



RESEARCH ARTICLE

Warming the Globe or Global Warming? Revisiting the Question of Global Warming and Climate Security in Ogoniland

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ABSTRACT

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This study delves into the intricate relationship between global warming and the activities of multinational corporations in the Ogoni area of Nigeria. It investigates how hydrocarbon contamination from oil production operations conducted by these corporations profoundly impacts farmlands, drinking water sources, residences, and livelihoods in Ogoniland. The primary objective is to assess the implications of global warming within Nigeria, using the Ogoni region as a focal point to elucidate these effects. Through an exploration of Nigeria's environmental landscape, its readiness to confront climate change, and related issues, the research underscores that the principal causes of global warming stem from the actions of multinational companies in Ogoniland, particularly gas flaring. Gas flaring not only exacerbates climate conditions with intense heat but also depletes nutrients from Ogoni lands, significantly reducing productivity and affecting the lifestyle of residents. Findings from on-site investigations highlight the profound impact of gas flaring-induced black carbon emissions on the climate and daily lives of Ogoniland inhabitants in the Niger Delta. The study identifies various historical and potential approaches to mitigate the consequences of global warming resulting from multinational operations. The study emphasizes that multinational activities have been the driving force behind decades of persistent gas flaring in Ogoniland and the broader Niger Delta region, leading to environmental degradation, multidimensional poverty, social unrest, erosion, floods, critical health issues, and climate change effects. Recommendations are proposed to address these pressing issues, emphasizing the proactive role of the Nigerian federal government in seeking partnerships, engaging with international agencies, and facilitating technology transfer to combat global warming effectively.

INTRODUCTION

The exacerbation of global warming, marked by rising temperatures, extreme weather events, and natural disasters, is significantly attributed to the substantial contributions of multinational corporations, particularly those operating in impoverished nations. These corporations often exploit natural resources in these regions with minimal consideration for environmental consequences. The release of greenhouse gases, encompassing carbon dioxide, methane, nitrous oxide, and fluorinated gases, stands as the foremost factor behind global warming—an ongoing elevation in Earth's atmospheric, oceanic, and terrestrial temperatures (Pachauri & Reisinger, 2007; IPCC, 2014). The augmentation of these gas concentrations in

the atmosphere is a consequence of human activities such as fossil fuel combustion, deforestation, and industrialization, amplifying the impact of global warming.

The Ogoni region, nestled in Nigeria's Niger Delta, serves as a microcosm of the complex interplay between multinational corporations and global warming. Home to approximately 500,000 people relying on agriculture and fishing, the region's abundance of oil and gas resources makes it a prime target for corporate interests (Kpaduwa, 2014). However, the exploration and exploitation of these resources have inflicted severe environmental degradation, pollution, and health hazards on the local population (Nwilo & Badejo, 2011; Kpaduwa, 2014).

This article delves into the multifaceted impact of multinational activities in the Ogoni region on global warming. It explores the emission of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide, resulting from oil and gas exploration. Notably, gas flaring, the burning of natural gas that cannot be processed or sold, emerges as a significant contributor to greenhouse gas emissions, causing air pollution and health risks (Nwilo & Badejo, 2011; Kpaduwa, 2014). Furthermore, deforestation resulting from these corporate activities leads to the loss of crucial carbon sinks, contributing to soil erosion and agricultural challenges for local farmers (Nwilo & Badejo, 2011; IPCC, 2014).

The consequences extend beyond environmental degradation, impacting the natural ecosystem, population density, vehicle emissions, and industrial discharges in Ogoni. Human-caused effects, including changes in atmospheric composition and increased levels of CO₂ due to fossil fuel usage, exacerbate the region's already challenging climatic conditions. The coastal and riverine features that historically characterized Ogoni's humid climate and abundant rainfall face disruption due to gas flaring and generator emissions, further complicating the local environmental scenario.

This article also addresses additional human activities contributing to global warming in Ogoni, including generator usage, industrial emissions, and indiscriminate waste disposal. These activities, alongside the proliferation of buildings and air conditioners, have transformed the region's natural landscape into urban areas, impacting the environment and increasing regional temperatures (Henry, 2008).

Despite these profound implications, research efforts in Ogoni have often neglected the environmental consequences of global warming, making this study imperative. By focusing on the causes of global warming, particularly associated with multinational companies' activities, this research aims to shed light on the climate-altering impacts and nutrient loss in Ogoniland. Understanding these dynamics is crucial for addressing the severe heat, loss of nutrients, and reduced productivity faced by the local population.

2.1 Global Warming

Global warming denotes the influence of human activities on climate, primarily stemming from the combustion of fossil fuels (coal, oil, and gas) and extensive deforestation. These activities result in substantial emissions of greenhouse gases, with carbon dioxide being the most significant. These gases act as a thermal blanket over the Earth's surface, absorbing emitted infrared radiation and retaining warmth. Climate variations are intrinsically linked to this warming phenomenon (Henshaw, C. 2020).

Scientific projections indicate that global warming will induce climate changes characterized, in part, by an increased frequency of specific weather events, the nature and severity of which depend on the region (Mbachu, J., & Okeke-Ogbuafor, N. 2019). Psychological studies reveal that the public tends to draw conclusions about global warming, also known as the local warming effect, from localized warm periods, contradicting the scientific definition (Liu X. et al., 2018; Omole, F. K., Lawal, A. I., & Fatusin, A. F. 2020; Onyenakeya, F. I., Obi, C. C., & Unachukwu, G. O. 2017; Manzo, K. 2018). Rather than considering long-term,

large-scale averages, the public often associates the presence of global warming with daily temperature fluctuations.

As an outcome of global warming, climate change exerts a considerable impact on both the environment and human existence. While weather operates as a complex and nonlinear dynamic system, climate, representing the average atmospheric conditions, remains predictable and relatively stable. Various components constitute climate, encompassing wind, precipitation, cloud cover, temperature, and humidity. The primary factor behind the surge in global temperatures since the mid-1900s, as indicated by the Intergovernmental Panel on Climate Change (IPCC, 2010) and other reputable scientific entities, is the greenhouse effect induced by human-generated concentrations of greenhouse gases. Nonetheless, natural influences such as solar fluctuations contributed minimally to warming between preindustrial times and 1950, as well as between 1950 and 1990. The United Nations Framework on Climate Change (UNFCCC) categorizes alterations caused by human activities as "climate change," while variations arising from external factors are termed "climate variability." "External forcing" refers to climate change resulting from shifts in the global energy balance due to fluctuations in the Earth's orbit and ocean circulation.

2.1.2 Greenhouse Effect

This process involves the capture of outgoing radiant radiation emitted from a planet's surface by specific atmospheric gases, commonly known as greenhouse gases. The Sun serves as Earth's sole external heat source, generating solar radiation primarily in the form of shortwave visible and ultraviolet (UV) light. Approximately 25% of the incoming radiation is absorbed by the atmosphere, while clouds and other gases reflect the remaining 25% back into space (Henshaw, 2020). As the residual radiation traverses the atmosphere without hindrance, the Earth's surface experiences warming. Despite the unimpeded passage of most shortwave solar radiation, the atmosphere absorbs a significant portion of the longwave thermal energy attempting to escape back into space. Greenhouse gases transfer this energy to the Earth's surface and lower atmosphere, subsequently reradiating it in various directions, including back towards the surface. This process causes the atmosphere to warm, resembling the warming effect observed in a man-made greenhouse.

2.1.3 Effects of Global Warming

The increase in global temperatures resulting from the phenomenon of global warming has direct repercussions for the environment and human survival. Extensive regions of subtropical deserts are expected to face consequences such as rising sea levels, shifts in climatic patterns, alterations in precipitation levels and distribution, and more intense weather phenomena like heightened tropical storms, prolonged droughts, and severe heatwaves. Evident indicators of global warming encompass the melting of glaciers, the release of methane from the Arctic, the diminishing size of the world's rainforests (already significantly impacted by logging and agriculture), heightened occurrence and severity of extreme weather events, shifts in agricultural productivity, retreat of species, and alterations in the distribution of disease vectors and species. The repercussions of global warming, such as rising sea levels, heatwaves in Europe, hurricanes, tropical cyclones, flooding in Bangkok, Thailand, Australia, and India, coastal erosion, flooding due to excessive precipitation, and sea-level rise, underscore the impact of extreme weather events associated with climate change. In Sub-Saharan Africa, persistent drought and desertification in recent years signal a troubling trend that may persist.

Global warming's effects are not uniform across the planet. The northern hemisphere, with its larger landmass, experiences a more pronounced impact from the greenhouse effect compared to the southern hemisphere. Additionally, the industrialization of nations in the northern hemisphere leads to higher CO₂ emissions, further intensifying the greenhouse effect. The United States of America stands out as the largest contributor to CO₂ emissions. Less industrialized nations make minimal contributions to global warming

and lack the adaptive capacity to address its impacts, whereas highly industrialized countries significantly contribute to it and possess the ability to adapt.

2.2.1 Increased in Average Temperatures and Temperature Extremes

One of the most apparent and direct outcomes of global warming manifests in the increase of global temperatures. As reported by the National Oceanic and Atmospheric Administration (NOAA), the average worldwide temperature has risen by about 1.4 degrees Fahrenheit (0.8 degrees Celsius) over the past century. Data from NOAA and NASA point out 2016 as the warmest year globally since recording began in 1895, with Earth's surface temperature exceeding the 20th-century average by 1.78 degrees Fahrenheit (0.99 degrees Celsius) (Henshaw, 2020). Noteworthy is NASA's observation that 16 out of the 17 warmest years on record since 2001 have transpired, underscoring the consistent warming trend. According to NOAA, 2016 secured the position as the second-hottest year on record for both the contiguous United States and Alaska. This marked the 20th consecutive year in which the annual average surface temperature surpassed the 122-year average, encompassing the entire period of record-keeping (Henshaw, 2020).



Figure 1: Gas flaring

Source: The Guardian Newspaper, 25 August 2021

2.2.2 Extreme Weather Events

Another repercussion of global warming is the manifestation of extreme weather events. Despite the overall trend of global warming, specific regions, including much of the United States, have witnessed colder-than-average winters alongside some of the warmest summers on record. Climate changes can lead to the southward shift of the polar jet stream, the boundary between warm equatorial air and frigid North Pole air, bringing cold Arctic air along with it. It is believed that the distinction between climate and weather lies in the extended period over which climate is assessed, emphasizing that singular cold or warm years do not significantly impact the overall climate.

Global warming may instigate varied extreme weather conditions beyond temperature extremes. Hurricane formations, for instance, are expected to undergo changes, with current atmospheric models suggesting a potential decrease in global frequency, coupled with an increase in intensity. Atmospheric scientist Adam Sobel notes that the energy source for hurricanes temperature variance between warm tropical oceans and the cold upper atmosphere increases with global warming, potentially leading to more destructive hurricanes.

Lightning, another weather phenomenon, is also susceptible to the implications of global warming. The CEI reports a rise in extreme weather events, considered unusual in historical records, over the past four

decades (Henshaw, 2020). Scientific projections indicate a sustained escalation of extreme weather occurrences, encompassing heatwaves, droughts, blizzards, and rainstorms, due to ongoing global warming. Climate models anticipate substantial alterations in global temperature dynamics, spanning shifts in wind patterns, annual precipitation, and seasonal temperature variations. The U.S. Environmental Protection Agency (EPA) forecasts the perpetuation of these transformations for several decades or more, attributing it to the prolonged presence of elevated greenhouse gas levels in the atmosphere. Regionally, effects are anticipated, such as diminished summer rainfall in the Pacific Northwest and augmented annual precipitation in the northeastern United States.

2.2.3 Ice melt

Climate change has induced significant melting, emerging as a primary consequence. A 2016 study published in *Current Climate Change Reports* reveals a decline in snow cover across North America, Europe, and Asia from 1960 to 2015. The Northern Hemisphere has experienced a 10% reduction in permafrost, the permanently frozen ground, since the early 1900s, according to the National Snow and Ice Data Center. Thawing permafrost not only contributes to landslides and unforeseen land collapses but may also unleash long-buried microorganisms, exemplified by a 2016 incident involving reindeer carcasses that triggered an anthrax outbreak.

The diminishing extent of Arctic waters stands out as a notable consequence of global warming. Record-low sea ice extents were recorded in the fall and winter of 2015 and 2016, indicating a lag in ice accumulation during peak periods. This reduction results in a decline in persistent, multi-year thick sea ice. As a consequence, the ice's reduced reflective capacity leads to less heat being reflected back into the atmosphere, while the darker surface of the ocean absorbs more heat. Described by NASA's Operation IceBridge, this establishes a feedback loop that expedites the melting process. Another evident outcome of global warming manifests in glacial retreat (Kogbara, 2019). The U.S. Geological Survey approximates that Montana's Glacier National Park currently hosts only 25 glaciers larger than 25 acres, marking a substantial decline from the approximately 150 glaciers that previously existed (Kogbara, 2019). This trend is mirrored in glacial areas worldwide, with a 2016 study in *Nature Geoscience* attributing a 99% likelihood of human-induced climate change being responsible for the escalated retreat. The research revealed that specific glaciers had retreated up to 15 times more than they would have without global warming.

2.2.4 Sea Level and Ocean Acidification

Sea levels experience a rise primarily due to the melting of ice. The World Meteorological Organization reported a global acceleration in sea level rise, averaging 0.12 inches (3 millimeters) annually in 2014, surpassing the 20th century's 0.07 inches (1.6 mm) annual average ascent. Predictions indicate a significant surge in sea levels caused by the melting of polar ice in the Arctic and Antarctic, as well as ice sheets and glaciers in Greenland, North and South America, Europe, and Asia. Human activities are identified as the predominant factor, with climate scientists attributing at least a 95% likelihood of human influence on observed changes since the 1950s, including warming oceans, rapid glacier melting, and escalating sea levels, as stated in the IPCC report of September 27, 2013 (Kogbara, 2019).

According to the EPA, sea levels have risen by around 8 inches worldwide since 1870, and they are expected to rise even faster in the upcoming decades. If present trends continue, many coastal regions that house almost half of the world's population would be submerged. The EPA projects that sea levels will rise by an average of 2.3 feet (7 meters) in New York City, 2.9 feet (0.88 meters) in Hampton Roads, Virginia, and 3.5 feet (1.06 meters) in Galveston, Texas, by the year 2100. The 2007 IPCC study anticipated that future sea-level rise will be between 0.9 and 2.7 feet (0.3 and 0.8 meters), however an IPCC assessment indicates that unchecked greenhouse gas emissions might raise global sea levels by up to 3 feet (0.9 meters) by 2100 (Kogbara, 2019).

The impact of global warming extends beyond rising sea levels to ocean acidity. As CO₂ levels rise, the oceans absorb the gas, elevating seawater acidity. Ocean acidification, a consequence of dissolving CO₂, poses a threat to marine organisms reliant on calcium carbonate for shell formation. The EPA notes a 25% increase in ocean acidity since the Industrial Revolution, jeopardizing marine life, particularly organisms forming shells. The trend could lead to a scarcity of coral reefs in areas where they are currently prevalent. The Great Barrier Reef experienced bleaching in 2016 and 2017 due to stress induced by warm waters, unbalanced pH, or pollution, indicating the vulnerability of coral ecosystems (Kogbara, 2019).

The polar regions, notably the Arctic, confront heightened vulnerability to a warming atmosphere. With Arctic temperatures rising twice as fast as global averages, the accelerated melting of ice sheets has severe consequences for the region's ecosystems and inhabitants. By 2100, an estimated one to four feet rise in ocean levels poses a threat to coastal systems, low-lying areas, entire island nations, and major cities like New York, Los Angeles, Miami, Mumbai, Sydney, and Rio de Janeiro (Kogbara, 2019).

2.2.5 Plants and Animals

It is predicted that global warming will have significant and far-reaching effects on Earth's ecosystems. As indicated by an evaluation from the National Academy of Sciences, numerous plant and animal species are presently shifting their habitats toward higher latitudes or elevations due to rising temperatures (Kogbara, 2019). It is believed that these species are not only moving north but also away from the equator and toward the poles, tracking the favorable temperature zones that are shifting with the rising global average temperature. However, it has been emphasized the challenge arises when the rate of climate change velocity, a measure of the rapid spatial alterations in a location, surpasses the pace at which many organisms can adapt.

This predicament could lead to the extinction of numerous species, as they struggle to acclimate to the swiftly changing climate. The EPA also notes that migratory birds and insects are reported to be arriving at their summer eating and nesting places days or weeks ahead of schedule compared to the 20th century. It is anticipated that the elevated temperatures would expand the geographical distribution of multiple pathogens that cause disease, which were formerly restricted to tropical and subtropical areas. This expansion may result in the demise of plant and animal species that were historically shielded from such diseases.



Figure 2: A Shell oil spill near farmland in Ogoniland. The Activities of the Multinationals in the Ogoni Area of Nigeria

Source: Vanguard News, 14 August 2011

Prominent multinational oil corporations (MNOCs) such as Shell, Chevron, ExxonMobil, Total, FinaElf, Agip, and Texaco have exhibited a strong interest in Rivers State and the broader Niger Delta region of Nigeria. In their pursuit of oil exploration and production in this region, all these MNOCs have engaged in collaborations with the Federal Government of Nigeria (Kogbara, 2019). The outcomes of their activities in

the region have been diverse, with negative impacts particularly pronounced in areas where oil extraction occurs. Environmental violence, viewed as a violation of divine environmental policy, has often resulted in catastrophic consequences, including acid rains, deforestation, destruction of farmland, severe unemployment, vandalism, and the loss of young lives. To comprehend the various drilling and exploration activities leading to externalities that contaminate the Niger Delta, it is essential to understand the components in crude oil posing genuine hazards to the environment and humanity. Crude oil, a viscous liquid with an unpleasant odor and a color spectrum from colorless to green, yellow, and black, is classified based on its density, volatility, and toxicity into light/light distillates, middle distillates, medium oils, and heavy fuel oils. It contains a complex mixture of heavy metals such as nickel and vanadium, along with gaseous, liquid, and solid hydrocarbons composed of sulfur, nitrogen, and oxygen, forming the primary pollutants in the Niger Delta. Nigeria generates nearly 40 million tons of carbon dioxide daily through gas flares across approximately 123 sites. Whether onshore or offshore, oil companies partake in exploration, drilling, and production activities, upstream or downstream from petrochemical plants, oil refineries, natural gas distribution companies, and the general public, respectively, releasing hazardous gases and metals into the environment. Additionally, illegal activities like oil bunkering and pipeline vandalism lead to hazardous discharges. MNOCs often clear extensive land expanses, constructing trenches and rights of way, involving the removal and destruction of mangroves and rainforests, disrupting ecosystems and biodiversity. Rock dynamiting during operations has narcotic effects, kills marine life, and hampers plant photosynthesis, threatening agricultural output and community habitation. The dredging and restoration of marshes for dock and road development alter the physio-chemical composition of water, negatively impacting local flora, fauna, and access to portable water. Hazardous gases and inorganic pollutants released by these companies contribute to climate change, greenhouse effects, soot, and acid rain, endangering humans, animals, and plants. During drilling, crude oil spills, along with heavy metals and compounds such as lead, chromium, and vanadium, leach into sedimentary aquifer rocks, contaminating water sources consumed by residents and causing various health issues. Overall, the people's means of subsistence are curtailed, and the land becomes unsuitable for agriculture, exacerbating poverty and hunger. Negative externalities also result from the actions of individuals causing oil spills and discharges, including militants, pirates, pipeline vandals, oil bunkers, fallen trucks, sunken vessels, and business accidents. Illegal activities like oil theft, oil bunkering, sabotage by vandals, and artisanal processing of stolen crude contribute to spills that can take weeks or months to clean up, causing severe environmental damage and financial losses to the state, oil companies, and communities dependent on natural resources. The Niger Delta grapples with a myriad of adverse effects from oil drilling activities, leading to environmental contamination, squandered oil revenue, increased incidents of kidnapping and militancy, severe environmental degradation, and the loss of fishing grounds, farmland, and coastal lands. The region faces numerous challenges, including diseases, temperature rise, pollution, birth defects, respiratory infections, and poverty. To restore peace to the area, these detrimental trends must be reversed.

METHODOLOGY

The study employed a quantitative method and relies on the collection and analysis of numerical data to draw conclusions and make inferences. This approach is characterized by an emphasis on objective measurement, statistical analysis, and the utilization of mathematical models to understand and elucidate phenomena.

Primarily, the study adopted a survey questionnaire as a suitable instrument for data collection due to the ambiguity in data collection. Surveys were conducted with local communities to gather information on their perception of the impact of oil exploration and production activities on the environment and their livelihoods as well as the employees of multinational oil companies to gather information on their company's environmental policies and practices. Respondents voluntarily gave their consent and were assured of the confidentiality of information before filling the survey questionnaire. The respondents were

also asked to not reveal or supply their real names while filling the survey questionnaire. Finally, the Taro Yamane formula was adopted to arrive at the sample population of the study.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{600}{1 + 600(0.05)^2}$$

$$n = \frac{600}{1 + 600(0.0025)}$$

$$1 + 1.5 = 2.5 \quad \frac{600}{2.5} = 240.$$

DATA PRESENTATION AND ANALYSIS

This study provides a detailed presentation and interpretation of various data of the respondents on the subject Global warming or warming the globe; reflections on the effect of the unsustainable activities of the multinational in the Ogoni area of Nigeria. Two hundred (240) responses on questionnaires were administered.

Table 1: Sex and Ages¹

Sex	Frequency	Percentage
<i>Male</i>	165	68.75%
<i>Female</i>	75	31.25%
Total	240	100%
Ages	Frequency	Percentage
<i>18-25</i>	40	16.7%
<i>26-35</i>	60	25%
<i>36-45</i>	110	45.8%
<i>46-above</i>	30	12.5%
Total	240	100%

Source: Field survey 2024

This Table paints a picture of frequency that is tilted towards the preponderance of the male gender in the participation of respondents in the study's survey. Among the 240 respondents, men occupy almost two-thirds, their presence a robust 68.75%. Women, in contrast, stand at a more modest 31.25%, their voices forming a smaller chorus in this space. The age distribution reveals a population leaning toward midlife. Nearly half, 45.8%, reside in the 36-45 age bracket, their experiences seasoned by time. The 26-35 age group follows close behind, accounting for a quarter of the respondents. Youth, however, seems less represented, with only 16.7% falling within the 18-25 range. The 46-and-above group forms the smallest segment, their

This is the distribution table that depicts the gender and age-grade of the respondents arising from the survey ¹ conducted.

voices perhaps quieter due to their fewer numbers, or perhaps their experiences echoing from a different stage of life.

Table 2: Tribe²

<i>Tribe</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Eleme</i>	120	50%
<i>Yoruba</i>	20	8.3%
<i>Hausa/Fulani</i>	10	4.2%
<i>Igbo</i>	80	33.3%
<i>Others</i>	10	4.2%
<i>Total</i>	240	100%

Source: Field survey 2024

In this Table, of the 240 voices//responses, the Eleme tribe weaves the strongest thread and their presence shows a vibrant 50%, their frequency a resounding 120. They stand as the dominant tribe, their customs and traditions echoing through the data. Yet, the canvas is far from monochromatic. Threads of Yoruba, Igbo, and Hausa/Fulani intertwine, adding their own hues to the picture. The Yoruba, with their 20 voices, contribute a distinct melody, while the Igbo, at 80, bring a robust harmony. The Hausa/Fulani, though fewer in number, still add their unique texture, reminding us of the richness of diversity. And then there are the "Others," a small but intriguing group, their voices whispering of unexplored stories, of cultures waiting to be discovered. They add a touch of mystery, a hint of the unknown, reminding us that this tapestry is far from complete. The numbers, cold and sterile at first glance, now sing a vibrant song of belonging and identity. They tell us of shared roots and diverse branches, of communities bound by history and geography. They whisper of a land where the Eleme drumbeat sets the rhythm, but where other voices rise in counterpoint, creating a symphony of human experience.

Table 3: Assess the Effects of the activities of the Multinationals in the Ogoni area of the Niger Delta Region on Climate Change³

Assertions	Agree F %	Strongly Agree F %	Sub-total F %	Disagree F %	Strongly disagree F %	Subtot al F %
The unsustainable activities of multinational corporations in the Ogoni area of the Niger-Delta region directly contribute to climate change.	80 33.3%	120 50%	200 83.3%	35 14.6%	5 2.1%	40 16.7%
The evident consequences of gas flares on the local ecology, climate, as well as the health and property of the people in Ogoniland.	90 37.5%	100 41.7%	190 79.2%	10 4.2%	40 16.7%	50 20.8%
In Ogoniland, the Niger Delta Region, the waste management practices of multinational firms have an effect on climate change..	60 25%	150 62.5%	210 87.5%	25 10.4%	5 2.1%	30 12.5%

This is the distribution table that depicts the tribe of the respondents arising from the survey conducted.²

This Table provides the responses of the respondents on the assessment of the effects of the activities of the ³ Multinationals in the Ogoni area of the Niger Delta Region on Climate Change arising from the survey conducted.

The production, processing, and sale of oil and natural gas are among the Ogoniland activities of multinational corporations that account for a substantial amount of global emissions..	180 75%	50 20.8%	230 90.8%	- 0%	10 4.2%	10 4.2%
Multinational companies' operations in the Ogoni region of the Niger Delta, which result in problems including oil spills, gas flare-ups, and the loss of biological variety, may be the root cause of climate change.	155 64.6%	80 33.3%	235 97.9%	- 0%	5 2.1%	5 2.1%
Climate change is not impacted by the multinational companies' operations in Ogoniland, the Niger-Delta region.	5 2.1%	5 2.1%	10 4.2%	25 10.4%	205 85.4%	230 95.8%

Source: Field survey 2024

In the tapestry woven by these assertions, a stark contrast unfolds here. On one side, threads of concern and agreement bind together, painting a picture of undeniable impact. Overwhelming responses (83.3%) echo the belief that multinational corporations in Ogoniland are directly entangled with climate change, their unsustainable practices a potent thread in the fabric of the issue. The flames of gas flares, searing the land and scorching the air, find near-unanimous condemnation (79.2%), their toxic breath a testament to the environmental and human cost. Waste management, a seemingly mundane aspect, is revealed as a silent accomplice, its footprint traced to the warming planet (87.5%).

On the other side, a faint whisper of dissent struggles to gain traction. Only a handful (4.2%) dare to deny the corporations' role in this complex equation, their voices dwarfed by the chorus of agreement. Even those who hesitate to declare a direct connection (5.2%) acknowledge the potential for harm, their uncertainty a sliver of light in the prevailing shadow.

The data, however, refuses to remain static. It leaps beyond mere correlation, pointing a finger at the source. A staggering 75% believe Ogoniland operations contribute significantly to global emissions, their chimneys spewing not just smoke, but a hefty share of the world's warming burden. Oil spills, biodiversity loss, and the myriad consequences of corporate activity stand accused, their fingerprints found on the fevered brow of the planet (97.9%).

The final assertion, a lonely outlier, stands isolated. The notion that these activities have no impact on climate change, a mere whisper in the hurricane of evidence, is dismissed by an overwhelming majority (95.8%). The weight of data, the chorus of voices, and the undeniable scars on the land all conspire to declare it a fallacy.

This is not just a story of numbers, but a narrative of consequence. It is a testament to the interconnectedness of our world, where the actions of a few can ripple across continents and generations. It is a call for accountability, for a future where profit does not come at the cost of the planet and its people. It is a plea to mend the tapestry, to weave a future where sustainability and responsibility are the dominant threads.

Table 4: To Examine the Effects of Global Warming on the Residents of Ogoni in the Niger-Delta Region⁴

<i>Assertions</i>	<i>Agree F %</i>	<i>Strongly Agree F %</i>	<i>Sub- total F %</i>	<i>Disagree F %</i>	<i>Strongl y disagree F %</i>	<i>Subtotal F %</i>
<i>Ogoni residents in the Niger-Delta region are impacted by global warming.</i>	160 66.7%	60 25%	220 91.7%	12 5%	8 3.3%	20 8.3%
<i>Erosion and rising sea levels are two effects of global warming in Ogoni land.</i>	180 75%	60 25%	240 100%	- 0%	- 0%	- 0%
<i>Global warming is to blame for Ogoni land's food scarcity since it causes hot weather and heavy precipitation, which in turn causes flooding and destroys crops in the Niger-Delta region.</i>	50 20.8%	190 79.2%	240 100%	- 0%	- 0%	- 0%
<i>Ogoniland's citizens lack access to natural, pure water because to the multinational corporations' operations.</i>	40 16.7%	90 37.5%	130 54.2%	80 33.3%	30 12.5%	110 45.8%
<i>Ogoniland's fresh air and weather have been harmed by the multinational corporations' operations.</i>	80 33.3%	110 45.8%	190 79.2%	40 16.7%	10 4.2%	50 20.8%
<i>The prospects for individuals who depend only on farming and fishing to survive are being threatened by these multinational corporations.</i>	30 12.5%	210 87.5%	240 100%	- 0%	- 0%	- 0%

Source: Field survey 2024

The survey results reveal a strong consensus among Ogoni residents about the significant impacts of global warming on their lives. Nearly all respondents (91.7%) agree or strongly agree that global warming has effects on their community. The data further suggests a direct connection between global warming and specific environmental phenomena, such as rising sea levels and erosion, with 100% agreement on this point. Additionally, a majority (79.2%) believes that food scarcity is caused by global warming, potentially due to its influence on weather patterns and flooding.

The survey also highlights concerns regarding the role of multinational activities in environmental degradation. Over half (54.2%) of the respondents believe that the companies' activities contribute to the lack of access to clean water, raising concerns about potential resource mismanagement and contamination. Similarly, nearly 80% (79.2%) perceive the companies' operations as compromising air quality, potentially impacting public health. Notably, the data reveals a near-unanimous (87.5%) agreement that these

⁴ This Table provides the responses of the respondents on the examination of the effects of Global Warming on the residents of Ogoni in the Niger-Delta Region arising from the survey conducted.

activities threaten the livelihoods of those who depend solely on fishing and farming, suggesting a significant impact on traditional ways of life and economic stability within the community.

4.3 DISCUSSION OF FINDINGS

The study reveals that the operations of multinational corporations not only impact the climate in Ogoniland but also influence the local business activities. Moreover, it indicates a substantial lack of involvement of area leaders in decision-making processes, as they are not active participants in relevant meetings and committees. The study identifies the primary contributors to global warming in the Niger-Delta region's Ogoniland as the activities of multinational corporations, particularly gas flaring. Gas flaring not only induces severe heat, affecting the climate but also results in nutrient loss in Ogoni's land, leading to a significant decline in the productivity of the local population. (Ajaegbu, E., Eze, C., & Anyanwu, C. 2019). The Impact of Multinational Corporations on Climate Change Mitigation: A Study of the Oil and Gas Industry in Nigeria. *Journal of Sustainable Development*, 12(2), 16-29.) similarly found that gas flaring contributes to elevated carbon dioxide and methane levels, fueling greenhouse gas emissions and subsequent global warming. Additionally, the consumption of oil and gas products from multinational oil companies is implicated in the substantial production of greenhouse gases, playing a significant role in global warming (IEA, 2019).

Environmental degradation in the Ogoni region of Nigeria has been a longstanding concern, with multinational oil companies facing accusations of contributing to soil contamination, water pollution, and air pollution in the area. UNEP (2011) reports that oil spills in the Ogoni region have resulted in the contamination of soil and water, adversely impacting human health, vegetation, and wildlife. The repercussions of oil spills extend beyond the local context to affect the global climate, as the release of greenhouse gases during such incidents contributes to global warming, aligning with the findings of IPCC (2014).

The study's insights into the Ogoni community's perspectives on the dual impacts of global warming and multinational activities underscore the urgent need for further research and proactive measures to address these challenges. A shared consensus on the adverse effects of both factors emphasizes the importance of delving into the specific mechanisms through which they affect the Ogoni environment, communities, and livelihoods. This knowledge can inform targeted policy interventions and effective mitigation strategies. Additionally, fostering engagement with the Ogoni community and incorporating their viewpoints into decision-making processes is imperative for ensuring sustainable development and environmental justice in the Niger Delta region.

CONCLUSION

In conclusion, the study has provided valuable insights into the impact of multinational corporations on global warming in the Ogoni region. The study has highlighted the need for greater transparency and accountability in the activities of these companies, as well as the need for the Nigerian government to regulate their activities more effectively. The study has also emphasized the need to address the adverse effects of multinational corporations on the environment and the health and livelihoods of the local communities in the Ogoni region. It is hoped that the findings of this study will inform policies and practices that will help to mitigate the impact of multinational corporations on global warming in the Ogoni region and beyond through the policy recommendations below.

Policy Recommendations

The impact of multinational corporations on global warming in the Ogoni region of Nigeria has been devastating, and urgent action is required to address this issue. The Nigerian government must take strong

measures to enforce environmental regulations and ensure that multinational corporations operating in the Ogoni region adhere to these regulations. Furthermore, multinational corporations should adopt sustainable practices that minimize their impact on the environment and engage with the affected communities in the region to ensure that their concerns and opinions are taken into consideration. By taking these measures, it is hoped that the impact of multinational corporations on global warming in the Ogoni region of Nigeria could better be addressed while promoting sustainable development in the region.

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