Perception of Public on Climate Change, Natural Resources, Migration and Conflict in Rivers State, Nigeria

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Abstract: **The nexus among climate change, natural resources, conflict and migration cannot be over emphasised due to their effects on one another. However, the ways in which people view their interrelationship are still few in the literature especially in Rivers State, Nigeria. Thus, the present study examined the perception of public on climate change, natural resources, migration and conflict in Rivers State, Nigeria. Data for the study were collected by administering a total of 400 copies of questionnaire to sampled households using systematic sampling technique and convenience sampling technique in the selected communities. The data collected were subjected to descriptive and inferential analyses with the use of the statistical package for the social sciences (SPSS) version 22. Findings revealed that a significant proportion of the respondents (90.7%) were aware that the climate has changed over time while the major cause was attributed to the human activities (26%) and end time syndrome (25.3%). Perception weather situation revealed that 87.9% agreed that there is change in temperature and the effect of climate change is significantly felt in the output reduction (60%) among farmers. The study revealed that majority (31.1%) believed that environmental degradation is the cause of conflict in the study area while 26.1% agreed that deforestation and destruction of ecosystem led to the depletion of natural resources and majority (25.8%) linked the cause of migration to environmental changes. The study also revealed that controlling deforestation (17.9%), sensitization and awareness creation (21.6%) and good governance (18.9%) would combat the effect of migration, natural resources depletion, conflict and climate change in our society. It is thus concluded that climatic and economic factors are really affecting individuals in Rivers State and these have caused conflict from one area to the other and have also caused people to migrate from one place to the other.**

Keywords: **Climate change, Conflict, Migration, Natural resources, Perception, Rivers State**

I. INTRODUCTION

Climate change leads with certainty to more intense and in some cases more frequent extreme weather events, while becoming more unpredictable in time and space. This does not only mean storms, floods and droughts, but also to longer periods of extreme heat, the latter an increasingly recognized health hazard when combined with high humidity. Extreme events disturb public services and economic activities and cause losses in terms of physical assets and dead and injured people. Most vulnerable are poor households who tend to live in the most hazardous environments (Sida, 2018).

Climate change represents the latest in a series of environmental drivers of human conflict that have been identified in recent decades following others including drought, desertification, land degradation, failing water supplies, deforestation, fisheries depletion and ozone depletion (Brown et al, 2007). Among environmental scientists, climate change is perhaps the most widely discussed topic today. Climate change is caused by emissions of greenhouse gases largely from energy production and consumption, agriculture and other ecological processes (Awuor et al, 2008). Low and middle income countries are considered more vulnerable to the effects of climate change than high-income nations because of the dependence on natural resources and low capacity to adapt. The United Nations Development Programme warns that the progress in human development achieved over the last decade may be slowed down or even reversed by climate change, as new threats emerge to water and food security, agricultural production and access, and nutrition and public health. The impacts of climate change such as sea level rise, droughts, heat waves, floods and rainfall variation could by 2080 push another 600 million people into malnutrition and increase the number of people facing water scarcity by 1.8 billion (Tadesse, 2010). The impacts of climate change in Africa are capable of hampering the possibility of achieving the Millennium Development Goals especially those relating to promoting environmental sustainability, poverty eradication and disease. The Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) clearly states that climate change is contributing to the global burden of disease and premature deaths (IPCC, 2007). More than 3billion people live in the rural areas of developing countries. Most live on less than US$2 a day and depend on agriculture for their livelihoods (www.ifad.org). Many live in remote marginal areas such as mountains, drylands and deserts-areas with poor-quality natural resources, limited communication and transportation networks and weak institutions. In many places, the rural economy is closely tied to its natural environment.

It is difficult to fully understand the detailed causes of migration and economic and political instability, but the growing evidence of links between climate change, migration, and conflict raise plenty of reasons for concern. This is why

it's time to start thinking about new and comprehensive answers to multifaceted crisis scenarios brought on or worsened by global climate change. In the coming decades climate change will increasingly threaten humanity's shared interests and collective security in many parts of the world, disproportionately affecting the globe's least developed countries. Climate change will pose challenging social, political, and strategic questions for the many different multinational, regional, national, and non-profit organizations dedicated to improving the human condition worldwide (Werz and Conley, 2012).

It has been established in the literature that climate-related factors and their impacts on natural resources (land, water, species, ecosystems) contribute to conflict and migration. Many studies have sought to establish causal chains among resource scarcity, climate-related factors and conflict. For example, researchers have investigated whether climate-related resource scarcity drives conflict, and whether resource scarcity in one place spurs migration, sparking conflict in migrants' destination. Understanding these relationships better can inform work to halt, manage, mitigate or even reverse resource scarcity, along with other compounding drivers of conflict and fragility in resource-poor contexts.

An equally important but rather separate body of literature, policy and practice asks how fragility and poor governance in contexts of abundant natural resources permits unsustainable levels of resource extraction and associated environmental degradation, conflict and migration. It investigates how this degradation and conflict drives climate change and biodiversity loss, with implications for human equality and well-being. Understanding these relationships better can inform efforts to halt natural resource-related conflict and the misery it creates, while supporting environmental protection that strengthens climate change adaptation and mitigation and human development. The evidence on links among natural resources, climate factors, conflict and migration can be summarised as follows. Climatic factors affect the condition of ecosystems and 'nature's contributions to people' (IPBES, 2019). Most indicators of global ecosystem health are in decline. However, climate and climate change specifically is one of many direct drivers of ecosystem degradation. The Intergovernmental Platform on Biodiversity and Ecosystem Services' Global Assessment finds that the most significant drivers of ecosystem decline globally are changes in land and sea use and direct human exploitation of species, followed by climate change. Regional and local studies, in both academic and grey literature, identify climatic factors as a contributor to ecosystem degradation or a 'magnifier' of existing risks, which compound and interact with other drivers of change. The Intergovernmental Panel on Climate Change's Special Report on Climate Change and Land concludes that human-induced climate change contributes to land degradation, both singly and in combination with other human drivers (IPCC, 2019b). There is strong evidence in the literature for a correlation between ecosystem degradation and decreased human well-being. This is demonstrated at global scale in the

IPBES Global Assessment; meanwhile, the United Nations' GEO6 report finds that environmental degradation is undermining global society's progress towards achieving the Sustainable Development Goals (SDGs) (UNEP, 2019).

At a local scale, slow-onset impacts of climate change are compounding stress on freshwater availability, with implications for human health and livelihoods. These range from erratic riverine flows in glacier-fed river basins to salinisation and decreased land fertility due to sea level rise on coasts (Dupar, 2019; IPCC, 2019c). Increasing average ocean temperatures are changing the assemblages of species in marine ecosystems, with negative impacts on fisheries productivity in many areas – although the distinct effects of climate change are very difficult to isolate from other direct human drivers of fisheries and marine ecosystem changes, such as over-fishing, destructive practices such as dynamite fishing and other forms of unsustainable environmental management.

Another way of looking at the nexus of natural resource, climate and conflict issues is to turn this perspective on its head and consider resource rich rather than resource-scarce environments. It is often the case that an abundance of lucrative resources, principally timber, can be a source of competition and violence in fragile contexts where the rule of law is poorly established and corruption and rent-seeking are common. Degradation of such carbon-rich environments drives up greenhouse gas emissions and undermines the potential for climate change adaptation and resilience, as well as numerous other development goals (Brown, 2008; Chaturvedi et al., 2019). Illegal extraction and trade in lucrative timber is particularly relevant, though land use changes associated with other forms of resource extraction such as illegal mining may also be significant in climate terms. These environments pose substantial risks to researchers wishing to investigate and expose these dynamics, as well as for development actors seeking to invest in solutions to ecosystem degradation. There is increasing evidence that poorly designed climate change adaptation and mitigation interventions can exacerbate inequalities in societies, decrease the well-being of some groups and sometimes contribute to conflict.

Migration adds another layer of complexity to the scenario. In the 21st century the world could see substantial numbers of climate migrants—people displaced by either the slow or sudden onset of the effects of climate change. The United Nations' recent Human Development Report stated that, worldwide, there are already an estimated 700 million internal migrants those leaving their homes within their own countries a number that includes people whose migration is related to climate change and environmental factors. Overall migration across national borders is already at approximately 214 million people worldwide, with estimates of up to 20 million displaced in 2008 alone because of a rising sea level, desertification, and flooding (Werz and Conley, 2012). Overall migration across national borders is already at

approximately 214 million people worldwide, with estimates of up to 20 million displaced in 2008 alone because of a rising sea level, desertification, and flooding. A 2009 report by the International Organization for Migration produced in cooperation with the United Nations University and the Climate Change, Environment and Migration Alliance cites numbers that range from "200 million to 1 billion migrants from cli- mate change alone, by 2050," arguing that "environmental drivers of migration are often coupled with economic, social and developmental factors that can accelerate and to a certain extent mask the impact of climate change." The report also notes that "migration can result from different environmental factors, among them gradual environmental degradation (including desertification, soil and coastal erosion) and natural disasters (such as earthquakes, floods or tropical storms) (Werz and Conley, 2012)."

Several studies have been carried out on the impacts of climate change in Nigeria, the effect of climate change on agricultural farming systems, perception of climate change and indigenous people's perception and adaptation to climate change (Odjugo,2010; Ishaya and Abaje, 2008). The prospect of human-induced climate change encourages drastic neo-malthusian scenarios. A number of claims about the conflict-inducing effects of climate change have surfaced in the public debate in recent years. Climate change has so many potential consequences for the physical environment that we could expect a large number of possible paths to conflict. However, the causal chains suggested in the literature have so far rarely been substantiated with reliable evidence. Given the combined uncertainties of climate and conflict research, the gaps in our knowledge about the consequences of climate change for conflict and security appear daunting (Nordås and Gledisch, 2007). Werz and Conley (2012) also reported that climate change is among the newly visible issues sparking conflict. But because the direct link between conflict and climate change is unclear, awareness of the indirect links has yet to lead to substantial and sustained action to address its security implications. Still the potential for the changing climate to induce conflict or exacerbate existing instability in some of the world's most vulnerable regions is now recognized in national security. Thus, previous studies have not really considered the nexus of climate change, natural resources, conflict and migration especially in the developing nations despite the fact that the effect of one is felt on the another one or vice versa. One important thing is that public opinion is critical because it is a key component of the socio-political context within which policy makers operate. Public opinion can fundamentally compel or constrain political, economic and social action to address particular risks. It is against this background that this study assesses the perception of climate change, natural resources depletion and conflict among the residents of selected communities in Rivers State, Nigeria with a view to educating them on the adaptation strategies to adopt in order to eschew unwanted violence that can lead to destruction and they can as well enhance their livelihood and productive potentials.

II. MATERIALS AND METHODS

The study was restricted to ecological zones in Rivers State, Nigeria. Rivers State falls on latitudes between 4° 30'N and 5° 40'N and longitudes between 6° 25'E and 7° 33'E (Figures 1). Rivers State bounded on the south by the Atlantic Ocean, west by Bayelsa and Delta States, north by Imo, Abia and Anambra States and east by Akwa Ibom State. Rivers State has twenty three local government areas presently. Geologically, the study area is underlain by the Coastal Plain sands having its place from the Pleistocenic Formation (Nwakoala and Warmate, 2014). The sediments are deposits comprising gravel, clays, peats, sands and silt from the River Niger (Dekor, 2015). Rivers State is made up of both upland and riverine areas. The topography in the uplands ranges between 15 and 40m above the sea level while the mean elevation of about 15m is found in the riverine areas (Google Earth, 2013). The study which is situated in the Niger Delta region has a relatively flat terrain with marked absence of hills that rise above the general land surface (Albert, 2002). The study area enjoys a tropical climate with a mean temperature of 30^0C and a relative humidity of 80% - 100%, and a mean yearly rainfall of about 2,300mm. The rainfall is always high but varies with seasons (Mmom and Fred-Nwagwu, 2013). Tropical rainforest is found in the inland part of Rivers State and mangrove swamps towards the coast the Atlantic Ocean. The vegetation represents the most luxuriant, the most complex, and the most diverse terrestrial ecosystem the world has known (Ojeh, 2011).The tropical rainforest vegetation comprises the moist evergreen plant species which are rich timber, palm trees, as well as fruit trees. The vegetation is nourished with high rainfall and high temperature, which provide favourable condition for the growth of a varieties of tall and big trees like mahogany, Obeche, Afara and abundance of oil palm trees and several other species of economically valuable plants such as raffia palms, Abura, ferns and grasses (Eludoyin et al., 2013). Rivers State is made up of silty-clay soil (Etu-Efeotor and Akpokodje, 1990). Freshwater loams and sandy loams, fluvial marine sediments and mangrove swamp alluvial soils made up the three major groups of soil in Rivers State (NDEBUMOG, 2007). The fluvial marine sediments comprise of coastal mud but texturally sandy. The major type of profession among the people of Rivers State is farming. In addition, fishing is another occupation widely practiced in the riverine areas of the state.

Data for the study were collected by administering a total of 400 copies of questionnaire to sampled households using systematic sampling technique and convenience sampling technique in the selected communities. Thus, 40 copies of questionnaire were used in each of the selected communities. A convenience sample is a non-probability sample (Saunder, Lewis and Thornhill, 2012) which can prevent large budget, time and resources that may allow for creation of a large randomized sample (Scout, 2016).

The communities selected for study were B-Dere, Ogbogoro, Bille, Mogho, Bodo, Ibaa, Ataba, Abua Town, Imaweje and

Egbema. The questionnaire administered was aimed at eliciting information on how the residents of these communities perceived climate change migration, and depletion of natural resources to cause conflict in their local environment and their perceived reasons for these changes. Information was also sought on the social and economic characteristics of the respondents. The questions were framed to address issues such as the awareness of climate change, causes of climate change, effects of climate change on natural resources, types and status of existing natural resources, causes of conflict and frequency of conflict and the coping strategies being adopted by the people. The data collected were subjected to descriptive and inferential analyses with the use of Statistical Package for Social Sciences (SPSS) version 22.

III. RESULTS AND DISCUSSION

Socio-economic Status of Respondents

Table 1 presents the socio-economic status of respondents in the study area. Of the total respondents, 48.4% were males while 54.2% were females. In terms of the age of respondents, 6.6% were less than 21 years old while 21.3 % were between 21 and 30 years. In addition, 18.9% were between 31 and 40 years, 29.2% were between 41 and 50 years while 13.4% were between 51 and 60 years and 10.5% were respondents above 60 years old. Four main occupations were identified in the study area namely farming, craftsmanship, civil service and trading. Of total respondents 26.1% were farmers, 24.5% were fishermen, 17.9% were artisans, 20.8% were civil servants while 10.8% were traders. Furthermore, the educational status of respondents reveals that 22.9% had no formal education, 25.3% had primary education, 23.9% had secondary education, while 17.4% had tertiary education, 1.1% had quranic education and 9.5% for others.

The length of residency of the respondents revealed that 10.5% of total respondents had been residing in the study area for just less than 5 years while 23.7 % had been residing between 5 and 10 years, 45.3% have lived in the area between 11 and 20 years and 20.8% have lived in the area for more than 20 years. The household size of respondents in the study area show that 19.2% of total respondents had 2-5 persons, 42.9% had 6-8 persons, 30.8% had 9-11 persons while 6.1% had 12-15 persons and 1.1% had 16 persons and above.

It is also presented that 30.8% of respondents had monthly income of ₦20, 000 and below, 23.4% had between ₦21, 000 and ₦40, 000, 16.6% had between ₦41, 000 and 60,000 while 22.9% had between ₦61, 000 and ₦80, 000 and 6.3% had ₦80, 000. The analysis therefore shows that more than 50% of the respondents earned more than ₦40, 000 as their monthly income. The analysis shows that 1.8% of respondents had no child while 12.6% had 1-2 children. In addition, 24.7% had 3-4 children, 36.6% had 5-6 children, and 20.8% had 7-8 children while 3.4% had more than 9 children.

Table 1: Socio-economic Status of Respondents

Socio-economic Characteristics	Frequency	Percentage (%)
Gender of Respondents		
Males	184	48.4
Females	206	54.2
Total	380	100.0
Age of Respondents (Years)	Frequency	Percentage (%)
Less than 21	25	6.6
21-30	81	21.3
31-40	72	18.9
41-50	111	29.2
51-60	51	13.4
Above 60	40	10.5
Total	380	100.0
Occupation Status	Frequency	Percentage (%)
Farmer	99	26.1
Fishermen	93	24.5
Artisan	68	17.9
Civil Servant	79	20.8
Trader	41	10.8
Total	380	100.0
Educational Status	Frequency	Percentage (%)
No Formal	87	22.9
Primary Education	96	25.3
Secondary Education	91	23.9
Tertiary	66	17.4
Quranic Education	4	1.1
Others	36	9.5
Total	380	100.0
Length of Residency (Years)	Frequency	Percentage (%)
Less than 5	40	10.5
5-10	89	23.4
11-20	172	45.3
Above 20	79	20.8
Total	150	100.0
Household size	Frequency	Percentage (%)
2-5	73	19.2
6-8	163	42.9
9-11	117	30.8

12-15	23	6.1
16 and above	4	1.1
Total	380	100.0
Household monthly income (₦)	Frequency	Percentage (%)
20,000 and below	117	30.8
21,000 - 40,000	89	23.4
41,000 – 60,000	63	16.6
61,000 – 80,000	87	22.9
Above 80,000	24	6.3
Total	380	100.0
Number of children	Frequency	Percentage (%)
None	7	1.8
1-2	48	12.6
3-4	94	24.7
5-6	139	36.6
7-8	79	20.8
9 and Above	13	3.4
Total	380	100.0

Awareness, Factors and Evidence of Climate Change

Table 2 explains the awareness, factors and evidence of climate change in the study area. In terms of the awareness of climate change, it is observed that 90.7% of respondents were aware of climate change while 9.3% were not aware. It was revealed that 25.3% believed that the end time philosophy was the cause of climate change while 25.3% believed that climate change was due to the work of God and 8.7% agreed that climate change is caused by the effects of greenhouse gases. Furthermore, 22.7% agreed that rainfall fluctuation is a cause of climate change. It was shown that information about climate change was derived through weather variability by 58.0% while 13.3% of the respondents obtained information through personal observation. 2.7%, 4.0% and 22.0% of respondents got their information of climate change through newspaper report, overhearing and radio and television respectively.

Table 2: Awareness, Factors and Information of Climate Change

Awareness of Climate Change	Frequency	Percentage (%)
Yes	345	90.7
No	35	9.3
Total	380	100.0
Causes of Climate Change	Frequency	Percentage (%)
End Time	96	25.3
Greenhouse gases	25	6.7
Human Activities	137	26.0
Nothing	3	0.7
Rainfall Fluctuation	86	22.7
Work of God	33	8.7
Total	380	100.0
Sources of information about Climate Change	Frequency	Percentage (%)
Over-hearing	15	4.0
Personal Observation	51	13.3
Radio and TV	84	22.0
Through Newspaper Report	10	2.7
Weather Variability	220	58.0
Total	380	100.0

Perception on Weather Condition

Table 3 describes the perception of recent weather situation by respondents whereby 87.9% of the respondents agreed that there was change in temperature while 12.1% disagreed. The description of temperature now shows that 82.6% of respondents agreed that the temperature is hot, 15.3% agreed that the temperature is cold while 2.1% believed that temperature is moderate. Additionally, 76.1% of total respondents agreed that temperature is getting warmer while 25.3% disagreed. In another development, 23.9% agreed that temperature is getting cooler while 73.9% disagreed.

It is observed that 73.9% agreed that the rainy days have increased while 26.1% of respondents disagreed. In the same vein, 32.0% agreed that the rainy days have decreased while 67.3% disagreed. It is also shown that 50.8% of total respondents agreed that there is always flood after rain these days while 49.2% disagreed. Furthermore, 76.6% of respondents agreed that heavy storm is being experienced recently while 23.4% disagreed. In terms of the length of harmattan period, it was revealed that 56.1% of respondents agreed that the harmattan period was shorter while 43.9% disagreed.

Table 3: Perception on weather situation

Change in Temperature	Frequency	Percentage (%)
Yes	334	87.9
No	46	12.1
Total	380	100.0
Present Temperature Status	Frequency	Percentage (%)
Hot	314	82.6
Cold	58	15.3
Moderate	8	2.1
Total	380	100.0

Temperature getting warmer?	Frequency	Percentage (%)
Yes	289	76.1
No	91	23.9
Total	380	100.0
Temperature getting cooler?	Frequency	Percentage (%)
Yes	99	26.1
No	281	73.9
Total	380	100.0
Increase in Rainy Days	Frequency	Percentage (%)
Yes	281	73.9
No	99	26.1
Total	380	100.0
Decrease in Rainy Days	Frequency	Percentage (%)
Yes	139	36.6
No	241	63.4
Total	380	100.0
Experience of Flood After Rain	Frequency	Percentage (%)
Yes	193	50.8
No	187	49.2
Total	380	100.0
Experience of Heavy Storm	Frequency	Percentage (%)
Yes	291	76.6
No	89	23.4
Total	380	100.0
Harmattan Period Shorter or Longer	Frequency	Percentage (%)
Shorter	213	56.1
Longer	167	43.9
Total	380	100.0

Effects of Climate Change

Table 4 describes the effects of climate change on different types of occupation in the study area. 8.7% and 60.0% of total respondents agreed that climate change has reduced income and output of farmers while 26.1% believed that it has increased the farm yield. On the part of artisans, 20.8% agreed that climate change has reduced the income of artisans while 32.6% of respondents believed that climate change has hindered production. Furthermore, 17.4% agreed that climate change has caused fluctuation in market patronage. The effects of climate change on civil servants revealed that 32.1% of total respondents agreed that climate change has increased the cost of food items, while 28.7% believed that it has resulted in problem of transportation and 33.4% agreed that climate change has reduced the work performance due to too much heat. Effects of climate change on trading activities reveal that 42.6% of total respondents agreed that climate change has caused low sales while 32.6% has caused increase in sales' cost and scarcity of products. In addition, 13.4% of respondents responded that climate change has caused displacement of traders while 11.3% claimed that climate change had no effect.

In terms of the effects of climate change on individuals, 12.6%, 30.0% and 15.8% of respondents agreed that climate change has caused total destruction of properties, health problems and affected economic activities negatively respectively. It was also observed that 6.8% of respondents agreed that climate change has hindered social activities while 16.1% agreed that climate change has increased cost of living of individuals in the area.

Table 4: Effects of Climate Change

Effects on Farmers	Frequency	Percentage (%)
Income reduction	33	8.7
Output reduction	228	60.0
Increase in farm yield	99	26.1
No effect	20	5.3
Total	380	100.0
Effects on Artisans	Frequency	Percentage (%)
Income reduction	79	20.8
No effect	111	29.2
Hinderance towards production	124	32.6
Fluctuation in market patronage	66	17.4
Total	380	100.0
Effects on Civil Servants	Frequency	Percentage (%)
Increase in cost of food items	122	32.1
Difficulty in transportation	109	28.7
Reduction in work performance due to heat	127	33.4
Others	23	6.1
Total	380	100.0
Effects on trading activities	Frequency	Percentage (%)
Low sales	162	42.6
Increase in sales/scarcity of	124	32.6

products		
No effect	43	11.3
Displacement of traders	51	13.4
Total	380	100.0
Effects on individuals	Frequency	Percentage (%)
Destruction of properties	48	12.6
Health problems	114	30.0
Negative economic activities	60	15.8
Hinderance of Social activities	26	6.8
Increase cost of living	71	18.7
No effect	61	16.1
Total	380	100.0

Causes of Conflict, Migration and Natural Resources Depletion

The factors responsible for conflict in the study area are shown in Table 5 whereby 22.1% of respondents informed that the conflict was caused by land ownership/boundary dispute, 24.7% agreed on chieftaincy tussle while 8.2% agreed on lack of compensation. However, 2.9% agreed on political parties opposition, 4.5% agreed on unemployment, 2.9% agreed on resource control while 4.7% and 1.8% agreed that community conflict was due to environmental degradation and lack of public facilities respectively. From the analysis, it is deduced through people's perception that land ownership/boundary dispute, chieftaincy tussle and compensation were the major factors responsible for community conflict in Rivers State.

Table 5: Factors affecting community conflict in the study area

Factors	Frequency	Percentage (%)
Chieftaincy tussle	94	24.7
Compensation payment pattern	30	8.2
Environmental degradation	118	31.1
Lack of public facilities	7	1.8
Land ownership/Boundary dispute	84	22.1
Political party opposition	11	2.9
Resource control	18	4.7
Unemployment of the indigene	17	4.5
Total	380	100.0

Table 6 showed that 13.2% perceived that depletion of natural resources is caused by overpopulation while 26.1% believed in deforestation and destruction of ecosystem leading to loss of biodiversity. It is revealed that 9.7% believed in pollution while 6.8% mining of minerals and oil.

Table 6: Causes the depletion of our natural resources

Causes	Frequency	Percentage (%)
Overpopulation	50	13.2
Overconsumption of natural resources	58	15.3
Deforestation and destruction of ecosystem leading to loss of biodiversity	99	26.1
Mining of minerals and oil	26	6.8
Technological and industrial development	24	6.3
Erosion	23	6.1
Pollution	37	9.7
Poor farming practices	63	16.6
Total	380	100.0

Factors causing migration

Reasons for migration are very diverse. Typically, migration decisions cannot be traced back to only one category of causes. Instead, different causes interact and form the basis for migration decision. Important causes include economic, political and social factors. Environmental causes increase economic incentives for migration, especially if they directly affect incomes.

Table 7: Factors causing migration

Factors	Frequency	Percentage (%)
Inadequate human and economic development	52	13.7
Demographic increase and urbanization	63	16.6
Wars	69	18.2
Dictatorships	63	15.5
Social factors	49	10.3
Environmental changes	98	25.8
Total	380	100.0

Effects of Community Conflicts on Residents

Different types of effects of conflict experienced by the residents of the study area presented in Table 8 reveals that 27.4% of total respondents agreed on loss of lives, 18.2% agreed on maiming of people while 7.4% agreed on kidnapping. Furthermore, 13.2% agreed on loss of social tiers, 11.1% agreed on trauma of forced move from village, 12.6% agreed on displacement from place of abode while 10.3% agreed on loss of farmlands/fishing ground. The analysis therefore reveals that loss of lives, maiming of people, and loss of social tiers gained more prominence in terms of the effects of conflict experienced by the residents in the study area.

Table 8: Effects of community conflict

Effects	Frequency	Percentage (%)
Displacement from place of abode	48	12.6
Kidnapping	28	7.4
Loss of farmland/fishing ground	39	10.3
Loss of lives and properties	104	27.4
Loss of social ties	50	13.2
Defacement/Maiming of residents	69	18.2
Trauma of force movements from the community	42	11.1
Total	380	100.0

It is shown in Table 9 that 14.7% of total respondents believed that water shortage is a problem of the depletion of natural resources, 12.4% agreed on oil depletion, 27.4% agreed on loss of forest cover while 25% agreed on depletion of minerals and 20.6% agreed on extinction of species.

Table 9: Effects of the depletion of natural resources

Effects	Frequency	Percentage (%)
Water shortages	56	14.7
Oil depletion	47	12.4
Loss of forest cover	104	27.4
Depletion of minerals	95	25
Extinction of species	78	20.6
Total	380	100.0

Suggestions for Migration, natural resources depletion, conflict and climate change

It is observed in Table 10 that residents of Rivers State suggested some solutions on the climate change, migration, natural resources depletion and conflict. The analysis reveals that 17.9% agreed on controlling deforestation, 13.9% agreed on reducing oil, mineral and material consumption. However, 11.6% perceived protecting wetlands a coastal ecosystem while 21.6% agreed on sensitization and awareness creation and 18.9% agreed on good governance. It could be deduced that sensitization and awareness, good governance and controlling deforestation should be handled seriously as people suggested.

Table 10: Suggestions to combat migration, natural resources depletion, conflict and climate change

Suggestions	Frequency	Percentage (%)
Controlling Deforestation	68	17.9
Reducing oil, mineral, and material consumption	53	13.9
More exploration and use of renewable sources of energy	44	11.6
Protecting wetlands and coastal ecosystems	61	16.1
Sensitization and awareness creation	82	21.6
Good governance	72	18.9
Total	380	100.0

IV. DISCUSSION OF FINDINGS

The analysis showed that depletion of natural resources and climate change can cause displacement and conflict in a society. Although SIDA (2018), reported that there is no direct and linear relationship between climate change and violent conflict, but under certain circumstances climate-related change can influence factors that lead to or exacerbate conflict. Reduced access to water and extreme weather events may negatively affect food security and undermine the livelihoods of vulnerable households and communities. Growing natural resource scarcity may then lead to local competition which becomes unmanageable in the absence of institutions for conflict resolution (SIDA, 2018).

Findings showed that environmental changes caused much of the migration in the the study area and this is believed to have caused fragile environment for the residents of the area. Fragile states and communities with a history of conflict are the most vulnerable. Migration that is influenced by climate-related events is predominantly domestic, though not interna-tional. The effect of climate change on migration depends crucially on socio-economic, political, and institutional conditions (CCCS, 2014). Their vulnerability, however, depends on their ability to adapt to these changes, for example through the use of new crop varieties, as well as through non-agricultural activities, such as consumption smoothing through access to credit, insurance and social safety nets. Migration has been a frequent response to climate variability and change in the past. There is strong evidence of this, for example in the Sahel region of West Africa (Scheffran et al., 2012a, 2012b). Migration might also be an effective response to the climate risks of the future, but only under certain preconditions. Access to information on the economic and social costs of migration, on the advantage and disadvantages of potential destination locations, and the absence of credit constraints can help potential migrants make decisions that will improve their livelihoods (Waldinger and Fankhauser, 2015). One of the most important drivers of migration patterns across the world are differences in income levels. If a person expects that their income or living standards more generally would increase by moving to another place or country, then they have incentives to do so (Borjas, 2014). Hence, in cases where climate change affects current or future income or living standards, it may affect decisions to migrate.

The relationship between climate change and conflict remains highly controversial because the relationship is highly complex and heavily dependent on a country's socio-economic, institutional, and political characteristics. Many developing countries are relatively dependent on agriculture and their political institutions often have limited ability to

cope with economic or climate-related shocks (SIDA, 2018). There are some evidence on the link between climate, economic shocks and conflict today (Miguel et al., 2004; Burke et al., 2014). For example, the conflict in Syria has coincided with a record drought in the Fertile Crescent, which was made two to three times more likely by climate change (Kelley et al., 2015). However, "climatic conditions are neither necessary nor sufficient for conflicts to occur" (Burke et al., 2014). Climate variability has well documented effects on interna*l* migration (Barrios et al., 2006; Marchiori et al., 2011). For example, a decline in precipitation in Africa increased rural to urban migration within sub-Saharan African countries (Barrios et al., 2006; Henderson et al. 2014). Frequent incidences of climate disasters are also known to trigger distress migration (Qaisrani, 2014). In most sub-Saharan Africa economies rain-fed agriculture is very important. Changes in rainfall therefore have a critical effect on income from agriculture. Barrios et al. (2006) find that decline in rainfall can lead to increases in rural to urban migration (Findley, 1994). There is limited evidence about the effect of climate on *international* migration. Compared to the number of people in developing countries engaging in internal migration the number of people engaging in international migration is small (Piguet et al., 2011). Beine and Parsons (2014) examine the effect of long- and short-term temperature changes on migration empirically. They do not find evidence for an effect of climate on migration, but do find strong evidence for conflict to affect migration.

V. CONCLUSION AND RECOMMENDATIONS

The study has concluded that climatic and economic factors are really affecting individuals and these have caused conflict from one area to the other and have also caused people to migrate from one place to the other. It is therefore recommended that both government and residents should comply with the guidelines to protect the environment sustainably to prevent the natural resources depletion that can lead to migration and conflict.

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