate change and security changes are shaped by power dynamics and structural inequalities in the region. By using these analytical techniques in concert, the paper intended to generate a rich and holistic understanding of the climate change and security challenges faced by the Niger Delta region, rooted in the lived experiences and perspectives of those most directly affected. This, in turn, will assist to inform the development of more effective, equitable, and sustainable solutions. Throughout the data analysis process, the paper has maintained a reflexive and ethical approach to the research. This signifies that reflecting on the authors' own assumptions, biases, and positionality as researchers, and ensuring that the voices and experiences of the participants are not mis-represented or exploited for the purposes of the study. Finally, the paper has been attentive to issues of language, representation, and power in the analysis, striving to avoid the imposition of the authors' own frameworks and categories on the lived experiences of participants.

Data Analysis

The table below summarises the themes and findings from the literature review, focus group discussions, and other data sources.

Theme	Literature Review	Focus Group Discussions	Other Data Sources
Climate change	Environmental degradation	Impacts on livelihoods, health, community cohesion	Local adaptive strategies
Security	Resource conflicts	Oil spills, gas flares, illegal Bunkering	Resource governance
Resilience conflict	Adaptive strategies	Traditional farming practices, Water purification techniques	Community-based resolution mechanisms
Governance	Top-down governance approaches	Lack of community consultation, exclusion of local expertise	Community-driven approaches for resource management and conflict resolution
Gender	Gender-blind Sensitive approaches to climate change and security	Women and youth impacted by climate change and conflicts	Need for gender- approaches to adaptation and resilience-building
Youth approaches	Youth voices excluded from decision-making processes	Youth experiences of climate change and resource conflicts	Youth-centred approaches to peace building and conflict resolution
Marginalisation	Marginalised groups excluded from decision-making Processes	Marginalised communities affected by environmental degradation and	Inclusive and participa- tory governance approaches to climate change adaptation and

		conflicts	security
Livelihoods	Livelihoods Impacted by environmental degradation	Livelihood diversification and adaptation strategies	Community-led livelyhoods initiatives
Health	Health impacts climate and environmental degradation	Health-related coping strategies	Access to healthcare services and health impacts of climate changes
Peacebuilding	Peacebuilding approaches in the Niger Delta	Community-based conflict resolution mechanisms	Local peacebuilding initiatives
Local knowledge	Local knowledge and practices for adaptation and resilience	Traditional farming practices, water management techniques	Local adaptation strategies
Community engagement	Role of community in climate change adaptation and security	Community-led initiatives for adaptation and resilience	Community-government partnerships for climate change adaptation and security
Policy and governance	Policy and governance approaches to climate change and security in the Niger Delta	Challenges of top-down governance approaches	Community-driven policy and governance initiatives

Discussion of the Findings

The findings from the study suggested that the Niger Delta region can be better understood and addressed by taking into account the experiences and perspectives of local communities. These communities possess a rich reservoir of traditional knowledge and practices that can be harnessed for building greater resilience and adaptive capacity in the face of climate and security challenges. At the same time, the region is marked by significant imbalances, which can hinder effective climate change adaptation and security interventions. In particular, women and youth are often left out of decision-making processes and their experiences are overlooked in policymaking. By engaging with marginalised groups and prioritising participatory and democratic governance approaches, policymakers and practitioners can support the development of more effective and equitable climate change adaptation and security interventions in the Niger Delta.

Ultimately, these findings underscore the importance of taking a holistic, community-centred approach to climate adaptation and security in the Niger Delta. By drawing on local knowledge,

addressing social inequalities, and promoting more inclusive governance, it may be possible to build greater resilience and peace in the region, and to support a more sustainable and prosperous future for its people. Building on these findings, it may be needful to explore further opportunities for promoting resilience and adaptive capacity in the Niger Delta region of Nigeria. One promising area of focus may be the development of innovative community-driven initiatives that combine traditional knowledge and practices with modern technology and scientific approaches. For instance, community-based monitoring systems could be established to track environmental changes and resource conflicts, and to support more timely and effective interventions. Local eco-enterprises and cooperatives could also be supported to promote livelihood diversification and sustainable resource management in the region.

Moreover, education and capacity-building initiatives could be developed to empower women, youth, and other marginalised groups to take a more active role in climate change adaptation and security. These initiatives could focus on skills development, community organising, and leadership, and could help to build a more inclusive and dynamic leadership base in the Niger Delta. Also, international support and partnerships can play a crucial role in strengthening local capacity and promoting more effective climate change adaptation and security interventions in the region. In addition to these initiatives, it will also be important to address the underlying drivers of resource conflicts and environmental degradation in the Niger Delta. This may require a greater focus on promoting sustainable resource management practices, improving transparency and accountability in resource governance, and fostering a culture of peace and non-violence in the region.

Moreover, it will be essential to build cross-sectoral partnerships that bring together policymakers, and local communities to promote collaborative and holistic approaches to climate change adaptation and security. Finally, the Niger Delta region of Nigeria faces significant climate change and security challenges that require urgent and effective responses. To ensure that these responses are effective and sustainable, it will be critical to draw on the local knowledge, practices, and expertise of communities in the region, as well as to engage with women, youth, and other marginalised groups in the development and implementation of climate change adaptation and security interventions.

Conclusion

In conclusion, the study on the Niger Delta region has highlighted the importance of understanding the complex interplay of climate change, environmental degradation, resource conflicts, and social inequalities in the region. The findings suggest that addressing these challenges requires a holistic and community-centred approach that draws on local knowledge and practices, engages marginalised groups, promotes democratic governance, and fosters cross-sectoral partnerships. Through the promotion of initiative community-driven initiatives, capacity-building and education programmes, and a focus on sustainable resource management, it may be possible to build greater resilience, adaptive capacity, and peace in the region. Lastly, the region offers both opportunities and challenges in the context of climate change adaptation and security.

By acknowledging the complexity of the issues and drawing on the strengths and expertise of local communities, it may be possible to build a more sustainable future for the region. While the paper

provides valuable insights into the experiences and perspectives of local communities in the Niger Delta, it is important to acknowledge some limitations of the study. First, the scope of the study was limited to three communities in the region, which may not be fully representative of the wider Niger Delta region of Nigeria. Second, the sample size of focus group discussions was relatively small, which may limit the generalisability of the findings. Third, the research was limited in its ability to capture the full complexity and dynamism of the Niger Delta region. Finally, the study was limited in its ability to capture the perspectives and experiences of specific sub-groups within the communities, such as women, youth, or ethnic minorities. This may have resulted in a partial or incomplete understanding of the issues under study.

Despite these limitations, the findings of the study can still provide valuable insights into the experiences and challenges faced by local communities in the Niger Delta, and can serve as a starting point for further research and action in the region. Building on the insights gained from the study, future research on climate change adaptation and security in the Niger Delta should strive to deepen our understanding of the experiences and perspectives of local communities, including marginalised groups, and to track changes and developments over time. This could involve expanding the scope and scale of the research to include a wider range of communities and sub-groups, using a combination of quantitative and qualitative methods to capture a more comprehensive picture of the issues under study, and adopting a longitudinal approach to track changes and developments over time.

In addition, future research should aim to explore in greater depth the role of traditional knowledge and practices in climate change adaptation and security, as well as the potential for innovative community-driven initiatives to support resilience and peacebuilding in the Niger Delta. Finally, it will be important for future research to engage with policymakers, practitioners, and other stakeholders to ensure that the findings are relevant, actionable, and contribute to the development of more effective and equitable responses to climate change and security challenges in the region.

Recommendations

Based on the findings of the study, the paper proposed the following recommendations for policymakers and practitioners working to address climate change adaptation and security challenges in the Niger Delta:

1. Prioritise the inclusion of local knowledge and practices in climate change adaptation and security interventions, by engaging with local communities and supporting the development of community-driven initiatives.
2. Promote gender-sensitive and inclusive approaches to climate change adaptation and security, by engaging with women and youth and supporting their leadership and participation in decision-making processes.
3. Support the development of sustainable livelihoods and alternative income sources in the Niger Delta, by promoting eco-enterprises and community-based livelihood initiatives that draw on traditional knowledge and practices.

4. Forster more participatory and democratic approaches to resource governance and conflict resolution, by engaging with local communities and supporting community-based peacebuilding initiatives.
5. Invest in education and capacity-building programmes that promote leadership, resilience, and adaptive capacity among local communities, with a focus on marginalised groups.

References

Adams, T.B., Ukaga, P., & Ekanem, N. (2022). Climate change and environmental degradation in the Niger Delta: Challenges for sustainable development. Journal of Sustainable Development, 25(3), 232-244.

Adams, J. (2024). Mosaics of resilience in the Niger Delta: A social-ecological perspective. Journal of Resilience Research, Vol. 8, No. 4, pp. 473-493.

Agbaire, D.K. (2010). Community resilience in the Niger Delta: A case study of the impact of oil exploitation and environmental degradation.

Akpan, J. (2022). Community-based adaptation to climate change in the Niger Delta: A pathway to resilience? Journal of Sustainable Development, Vol. 15, No. 1, pp. 33-52.

Egbewale, O. (2024). Social networks and community resilience in the Niger Delta: Insights for policy and practice. International Journal of Sustainable Development and World Ecology, Vol. 31, No. 4, pp. 432-445.

Ezeh, E. (2024). Environmental justice in the Niger Delta: The politics of land, oil, and marginalisation. Critical African Studies, Vol. 6, No. 1, pp. 51-73.

Nweke, A. (2024). Indigenous farming practices and community resilience in the Niger Delta: Insights for climate change adaptation. Environmental Development, Vol. 65, pp. 101-115.

Odoko, O. (2024). Navigating the nexus: Power, resilience, and adaptation in the Niger Delta. Environment and planning culture. Politics and space, Vol. 43, No. 2, pp. 279-296.
Holling, C.S., & Mern, G.B. (2006). Resilience thinking: Sustaining ecosystems and people in a changing world.

White, M.E., & Adams, J.D. (2013). Building resilience for disaster risk management and climate change adaptation: Linking research and practice.

Okoro, A. (2024). Climate change, migration, and conflict in the Niger Delta: A case study. Journal of Peace-building and Development, Vol. 11, No. 1, pp. 43-57.

Mgbemena, I., Adekoya, A., & Oyemade, S. (2023). Impact of climate change and socio-
economic factors on livelihood strategies in the Niger Delta region of Nigeria. African
Journal of Environmental Science and Technology, 17(1), 4-16.

Gbadeyan, A., & Demariya, A. (2022). Exploring violence in the Niger Delta oil communities.
Journal of Contemporary Issues in Management, 8(3), 1-22.

D, A.P., Henry, D., & Ahmed, A.B. (2016). Insurgency and the oil industry in the Niger Delta: A
case study of the movement for the emancipation of the Niger Delta (MEND).
International Journal of Energy Technology and Policy, 8(3), 223-232.