# Nigeria: Decolonial Climate Adaptation and Conflict. Evidence from Coastal Communities of the Niger Delta

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**Abstract:** The paper proceeds on the assumption that decoloniality matters in tackling the global climate crisis, conflict, and development at the community level across countries with high vulnerabilities. Africa remains one of the most vulnerable regions in the world. By examining what decolonisation means in climate adaptation and the experience of six communities in three states in the Niger Delta of Nigeria, this article contributes to the conceptualisation of the decolonial discourse of climate adaptation, development and conflict understood as conditions favourable to the crisis. I analysed qualitative data obtained from the coastal communities through observation, focus group discussions, and interviews. The results showed a reinforcement of positions in a segment of the literature on decolonial climate adaptation in communities in some parts of the world. Migration, alternative sources of livelihood, embarkment of shorelines, skills development, vocations, and infrastructure development are among legitimate adaptive measures local communities are adopting. At the same time, maladaptive measures such as piracy, kidnapping, illegal oil refining, and gangsterism are common. These antisocial behaviours lead to conflict and contribute to making climate change a very complex problem. Decolonial climate adaptation requires collaborative interventions at the level of the community, sub-national, national, and multilateral fronts. The fact that climate change is a global problem with unequal impact means that the capacity to respond well to it at the community, sub-national, national, regional, continental, and international levels is crucial in addressing the crisis. The role of decoloniality in the handling of the effects of climate change in the community may take the form of integration of local and western knowledge. The decolonial framework would appear to be elastic with a potential conceptual role of critical assessment of existing frameworks, outcomes, impact, and power relations. One of the striking messages in this analysis is the likely role of local knowledge

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in reducing the risk of social tension and criminal conflict, and the need to strengthen it to increase the resilience and well-being of people.

**Keywords:** Decolonisation, climate, adaptation, development, Africa, Nigeria, coastal communities.

## Introduction

Decolonization of climate adaptation refers to the use of indigenous and traditional knowledge by people in communities as a means of combating the effects of climate change. I have argued elsewhere that decolonisation is both an ideology and a practice that seeks to dismantle unhealthy colonial values, structures, systems, and legacy in postcolonial states. This is also about a preference for alternative models of development where the processes and the outcomes can clearly show qualities of deep and sincere ecological concerns, fairness, justice, well-being, and human security.

Decolonisation is an important conceptual tool in the analysis of development in the developing world. It is a qualifier of the desired development model. Typically, the concept of development faces a crisis of ideological interpretations. The mere mention of colonialism, neo-colonialism or western development models can send different messages to people depending on their ideological leanings, in a world characterised by hegemonic and unequal power relations between northern and southern countries. Development should be seen as a change process in response to human security needs. As argued somewhere else, decolonial development models are desired for their adjudged capacity to fulfill this goal through a critical assessment of the existential realities and outcome of Eurocentric development models to strike a balance or make the preference for a model that is responsive to the human security needs of citizens (Allen & Amadi, 2022). Such a model or set of models must be seen to be holistic in approach, touching on all dimensions of human existence, including ecological systems.

Stories of how climate change affects communities are no longer new. For example, as shown in the table below, hunger in the Sudan Savanna region of Africa will escalate due to rising temperatures and unpredictable and decreasing rainfall. The World Food Programme reported in April 2022 that the number of hungry people in West Africa and the Sahel due to climate change was in the range of 41 million (UN News, 2022). Extreme weather events such as floods, droughts, unpredictable rainfalls, and erosion have become more frequent throughout the world and are reasons to worry about where all this will take Africa in the next couple of years (Pyhälä *et al.*, 2016). Whether in the Horn of Africa, West Africa, Southern Africa, Central or East Africa, the prevalence of these problems and their impact on the well-being of people, especially in terms of availability and affordability of food, are key concerns. Adapting to these problems is critical. The incidence and significance of decolonial ways of doing it, understood in

terms of traditional and indigenous knowledge and practices have been acknowledged in the literature (see, for example, Daszkiewicz, 2022).

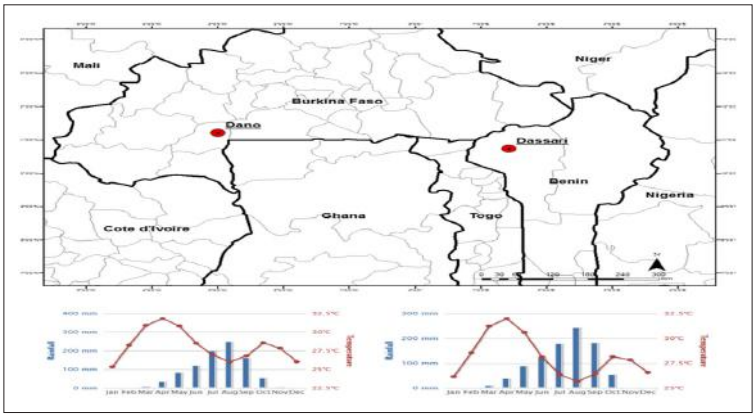


**Figure 1:** Sudan Savannah shows average temperatures and rainfall (Callo-Concha 2018)

The impact of climate change on food production, consumption, and hunger until 2050 in Africa south of the Sahara and Nigeria in particular shows a steep increase, as indicated in Figure 2. As food insecurity remains a key element of the characterisation of those in extreme poverty, this picture suggests a far bigger problem for Africa. The data show that among the regions of the world, Africa will be the most hit by climate change-induced food security problems (Brown & Crawford, 2008).

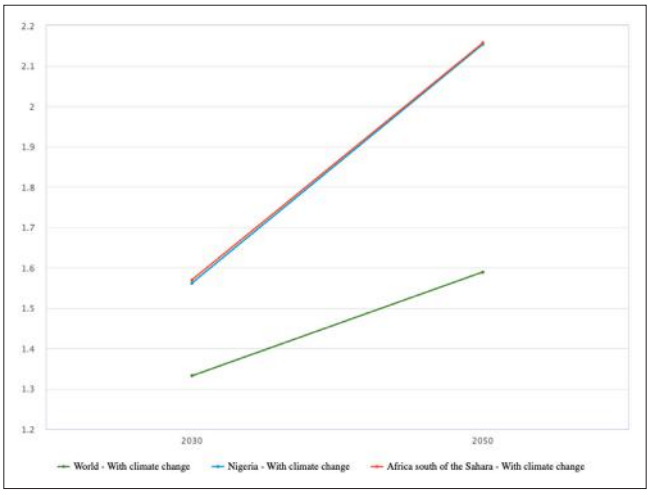


**Figure 2:** Impact projections on food production, consumption, and hunger in 2050

***Source:*** International Food Policy Research Institute.

Like many regions in Africa, coastal communities in the Niger Delta of Nigeria remain vulnerable to chains of unsolicited consequences from climate disasters such as floods, unpredictable rainfall, erosion, and excessive heat. The economic, social, and environmental conditions that follow these disasters have implications for the broader social cohesion and development of communities and the region at large. For example, these conditions continue to fuel insecurity and conflict. The assumption is that the deployment and strengthening of local knowledge might be a vital component of what needs to be done for coping with these problems.

It must be noted that the idea of decolonising climate solutions in Africa does not in any way portray an uncritical rejection of western solutions. In other words, it does not mean blind rejection of Western-oriented models of dealing with the climate crisis and development in Africa. Instead, it means careful integration of western and indigenous knowledge or acknowledging and utilisation of indigenous models as alternatives when the processes and outcomes of western models have proved to be incapable of improving the living conditions of people in the post-colonial state. The concept of traditional or local knowledge is elastic and used in the analysis of non-African settings by non-African scholars (Chevallier, 2017). To be sure, scholars have highlighted how traditional and local knowledge systems are driving climate adaptation in several parts of the world. These efforts have hinted in a positive sense at the question of whether there is a decolonial approach to climate adaptation and development. However, the concept needs a deeper understanding within specific geographical contexts for wider applicability and acceptability. What do we know about its indicators in the case of the Niger Delta of Nigeria?

## Literature review

As the issue of adaptation continues to echo in the discourse on the global climate crisis, communities in different parts of the world are increasingly identified with local coping and adaptive actions (Owusu & Andriesse, 2022; Ung *et al.*, 2016). Coastal communities in Cambodia are among these communities. The locals are using indigenous adaptive methods to tackle climate variability. These methods are not only being discussed in terms of development, but scholars are also highlighting the need to mainstream decoloniality in the broader efforts of authorities on the subnational, national, and multilateral fronts. Typically, these Cambodian communities are agricultural and fishing societies. Most locals in these communities depend on these economic activities and natural resources for livelihood.

It is important to note that scholars have used the concepts of coping and adaptation to convey different meanings, although they are interconnected. Adaptation refers to strategies deployed in response to climate change that aims to reduce harm and negative impact. These measures sometimes are even expected to provide new opportunities.

They can be anticipatory or proactive (Ung *et al.*, 2016). In contrast, coping measures are short-term and reactive. As Ung *et al.* (2016) have argued, adaptation can be viewed as the extension of coping mechanisms or the taking of coping measures to the next level. Both can be initiated by people in the public and private sectors.

As far back as 2006, the Cambodian government created the National Adaptation Programme of Action on Climate Change. Participatory principles were applied in the process that led to the establishment of this body in the sense that it involved local communities, policymakers, and stakeholders. It had to be that way because these are communities with high sensitivity to climate variability. To deal with the associated risks, people themselves needed to be adequately involved in the policy-making process.

A report by the natural disaster committee of that country estimated the cost of disasters such as floods, destructive storms, and drought at hundreds of millions of United States dollars in 2011. This was one reason for concern from the government and communities. Ung, Luginaah, Chuenpagdee, and Cambell (2016) used the self-efficacy theory to investigate the incidence of local knowledge and adaptive response to climate change and argued that there is a need to strengthen indigenous responses. Self-efficacy itself is a key conceptual tool in health research. Its key hypothesis is that when individuals assess their capacity to undertake a task in reaction to risk, to prevent or reduce impending harm, they would do it (Bandura, 1997).

The Vanuatu Pacific example is equally revealing. Its rich heritage of local knowledge on climate adaptation has been explained (Granderson, 2017). Granderson argues that local knowledge in this region can be used to strengthen the resilience of the community. Granderson's analysis of local perspectives on the Pacific Island points to the indirection of a legacy of application of local knowledge application to address the impact of environmental change (Bandura, 2011). Following are some identifiable methods common in the region: water and food storage, collective pooling of resources for problem-solving, the elevation of settlement, superstitions, and religious ways of life, and predicting climate variability (Granderson, 2017; 2014).

North-Central Vietnam is another region of the world that provides an interesting case study. Local knowledge occupies a key position in its development discourse. This owes much to a growing culture of participatory resource governance among locals and authorities. Typically, local knowledge in this part of the country has suffered disdain and relegation by adherents to modernity. The analysis by Bruun and Ngoc of the significance of indigenous methods to adapt to natural disasters in rural people is instructive (2018). As they argued, there is a parallel reality of indigenous and western adaptive responses to climate variability. The authors, however, mentioned a lack of requisite political context that promotes active resource management among locals. Vietnam will not be the last in this journey of identifying regions in the world where local knowledge is making contributions to climate adaptive measures.

Scholars have analysed the case of coastal communities in West Africa. For example, Amadou, Villamor, and Kye-Baffour (2018) tell the story of local populations in northern Ghana. This is an agriculture-based population, using land-use adaptive agricultural approaches to deal with climate problems. In the same vein, locals in northern Mali are using diversification of means of livelihood, migration, and institutional adjustments as strategies to adapt to severe ecological tragedies (Brockhaus *et al.*, 2013). These are communities that rely on natural resources for survival.

In Sudan's West African savanna, especially in Dassari, Benin and Dana, Burkina Faso, local adaptation to climate vulnerability are already underway (Callo-Choncha, 2018). But it takes much encouragement to achieve better results. This is even more so to help reduce the risk of conditions capable of triggering violent conflict for those whose adaptive measures are antisocial. Temperatures have increased between 0.5 and 0.8 since 1970 in West Africa. Similarly, rainfall has decreased by at least 10% since 1950 (Callo-Conha, 2018).

In these communities, farmers can forecast weather conditions to make decisions about cropping seasons. They adapt to technologies although often with a feeling of no real sense of ability to adapt to climate change without being able to read weather situations. This is what matters to them. They insist on a combination of local or western knowledge. The area in question is climate-sensitive agricultural systems that are known to produce cereal species as dominant crops due to their high tolerance nature.

**Table 1.** Ways in which local knowledge can support climate adaptation

| Component | Examples |
|---|---|
| Biophysical and social exposure | • Integration of local and scientific observations of climatic change[3,49]<br>• Indigenous weather forecasting to moderate the effects of variable rainfall[39,50,51]<br>• Seasonal migration to minimize weather impacts[52]<br>• Protection of water sources through taboos and designation of sacred sites[47]<br>• Reducing exposure to environmental hazards[53] |
| Sensitivity to change and variability | • Management of common property[54,55]<br>• Use of crop varieties and mixes that provide yields in a wide range of climates[56]<br>• Traditional soil and water management and conservation systems[57,58]<br>• Distribution of risks through social networks for food sharing[36,59]<br>• Allocation of pasture for livestock grazing[40]<br>• Local institutions for managing sudden influxes of migrants[60] |
| Adaptive capacity and adaptation processes | • Using indigenous observations in decision making[3]<br>• Insights into changing attitudes toward the role of people's resource management, as 'destroyers of the environment' or 'custodians of resources'<br>• Insights into social differentiation of vulnerability and adaptation, including socially conditioned responses to external stressors<br>• Insights into communication needs, e.g., cognitive processes that determine the uptake of seasonal forecasts[61,62]<br>• The significance of changing cultures and loss of traditional institutions[4] |

***Source:*** Naess (2013, p. 101).

Based on fieldwork experience in two villages in Tanzania, Naess (2013) identified three broad categories of components and examples of how local knowledge can support climate adaptation as follows: biophysical and social exposure, sensitivity and variability, and adaptive capacity and adaptation processes (See Table 1). The last component includes examples of the use of local observations in decision-making, perceptions of changing the behaviour of locals as defenders or destroyers of the environment, and insights into the importance of changing local institutions and cultures. Tanzania presents another case of how local knowledge can help climate adaptation, although it also has a challenging future here. Naess (2013, p. 101) explained the meaning of local knowledge as context-specific knowledge produced over the long term and utilised within the context. He addressed the question of whether this exists and how to use the Tanzania example. Used interchangeably with traditional knowledge, local knowledge has the potential to deliver power to communities relationally, in matters of environmental and institutional processes. Adaptive action aims to reduce the vulnerability of people to climate change. However, challenges include environmental susceptibility, political and political context, and capacity.

In the final analysis, Africa faces palpable climate-related disasters. Communities respond with adaptive and coping measures. But not much is known about how this is unfolding and how local knowledge can interact better with political institutions as a matter of decoloniality to increase its value in reducing the vulnerability of communities to the impact of climate change.

**Methodology**

The article focused on six coastal communities in three states of the Niger Delta, namely, the Bayelsa Rivers and Akwa Ibom. Both communities and States were selected to be easier and without adequate resources. In Bayelsa state, data was collected in Beletiama and Nembe in the local government areas of Brass and Nembe. In Rivers state, the study was carried out in Finima and Kono, in Bonny and Khana, respectively. The study used data collected by Health of Mother Earth Foundation Nigeria through participatory research methods in a study of 'climate change as a cause of conflict in coastal areas of West Africa' (Health of Mother Earth Foundation, 2022).[1] I participated in the research component of that project and give the necessary credit to the Health of Mother Earth Foundation for the data-driven insights in this article. The study deployed focus group discussion for data collection with a total of 60 participants selected through snowballing on a quota basis with 10 from each community. In addition, 12 participants were selected based on a quota of 2 per community using the snowball technique. These decisions were influenced by several factors, including

1 The author was the lead consultant in that study. This paper benefitted from that study.

insecurity in these communities. The participants were drawn from fishers, farmers, women, men, youth, and community leadership. A meeting organized to form sense of purpose for an initial joint analysis of the data collected in the field with research assistants and some of the participants in the communities that attended helped strengthen the validity of the data due to the participatory approach of the study. Overall, data from transcripts of recorded discussions and field diary content were thematically analysed with ATLAS.ti.

The question of how people cope or adapt to climate change produced data that suggest the use of local knowledge or the decolonisation of solutions to the problem. They are adapting in the local sense based on their extensive awareness and knowledge of the environment and climate. The problem, however, is that policymakers do not pay adequate attention to local solutions to climate change at the community level. Despite the threat that climate change poses to the well-being of people in Africa and the role, that adaptation is expected to play in addressing the crisis, only little is known about local knowledge.

Bayelsa, Rivers, and Akwa Ibom are part of the nine oil-producing states of Nigeria, politically defined as the Niger Delta (See Figure 1). This has not always been the meaning of the region. In a way, it speaks to the importance of the oil industry in any definition of this region in contrast to the enormous and rich biodiversity and general coastal features that previously characterised the region as part of the entire Gulf of Guinea states of Africa. The region was a key destination for early European slave trading activities and the shipment of conscripted slaves overseas. Later it became a major centre for the

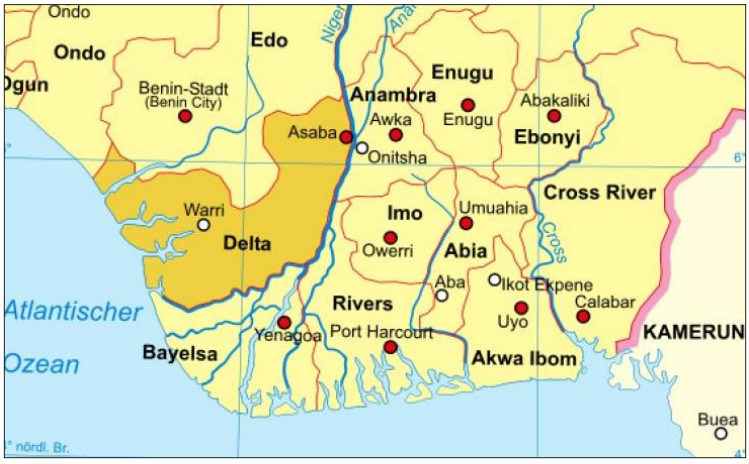


**Figure 3:** Map of the Niger Delta

***Source:*** AllAfrica.https://cdn04.allafrica.com/download/pic/main/main/csiid/00561522:7d1477902134c6b00360fbd0cd7b6ffa:arc614x376:w735:us1.jpg

purchase of raw materials for the industrial revolution in Europe. The establishment of a protectorate and colony in 1906, and the eventual amalgamation of the same in 1914 was the height of the appropriation of Nigeria by Britain under its imperial policy in the post-European Berlin-Conference era.

***Bayelsa State***

We fish in the ocean without a compass. We study the movement of the moon to know when to go out. Knowledge of the movement of fish is essential. Turbulence in the ocean is seasonal. It does not happen all the time. This was how a former fisherman and native of Beletiama in the Brass Local Government Area of the state responded to the question of how he was coping with changes in the environment. It immediately raises the question of whether locals know their environment, changes and how they are responding to continue to meet their needs.

There is a tacit portrayal of the ability of local fishermen to understand the environment of practice. Predicting the weather, no matter how inaccurately done, has a valuable positive impact on fishing and farming practices. It is a key aspect of the cultural and local knowledge infrastructure of the people which has not been explored in the face of difficult economic conditions climate change is bequeathing. Reading local weather and being guided by it for safety and fishing at the right time is certainly not an accurate system for decision-making by modern standards. Even so, there have been insinuations in many quarters of how this type of knowledge continues to assist fishing populations, especially those without the capacity for the modern fishing tools and technology needed for decision-making about practice.

The issue here is that climate variability is intensifying and posing threats, especially to the extremely poor. The resilience of local people who face the challenge of lack of adequate presence of state authorities in matters of climate change will not wait to be consumed by climate events where they feel able to do something about such problems with whatever knowledge they have. But modern knowledge systems discourage or fail to integrate it. They neither scrutinize local knowledge to determine its suitability for times in which people are in.

Like the rest of the coastal areas of the Niger Delta, the oil company activities in Bayelsa State contribute a significant amount of C02 emissions to Nigeria's total profile which stood at 115, 280 as of 2019.[2] This infamous testimonial of the Nigerian state is part of the cause of the global climate crisis. Greenhouse gas in the atmosphere is the cause of rising temperatures.

2 https://knoema.com Nigeria domestic withdrawals media coverage weight in areas of score 3.5–4 was 0 in 2014 — the single year for which the data is available now.

Sea level rise, flood, unpredictable rainfall patterns, excessive heat, and erosion are severe climate change issues in Bayelsa State. Together, they pose a threat to the survival of the community people. Waiting for the government and non-governmental organisations to respond with adaptive programmes each time a disaster strikes, is reasonable, but that is inadequate and often too politically guided to yield good results. Fishing, farming, hunting, canoe carving and palm wine (local gin producing), are key legitimate economic activities threatened and affected by climate problems. The impact on the practice of these occupations unfolds in different ways. For example, the ability of fisherfolk to read the behaviour of the ocean is failing due to the unpredictability of seasons. Harmattan seasons nowadays are shorter than expected. They interfere with the rainy season period. Fishermen and farmers understand the implications of these changes for the practice of their occupations. The data showed evidence of frustration with the impact of these changes on livelihood activities.

The shift from fishing and farming to other trades comes with many challenges, such as the lack of financial resources and skills needed for that shift. Likewise, migrating, a common adaptive decision that people make comes with its challenges. People tend to leave their families behind when they first move. When floods and erosion are the issues, migrating due to the loss of living homes requires movement by entire households. These adaptive measures involve a cost that must be considered. The capacity of victims to bear the cost can affect the outcome. Resilience is the critical element for survival which the question of decolonisation of adaptation relates to. Improving the level of resilience of community people is essential for effective adaptation. As the data showed, one of the adaptive measures taken by some fishermen in the Niger Delta is changing from the use of local boats without outboard engines to those with engines. Outboard engines are not manufactured locally, but they make a good contribution to increasing the resilience of fishermen. This upgrade in equipment use represents a mixture of local knowledge and western knowledge. The move to distant seas for fishing was forced by the growing depletion of fish species in close-by water bodies due to overfishing or pollution.

One aspect of the changing climate in Bayelsa is the presence of nipa palms. These are subversive plants that locals believe to have no economic or ecosystem service-providing values. They are mostly defined by locals as destructive because they block waterways and mangroves. Mangroves, in contrast, are resources of great value for locals who see them as sources of medicine, fuel hoods, natural habitat for the reproduction of fish species, and much more, known to be.

The locals were asked how they coped and adapted to the effects of climate change. Their responses included the following: the use of outboard-powered seagoing boats, the installation of natural wisdom to guide when to fish, custom fishing nets, trading, poultry farming, skills development, and vocational training.

There are maladaptive measures people have taken as well. Most of them contribute to insecurity. Crime, in different forms including piracy, kidnapping, armed robbery, and cultism, is one of them. Many young people who chose these antisocial measures do so out of frustration with unproductive fishing and farming. The net result of all this, which includes unemployment, a lack of sufficient income during a period of growing food insecurity and a lack of government attention to the provision of basic social amenities, means that some would seek alternative means of livelihood through crime. Some have turned to illegal oil refining, a loathed business among those who value the environment more than money.

The Etiema, Agbakabiriyai, and Igbetaiwoama communities in the Nembe local government area have long-lasting cultures of wildlife conservation. The knowledge around this did not emanate from the west. They just know that this is valuable for the community's well-being in the long run. This practice has come under severe threat, as the maladaptive actions of many affected by climate change led them to disobey the community restrictions on economic activities in some parts of the environment. Flood, erosion, sea level rise, unpredictable rainfall, and heat waves, and their attendant resource scarcity, are specifically making some people pay lip service to regulations guiding fishing in specified areas weak. Although some of these rules have spiritual dimensions, their full implementation faces obstacles due to pressure from the changing climate. For example, commercial picking of periwinkle is forbidden, but people in neighbouring communities ignore the spiritual consequences of indulgently using it for commercial purposes.

Africa lacks resources to address the adaptation and mitigation of climate change. This was the point that the President of the African Development Bank, Dr Akuwumi Adesina (2022), recently highlighted at the Africa Adaptation Summit in The Netherlands. He disclosed that Africa needs a total of $1.3 to $1.6tn between now and 2030 to be able to tackle climate change. It needs about $118bn to $145bn yearly to meet its Paris Agreement and nationally determined obligations. In the past year, only about 3% of the $100bn pledged by countries of the north to support developing countries to fight climate change annually was redeemed. Africa does not even have a mechanism to track the level of commitment of these countries to meet their promise. African leaders should keep local solutions as part of their alternatives at the level of adaptation.

***Rivers State***

In Rivers state, the study was carried out in Finima, Bonny local government area, and Kono, Khana local government area. Locals face the problem of devastating floods, thunderstorms, rise in sea level, erosion, and invasion by seas on the land. Despite adaptive efforts such as people seeking alternative sources of livelihood, migration, landscaping, and makeshift drainage, coping has been difficult. The adaptive capacity of

locals must be built through interventionist financing of social amenities, and economic empowerment of the extremely poor from the perspectives of victims.

In Kono, locals are involved landscaping to check erosion and protect houses from collapsing. They are also involved in the planting of special grasses that can withstand floods. These responses work regardless of the degree of the result. As such, they have the potential to help many communities if awareness is created and encouraged through a more systematic and productive approach. This potential has to be explored and tapped, according to participants from these communities.

**Figure 4:** Submersible Planting as a Flood Mitigation Strategy in Kono

***Source:*** HOMEF (2022)

We *"change the way we plant. Sometimes we allowed the farmland to stay for seven years, but this time for three years. We add fertilizer to cope up*" was how one participant expressed the resilience of local farmers, transiting from nature-based farming practices to the use of fertilizers. Seven years is a long time to wait for flood-affected land to build momentum for the next farming season amidst growing food security issues.

The Kono people have a culture of collective intervention. They raise funds through individual contributions to the construction of roads and drainages in the community as part of efforts to contain the impact of flooding. As also observed during the field study, there exists a deep-rooted culture of caring for one's neighbour in the community. For example, fishermen who return from the sea on specific days of the month can share part of their catch with neighbours. This is very comforting for people in the community struggling to cope with the impact of climate change.

The Kono Wiinua Mangrove Reserved Area is an amazing example of local initiatives in conservation. Logging and fishing activities are prohibited in this area. This practice is inconvenient for some fishermen who feel that the distances they have to go fishing are too long. Even so, the community seems to have long settled for this practice based on

**Figure 5:** Wiinua Mangrove Protected Area in Kono

***Source:*** HOMEF (2022)

good knowledge of the long-term benefits for the community through the protection of fisheries species and guarantee of resources for future generations. In the words of one participant,

> *… we are farmers and fishermen, and you will find more fish around the mangrove area than you will find around the nipa palm areas. You find more fish, crabs, periwinkles, etc. So, we decided to preserve that area, let us see, and even if other areas have been devastated, let us keep it the way it is... When you look at the yield you get from the areas that have been devastated and this area that we protect, we will be able to draw a comparison… You get more from here, but in the nipa area — no, you don't get as much. The fish do not thrive as much in the nipa area*.

Likewise, in Bonny, *Finima Nature Park* is a protected area. The community is not permitted to fish or log in the area. But some fishers affected by climate disasters are not sure how this practice supports their livelihoods or benefits them in the short term. For example, they are unhappy with the impact of thunder and lightning and wish the area was not protected to prevent them from fishing. Finima is the *Thunder Belt* of the Niger Delta. *Thunder arrestors* have been provided by Nigeria's liquefied natural gas company operating there, but they were not functional at the time of this study. Their forebears had originally relocated from this location to where the natural gas company is located today because of thunder strikes. But they were forced back by the Nigerian government due to the location of the company.

In Bonny still, fishermen are enlisting as members of local fisherman's unions to allow them to articulate collective positions on issues related to wellbeing and communicate

the same to local authorities. Although there are yet no known substantial results from this development, signs indicate that this could be a way that fishermen could find a form of power to influence the responses of local authorities on occupation-related issues.

How is house demolishing an adaptive or mitigation action? Some houses are considered to be making the impact of floods in the community worse because they block roads and pathways for floodwater evacuation. The local government in Bonny and the community leadership in the case of Kono are driving this in the hope of reducing the impact of climate change and helping people cope better with the situation. But this has its side effects. First, those affected by demolition may have little or no capacity to provide the financial resources needed for replacement without adequate compensation. Even when the community is magnanimous enough to provide alternative land for the victim, building on it is a responsibility the community will not do or has the resources to do.

We observed the protection of the Bonny coastline on the beach provided by the community to prevent sea encroachment. As one participant noted, *"shoreline protection has helped to maintain the area… else, it would be gone by now... For years now since they did that thing, nothing has happened. The place has remained intact".*

The Rivers State government and the Nigeria Liquified Natural Gas company are currently constructing a road, Bonny-Bodo-Road, to connect Bonny Island to the rest of the state. This project is considered a mitigation and adaptation measure due to its accompanying design and fitting drainage system.

***Akwa Ibom State***

*A). January to December... we need harmattan, but we cannot see it. B). The change in harmattan season is affecting us, especially in fishing in the sense that as fishers, we like the sea breeze because it brings fish. This one blowing now is the ocean breeze... C). We are suffering from water, and every time we have a great water season there is always flooding in the community that destroys homes and properties, especially those close to water*.

There are four main issues conveyed in these comments. They were made by three participants in two communities in Akwa Ibom State. First, is the issue of delayed harmattan seasons, which locals associate with difficulties and a lack of opportunities for productive fishing. Second, their understanding of the character of the season concerning fishing and farming. Third, is their knowledge of the direction of the wind, and the availability of fish in specific areas of the ocean. Finally, what happened or how did they experience the impact of floods on their well-being?

In Okorette, Eastern Obolo Local Government Area of the state, the impact of flood, sea level rise and heat waves are severe on the local farming and fishing population. Fishing is the main occupation of the people. Farming should be an alternative means of

**Figure 6:** An interview with locals in Akwa Ibom State by research assistants for the Health of Mother Earth Foundation.

***Source:*** Health of Mother Earth Foundation (2022) Climate change as a cause of conflict in coastal areas of West Africa project, *Research Report.*

income, but both can be affected at the same time in various ways. The story is the same as that of the Upenekang community in the Ibeno Local Government Area of the state.

Unpredictable rainfall is perceived by locals as an act of God for which they feel little or no real responsibility in terms of mitigation. They (the Okorette community people) feel the government must construct an embankment at the river shores. They also believe government should assist them with relief materials and funds to deal with problems caused by regular flooding. Floods typically cause havoc on homes and crops. They also believe that the government should provide potable drinking water, which is a big issue that locals believe is needed to cope with the social and economic consequences of climate events. Furthermore, channelling excessive water caused by rain and flooding through gutters is an expensive project that the government should handle.

Meanwhile, both communities face severe security issues such as piracy and armed stealing of boats with outboard engines. One of the coping methods fishermen have adopted to tackle the problem of low fish catch in close-by water areas is to move to distant sea and ocean, a step that requires better technology such as boats with outboard engines in contrast to canoes. Again, local canoes are not oceangoing vessels. These crimes, which are related to the impact of climate change through the maladaptive responses of perpetrators, pose a threat to the survival of fishers. To address these security issues, people in the community want more presence of both states (navy, police, and army) and non-state security actors (popularly known as vigilantes).

### *Discussions*

A striking aspect of the analysis is that local populations use local knowledge to make adaptive decisions in the six Niger Delta communities examined in this study. In other words, local knowledge promotes adaptation and helps reduce vulnerabilities, even if the results have been negligible. Second, the adaptive capacity of these communities remains weak and leans toward unsuitable criminal components, worsening the climate change problem. The sustainability of benefits from the integration of local knowledge is a key concern due to the nature of existing political institutions and limited external support for the use of such knowledge. This corroborates the data obtained from the review of the literature, which showed that people in coastal communities affected by climate change have had a long-lasting mode of adaptive response from the point of view of local knowledge, defined in terms of decoloniality. Locals migrate to other locations, seek alternative sources of income, acquire new skills and vocational training, trade, or do several other things as forms of legitimate adaptation to climate change. Fishers and farmers, specifically in some communities, even pride themselves on knowing what to do in decisions about when and where to go for daily and seasonal fishing activities and planting and choice of crops that suit the changing environment. On the other hand, criminal activities such as piracy, kidnapping, the use of dynamite fishing techniques, armed robbery, illegal oil refining, and cultism or gangsterism are the main illegitimate adaptive areas of decision people tend to make (See Table 2).

**Table 2:** Examples of local adaptive measures in the Niger Delta

| Adaptive Measures | Challenges | Components |
|---|---|---|
| Migration | lack of resources; conflict; | |
| Alternative sources of livelihood | Lack of resources, support from state institutions, lack of capacity of local institutions to support, and maladaptive actions. | Petty trading, poultry business, skills development, vocational training, work etc. |
| Maladaptation | Maladaptation | Illegal oil refining; Piracy, kidnapping, illegal logging of mangroves, use of dynamite fishing, armed robbery, and illegal picking of periwinkle. |
| Modern technology / local technology | lack of financial resources; | Modern farming techniques and the use of improved crop varieties; use of boats with outboard engines; planting of special grasses to combat erosion; fisheries; local observation and understanding of weather conditions for decision-making; local embarkment of shorelines, etc. |

The debate on the decolonisation of climate adaptation and mitigation measures is not about blind rejection of solutions based on western knowledge. Instead, it includes the acknowledgement of the reality, possibilities, and value that local knowledge offers local populations. People's knowledge about their environment and changes, their definition of daily experiences, and methods of tackling the challenges resulting from changes are crucial decolonial perspectives for a proper response to the impact of climate change. Some scholars' attempts to define the decolonial approach to dealing with the problem of climate change in Africa and the rest of the developing world have suggested the integration of western and local knowledge. The analysis includes a rejection of the historical wrongs of northern countries against the planet through the transatlantic slave trade, colonization, and pillaging of African resources. All this drove the European industrial revolution and turned out to be the foundation of the current global climate crisis. Furthermore, decolonisation of climate policy is understood as the recognition of the context and unique situations of vulnerable communities with social, economic, environmental, or ecological concerns as critical elements of the survival and development of the capacity of communities to adapt to climate change (Daszkiewicz *et al.*, 2022).

The coastal communities of the Niger Delta where the study was carried out have one thing in common: locals understand that the environment is changing. They make valid observations about the environment, though they cannot be explained by the standards of Western knowledge systems. Their experience with the impact of the oil industry in terms of pollution greatly impacts their judgments about the environment. Despite all this, the local fishing and farming population continue to interact with nature in ways that support insights into the changing climate, though this happens mostly without their use of the concept of climate change. For example, they can tell the implications of delayed harmattan and rainy seasons for agriculture and fishing. They know the negative warnings about the environment when birds such as vultures are no longer sighted eating animal carcasses. They also read the direction of the wind at sea to understand when it is safe to go fishing, during which time they can also know where fish may be available.

It was very difficult for fishers to lose their bearing at sea before. Going nautical miles into the sea for fishing was safe with local knowledge of weather and direction for many. They had no modern compass, except natural local knowledge of time and direction. This wisdom may not always have been accurate, but it served these communities for ages when the climate started to take on more intense and unpredictable forms.

The impact of climate change on people in coastal communities in the Niger Delta manifests itself in various forms, including human insecurity through social, economic, political, and economic conditions that sometimes fuel or trigger conflict (Daszkiewicz *et al.*, 2022).

The Niger Delta represents a complex case of double tragedy. The establishment of oil and gas in Nigeria has posed a serious threat to creeks, air, mangroves, rivers, seas, and the ocean. Many coastal communities battling climate change effects also face the challenge of the destructive impact of oil facilities through regular spills. As a result, it is sometimes difficult to draw the line between oil-related and climate change issues. The additional burden these communities face now is the pollution arising from the activities of illegal oil refiners.

An interesting dimension of the decolonial discourse on climate change is rooted in the role of slavery, the Industrial Revolution, and colonialism during which periods countries in the north created the foundation for the pollution of the Earth with fossil fuels. The Industrial Revolution and colonialism were driven by the aggressive and unregulated quest and use of fossil fuels in Northern countries. Acknowledging and accepting to pay the debts arising from the pillage of developing countries by these countries has been argued to fit into the decolonial discourse. The net implication is that these countries should take the responsibility of financing adaptation and mitigation more seriously. It is instructive that in 2021 only 3% of these countries' commitment to their pledge of annual contributions of $100bn for the tackling of climate change in the developing world was realised. The lack of commitment on their part shows a lack of remorse for their role in the global climate crisis.

## Conclusions

Overall, the article has examined the meaning of decolonisation of climate adaptation and development by exploring the literature to situate the experience of people in six communities in three states in the Niger Delta of Nigeria. The paper contributes to the conceptualisation of the decolonial discourse of climate adaptation. The analysis reinforces the position of the literature that local knowledge matters in climate adaptation at the community level. Communities are practising decolonial climate adaptation. Migration, alternative means of livelihood, local embarkment of shorelines, skills development and vocations, and community infrastructure development are among legitimate adaptive measures local communities are adopting. At the same time, these communities face many challenges. Maladaptive measures such as piracy, kidnapping, illegal oil refining, and gangsterism are common. They are part of the challenges because of their broader impact on the peace of society. They even pose severe threats to human security. These are anti-social behaviours with the capacity to trigger violent conflict, and many ways indirectly result in making the climate crisis a complex problem. Food insecurity, poverty, unemployment, and the risk of violent conflict are all indirectly linked or part of the maladaptive measures. At once, they are part of the challenges of decolonial climate adaptation, defined in terms of local knowledge to tackle the effects of climate change. The effectiveness of the role of local knowledge in

climate adaptation is a function of many factors. For example, the nature of traditional institutions, cultural practices, the character of political institutions, and the adaptive capacity of communities are critical elements.

Climate change is a global problem with an unequal impact on people. The ability of communities to respond with adaptation is crucial. Local, regional, continental, and international efforts must integrate local knowledge to productively serve the interest of people to cope with the impacts in ways that prevent conditions favourable to social tensions. The integration of traditional knowledge and political and economic institutions at those levels entails a critical assessment of western knowledge as a form of power. It means careful mixing of western and local knowledge systems and the strengthening of the same.

Climate adaptation requires adequate financing which countries in the developing world are fundamentally lacking. Countries in the north have failed to make good on the $100bn pledge in contributions annually in support of adaptation in developing countries. This pledge is a decolonial effort that has failed. Much worse for it is the new idea of "damage and loss" to remedy the damage inflicted on developing countries because the indicators and strategies for achieving it are yet to be properly defined. A decolonial approach will further mean de-emphasising problematic solutions such as markets and minimising investments in fossil fuels while boosting investments in alternative renewable energy. This requires individual country efforts at making energy mix a core national energy and foreign policy goal. In the same vein, regional economic groupings, continental organisations such as the African Union, and United Nations Framework Convention on Climate Change (UNFCCC). It requires the acknowledgement of decoloniality as a key element of ideas about the origin of the climate crisis, adaptation, and mitigation through participatory principles that capture the experiences and views of people in communities, climate justice networks, state authorities, and big companies.

In conclusion, the critical element in this analysis is the vulnerability of coastal communities and the financial attention needed for adaptation, strengthening of existing local approaches, and the integration of workable western ideas to support the resilience and well-being of people. Meanwhile, in the Niger Delta of Nigeria, maladaptation to climate change continues to take different shapes such as crime, gangsterism, political thuggery, illegal oil production and so on. These social conditions are contributing to conflict in communities and between communities.

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