Article

Rethinking Climate Change: Exploring the Intersection between Climate Change and Cattle Rustling in North-Western Nigeria

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Abstract
North-western Nigeria faces significant vulnerability to the impact of climate change. In recent years, States that comprise the zone had increasingly experienced conflicts, such as farmers-herders clashes, cattle rustling, and rural banditry, a situation aggravated by the interaction of multiple factors related to the scarcity of natural resources such as loss of grazing lands, water scarcity, erosion, and drought-induced by the climatic changing condition. This paper, therefore, explored the intersection between climate change and cattle rustling in the North-Western part of the country. The paper argued that changing in climate influenced cattle rustling and rural banditry in the North-west. Employing a qualitative approach, this paper relies on secondary data and utilises descriptive content analysis as method of data analysis to provide an insight on climate change linkage with cattle rustling as an old and emerging organized crime in the North-Western part of the country.

Keywords
Livelihood, cattle rustling, impact, pastoralists, drought

Introduction

For years now, there are concerns by the international community on the impacts of climate change on human survival. Climate change is the increasing change in the measures of climate over a long period including precipitation, temperature, and wind patterns. These changes as predicted by scientists will have long-term effects in decreasing sea ice, an increase in permafrost thawing, an increase in heatwaves and heavy precipitation, coupled with decreased water resources in semi-arid regions. According to the Synthesis Report (2023) the nationally determined contributions (NDCs) committed by 2030 show the temperature will increase by 1.5°C in the first half of the 2030s, and will make it very difficult to control temperature increase by 2.0°C towards the end of 21st century. Every increment of global warming will intensify multiple and concurrent hazards in all regions of the world. Regions at disproportionately higher risk include Arctic ecosystems, dryland regions, small island developing

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states and Least Developed Countries. changes in food availability and diet quality are estimated to increase nutrition-related diseases and the number of undernourished people, affecting tens (under low vulnerability and low warming) to hundreds of millions of people (under high vulnerability and high warming), particularly among low-income households in low- and middle-income countries in sub-Saharan Africa, South Asia and Central America. By 2023, million people are projected to be exposed to increased water stress; yields from rain-fed agriculture could be reduced by up to 50 percent in some regions by 2023 (Intergovernmental Panel Report on Climate Change, 2023). Accordingly, the report further stressed that changing climatic conditions and higher temperatures will hurt mountain snowpack and vegetation cover as well as water needed for irrigation. A study conducted by the United Nations on Livelihood Security: Climate Change, Migration and Conflicts in the Sahel (IPCC, 2023), identifies 19 hotspots where climatic change has been most severe over the past 20 years. The impacts of climate change in those affected regions have led to migration and increased competition over water scarcity and pasture thereby impacting livelihood and creating insecurity in those hotspot areas resulting in cattle rustling. Africa is one of the most vulnerable continents to climate change, a situation that is aggravated by the interaction of multiple stresses, occurring at various levels (IPCC, 2007; Maunder and Tembo, 2006). This is partly due to low adaptive capacity and higher reliance on natural resources, such as agricultural land, forests, and water which is very sensitive to changes affecting the environment. Some countries in Africa already face semi-arid conditions that make agricultural production challenges, and climate change will likely reduce the length of growing seasons as well as force large areas of marginal agricultural potential out of production (Dercon, 2002; Everson and Gollin, 2003). For instance, food production assessment indicates that domestic food production has already declined by 10% in several of the sub-Saharan countries (Dicko *et al*., 2005). Ecosystems, land use and livelihoods of local communities are among the aspects influenced by climate change and variability (Mano and Nhemachena, 2007).

The year 2017 witnessed series of climate-related disasters in Nigeria, ranging from the increased health risk, declining agricultural productivity, biodiversity loss, drying lakes, famine, conflicts or social unrest, poverty, worsening food insecurity situation, heat stress, declining soil capacity for agricultural production, increased natural disaster, extreme weather events, among other (Olufemi, 2018). In the North-western zone of Nigeria, changing climatic conditions often result in prolonged droughts. These droughts significantly impact agriculture, people's ways of life, and access to clean water in communities, leading to food insecurity and economic hardships. The ramifications of climate change have exacerbated violent conflicts, particularly among farming communities, resulting in loss of lives, looting, the destruction of settlements, kidnapping, and instances of sexual violence. Previous studies investigating cattle rustling in the area acknowledged climate change as a

contributing factor but did not extensively analyse how changing climate conditions specifically relate to rural banditry, particularly cattle theft. Hence, this paper provides a deeper understanding of the association between climate change and cattle rustling in the North-western zone of Nigeria.

The purpose of this paper is, first, to provide a conceptual explanation of cattle rustling second to examine how climate change is connected with cattle rustling and, third, to examine its security implications to the affected communities in the North-Western, Nigeria. The outcome of this paper is to draw a conclusion and make suggestions on how the phenomenon can be minimized in the zone. This paper is divided into seven sections, section one deals with the introduction, section two: contain the methodology, section three: review of relevant literature, section four: Climate Change as Precipitator of Cattle Rustling, section five: Security Impact of Cattle rustling in the North-western, Nigeria, section six: Results and Discussion. while section seven present Recommendations and conclusion.

Methodology

The paper employed content analysis, utilizing academic articles, newspapers, government gazettes, and international conventions on climate change, alongside other secondary sources. The rationale behind choosing content analysis stemmed from the risks associated with visiting the area due to high incidents of kidnapping. Additionally, it was motivated by the abundance of documented literature available for review. Content analysis was favoured because it enables the comprehensive scrutiny of diverse data sources related to cattle rustling, including historical records, reports, news articles, social media content, and governmental documents.

Review of Literature

Conceptual Clarification of Cattle Rustling

The phenomenon of cattle rustling has prevailed for ages across communities around the world. Based on the reasons attributed to the act of cattle rustling by societies, it is difficult to have a universally acceptable definition. The act of cattle rustling refers to the stealing or raiding of livestock in their significant numbers either from ranches in advanced countries, while in the case of Africa countries from the hands of those herdsmen that move around with their animals in search of pasture and water in the continent. In recent years, the raiding of the cattle involved the use of modern weapons such as AK47, M16, and G3 among other dangerous tools. In the past, the ethnic groups of Marakwet, Pokot, Turkana, Samburu, Karamojong especially in Kenya, Ethiopia, Uganda, and

Sudan cattle rustling is performed at a time when the deserter of famine, drought among other natural calamity befall their communities. The essences of cattle rustling among these ethnic groups were meant to reciprocate poor families to acquire livestock and restock particularly after droughts or epidemics in their communities. It involves the use of crude weapons such as knife, spears, bows, arrows, clubs and sanctioned by the elders. This made the act to become an acceptable cultural practice among these ethnic groups. Over time this practice has tremendous change among the ethnic groups in these countries leading to bloody clashes in their domain. For this reason, the explanation of cattle rustling as a form of traditional practice is replaced by the trumpet of war and insecurity among ethnic groups in different parts of African countries of cause Nigeria is not an exception. The reasons for the escalation of cattle rustling have been blamed for several factors, among which are the climatic changing conditions that have led to desertification, famine, and drought. Consequently, impacting on the livelihood and creating havoc on communities due to competition on scarce resources.

Climate Change as Precipitator of Cattle Rustling

Climate change has emerged as a multifaceted catalyst for significant socio-economic disruptions worldwide, and its impact extends profoundly into the North-western region of Nigeria. Within this region, the convergence of climatic alterations and their consequences has heightened vulnerabilities, particularly evident in the upsurge of cattle rustling incidents.

According to the United Nations Environment Programme (2011) reported there is an emerging global consensus that climate change stressed the economic, social, political and security systems of many nations.

However, before the above declaration, the Chinas at their early understanding of the problems associated with climate change traditionally framed it around the security dimensions from a developmental perspective, where it recognizes climate change as a non-traditional security issue that can impact on human security and risks communal conflicts. For example, China's third Climate Change Assessment report highlights the risks of increasing impacts on food and water security of its citizens, but that transboundary and international are mainly latent (Vivekanada, 2017). This position has since been debunked by the subsequent debates on the transborder security implications of climate change as stated by Liu Jieyi (2016) the problem of water is not only a developmental issue, it also has a bearing on peace and security of Nations States.

From the above arguments, it is obvious that the impacts of climate change on Nation's States security have entered into the international debate. In this regard, it was argued that climate change poses a threat to human security, particularly in societies that are vulnerable marginalized, and simultaneously undermines key development objectives (Alexander, Denis and Winterstein, 2007). They further maintain that climate change has become one of the major

reasons, which is responsible for triggering inter-ethnic violence including cattle rustling in different parts of African Sahel. The scarcity of pasture and water has largely been attributed to the natural changes in climatic conditions, which has progressively affected rainfall patterns, availability of foliage and increasing rates of desertification (Policy Briefing Report by Centre for Democracy and Development, 2015). This development has been blamed for the rising of a violent confrontation between the farmers and pastoralists, coupled with cattle rustling as experienced especially in Northern rural communities in Nigeria.

The 2015, CDD report further indicated that, ecology and environment issues where salient features that have constituted both push and pull factors for transhumance migration across the country. This is because climate change propels migration of pastoralists from the North- drier region to the middle and Southernmost regions and then back again during the raining seasons. It could be argued that the changing ecology and climate conditions have significantly affected both the agricultural and pastoral production systems in the country. For instance, the phenomenon of desertification, declining water points, and shrinking arable land have dramatically affected the means of likelihoods of hundreds of thousands of farmers and pastoralists in the North-Western parts of the country. The Nigerian National Meteorological Agency report (2015) observed that the rainy season in the northern part has dropped to 120 days from an average of 150 days when compared with the frequency of rainfall in the last 30 years ago. The usual April-October rainy season and the October-March dry season is no longer a constant as it has been for some decades now Olufemi (2018). The result of this development is the drop in crop yields by 20 percent, which contributed to the scarcity of remnant greens in the farm for the moving grazing livestock to feed on, contributing to the reoccurrence of cattle rustling in the zone.

Due to the climatic changing conditions, in the North-Western of the country, many herdsmen have been migrating from the drier areas to places where they can get pasture and water for their animals to feed on. In the process of migrating the pastoralists often charge through their naturally identified cattle routes altered. This has made herdsmen to going through established farms lands on the cattle routes in the zone. This nonetheless has triggered the prevalence of conflicts resulting in banditry and cattle rustling in the North-western parts. Olufemi (2018) observed that one of the indirect effects of climate change is the issue of clashes between herdsmen and farmers, which is a serious and prevailing social problem in Nigeria. Due to the problem of rainfall variability, caused by climate change, herdsmen in the core North, now push down South more frequently, in order to satisfactorily feed their cattle, often at the expense of farmers' cultivation and this has been a major factor caused by climate change leading to cattle rustling in the zone.

Before these natural climate changing conditions necessitate most of the pastoralists unitized the vast available uncultivated adorable land for their animals to feed on and access water. This recent development no doubt has led to unhealthy competition on these scarce natural resources. This has resulted in violent confrontation between these occupational groups in the Northern part of the country. In recent years, the Northern part of the country, have been ravaged by a series of cattle rustling activities. Scholars like McGregor (1994); Blench (2004); Folami (2009); Ofuoku and Isife (2009); Adekunle and Adisa (2010); Bello (2013); have all identified: climate changes as one of the leading factors influencing cattle rustling in the Northern parts of the country. In correlating their arguments, it was emphasized that climate change leads to desertification, drought, and famine in most parts of the Northern parts. It has been discovered that the Sahara Desert is advancing Southwards at the rate of 0.6 kilometres per annum resulting in the loss of about 55% of landmass to the desert and displacement of farmers in villages of the affected states Jibunoh (2010).

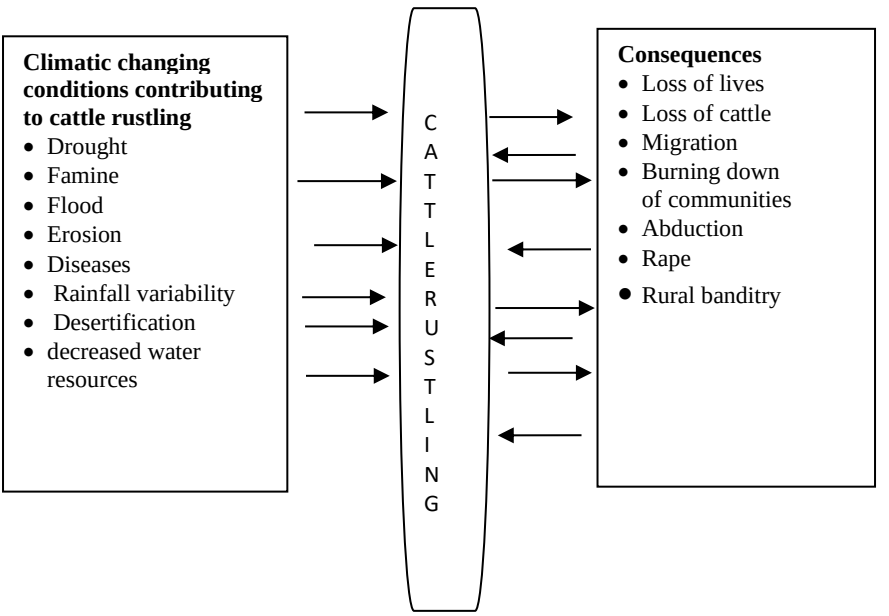
According to Odiogor (2010) Nigeria loses about 350,000 hectares of land every year to desert encroachment. He further estimated that about the 11 states namely: Adamawa, Borno, Bauchi, Gombe, Katsina, Jigawa, Kano, Kebbi, Sokoto, Yobe and Zamfara are under intense pressure from the attack of climate change. Out of the 11 States devastated by desert encroachment, 6 were from the North-West Zone. Consequently, this has led to demographic displacements of 11 villages across these states in the North. Every year the country loses about $5.1billion owing to rapid encroachment of drought and desert in most parts of the North. Odiogor believed that an estimated area of 75 million hectares of land in the North has been lost to desertification. This portends grave danger to food security in Nigeria and threatened the livelihood of many residing in the affected communities. Jibunoh revealed that, with the fast rate of desertification some areas in the Northern part of the country, by 2015 larger part of Nigeria will become dessert. Jibunoh further stressed that the threat of desert encroachment and desertification are assuming frightening dimensions especially as it affects the nation's arable landmass. This has become a source of threat to food production; it is equally believed that the hostile impact of climate change in Northern Nigeria poses a serious threat to national security and poverty alleviation strategies in the country as those most affected are the most vulnerable in the security that dwell in the villages ravaged by this scourge.

This natural disaster forces pastoralists to migrate in search of pasture and water within and around the zone. In the process of their movement the pastoralists stumbling on the expanded farmland along their routes which eventually led to conflicts resulting in criminality such as cattle rustling. The alteration of the climate condition has led to natural disaster among which is drought, corroborating this view, Mash (2013) argued that, over the years, the pastoralists in Katsina State have suffered a series of droughts that have seriously threatened their means of livelihood. The persistent droughts, desertification, and famine caused by climate change has been blamed for the reoccurrence of

cattle rustling in the State. This calamity has been largely attributed to the drying up of lakes, reduction in river flow in the arid and semi region. This development led to fewer supplies of water for the use by the pastoralists for their animals to drink and have adorable land to feed on. This no doubt has led to the high level of insecurity result from cattle rustling activities in this part of the Northern zones. As the problem of drought and desertification becomes more servers in different Northern zones the issue of cattle rustling becomes more aggravated and pervasive. Mkutu (2000) argued that, during droughts, pastoralist livelihoods become particularly precarious, and there is a high risk of conflict over scarce water and pasture, coupled with economic insecurity and deprivation during droughts increases the risk of wider violence and social breakdown.

Below is a diagram showing the relationships of climatic changing conditions and cattle rustling.

Figure 1: Impact of Climate Change



Source: Mkutu (2020)

Security Impact of Cattle rustling in the North-western, Nigeria

The security implications of cattle rustling activities cannot be overemphasized. This is because the activities of the rustlers have continued to undermine the security network and cooperative existence of the country. According to Gueye (2013), cattle rustling constitutes a major problem in rural areas and the groups

involved in the crime are often armed and pose a threat to the state as their activities may lead to violent conflicts between communities and negatively impacted on livelihood of the people within the communities. This development no doubt has livelihood effects and will impact community growth, thereby destabilization the capacity of the state to provide social services and economic opportunities requisite for state development and stability. Ubelejit (2016) maintains that a lack of opportunities to sustain livelihood makes indigenes of such communities very susceptible to conflicts. Furthermore, the catastrophes caused by climate change have contributed to the degeneration of ruthless rivalry between ethnic conflicts and sometimes religious crisis. This is because there is the tendency of groups bound together by ethnicity or creed to gang up against other groups to protect their interest in the negative impacts of climate change. Paterson (1996) stressed that countries hit by the negative impacts of climate change, existing ethnic, religious, or other divides may play a role in decision-making processes, and criminally minded individuals may favor wrong decisions to embarked on cattle rustling.

In this regard, the activities of the cattle rustling have continued to create tension and insecurity in the affected communities in the North-West. The persistent attacks by the bandits have led to killings of innocent people, while cattle in their significant number have either been killed or raided away by the rustlers. For instance, it was estimated that 1,135 people have lost their lives in Zamfara State alone due to cattle rustling attacks and other associated crimes between 2011 and 2015 (Nigerian Security and Civil Defence Corps, NSCDC, Report, 2017). Similarly, in 2015 over 100 lives were killed by the bandits in just one daring attack in Faskari and Sabuwa Local Government Areas of Katsina State (Abubakar, 2017). While in Kaduna State it was reported that, between October 2013 and March 2014 approximately 7,000 cattle were rustled from commercial livestock farms and traditional herders in State (Bashir 2014). The secretary-general of Miyetti Allah Cattle Breeders Association (MACBA) confirmed that a total of 600 herdsmen were killed and two million cattle have been rustled in the last two years in different parts of the North (Ngelzarma, 2017). It further estimated that out of this figure over one million cattle that were a loss to Cattle Rustlers and Boko Haram belonged to the pastoralists (Abubakar, 2017).

Results and Discussion

The paper reveals that climate change has caused widespread adverse impacts and related losses and damages to nature and people that are unequally distributed across systems, regions and sectors. Economic damages from climate change have been detected in climate-exposed sectors, such as agriculture, forestry, fishery, energy, and tourism. Individual livelihoods have been affected through, for example, destruction of homes and infrastructure, and loss of property and income, human health and food security, with adverse effects on gender and social equity (climate change synthesis report, 2023).

The paper found that there is a significant correlation between changing climatic conditions and the escalating occurrences of cattle theft in the North-western part of Nigeria. The environmental changes, leading to loss of grazing lands, water scarcity, erosion, and drought induced by climate variations, have contributed to heightened vulnerabilities. These vulnerabilities interplay between climate-induced resource scarcity and the socio-economic vulnerabilities of communities in this part of the country which has fuelled the continuation of cattle rustling. In line with this findings Mukutu (2000) pointed out that scarcity and insecure access to water and pasture land as a result of climate change has led to constant friction with ranchers and other users, which has led in turn to violent conflicts such as ranch invasion by Maasai pastoralists in Laikipia. He maintained that during droughts, pastoralists livelihoods become particularly precarious and experiences have shown that there is a high risk of conflicts over scare water and pasture. Accordingly, increase of climatic changing conditions create economic insecurity, deprivation and wider risk of violence and social breakdown.

Quite substantial of the literature review reveals that climate change has serious negative impacts on the livelihood of the communities. The reduced rainfall and water scarcity severely impact on agriculture, livelihoods, and access to clean water for communities, exacerbating food insecurity and economic hardships (Blench, 2004). The scarcity of resources (water and pasture land) due to climate change led to depleted a community's livestock which often resulted into cattle rusting to replenish the number lost (Markakis, 1993). Considerably amount of the literature emphasizes the possible problems often associated with climate change which includes, drought, famine, and desertification. Climate change, according to Barnett (2008) has different levels of vulnerability and impact on those that depend on natural resources and ecosystem services for their livelihoods. For instance, the pastoralists largely depend on natural resources such as water and greens for their animals to feed. Crime such as cattle rustling ensued whenever there is competition on these scarce resources. To support this view Valerie (2010) argued that, Water is a key resource for sustaining life and society through agricultural production and livestock rearing, therefore, these occupational groups will do anything to ensure their sustainability. In this process resources, crisis ensued leading to cattle rustling, especially if the amount of the resources available is grossly inadequate and competition increases; it can be confidently argued that, the insufficiency of these resources influences rural banditry and cattle rustling in the North-western, Nigeria.

Conclusion and Recommendations

This paper focused on climate change and its connection with cattle rustling. In recent years, the North-Western part of Nigeria has been suffering from droughts, famine, flood and desert encroachment. These natural catastrophes have been influenced by the extremes climatic changing experienced over the years, consequently, affecting agricultural and livestock production in the zone. The natural tragedy caused by climate change has led to the emergence of new waves of crime such as cattle rustling in the zone. This has persistent and continued to calm the lives of many innocent citizens especially in the North-Western, Nigeria where the phenomenon of cattle rustling has been deeply entrenched. To militate against this menace, the government must have the political will to implement its national policy on climate change particularly in the area of agriculture and livestock as enshrined in the climate change act. The Climate Change Act seeks to achieve low greenhouse gas emission, green and sustainable growth by providing the framework to set a target to reach net zero between 2050 and 2070. One of the primary objectives of the Policy is to better forestry management and sustainable agriculture, coupled with enhancement of livestock production, ensuring food security, improving the livelihoods of livestock farmers, and contributing to the overall economic growth of the nation (National Policy on Climate Change, 2020).

Corruption is one key factor that needs to be tackled especially in ecological funds units of the government to militate against the calamity of climate change in the country. An awareness campaign is necessary to educate pastoralists about the adverse effects of climate change. Security in the rural communities needs to be improved through the newly established unit of agro under the Nigerian Security and Civil Defence Corps (NSCDC), by providing them with the appropriate logistics to effectively carry out the enforcement in the communities

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