AN ASSESSMENT OF CLIMATE CHANGE SYNTHESIS AND THE HEALTH RESILIENCE AMONG THE PEOPLE OF GOMBE STATE NIGERIA

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ABSTRACT

The article examined Climate change Synthesis and the Healthy Attitude Resilience in Gombe State Nigeria. Resilience was defined as a process, ability, or outcome of successful adaption to the environment, despite dangerous or adverse conditions. Everyone will face adversity at some point and resilience is a significant factor in wellbeing, while climate change synthesises summarised the state of knowledge of climate change, its widespread impacts and risks, and climate change mitigation and adaptation. The qualitative methodology through four steps: collection, descriptive analysis, selection of categories, and evaluation of the material was adopted. This type of review used methods that can be replicated to identify, select, and evaluate papers in the literature on the subject of research studied. Three proxies such as, positive healthy attitudes, adaptations to food security, regulations of negative energy among the women etc, were purposively selected as the decomposed dependent variable of the study. The theory of Solar variability was adapted as the a priori theoretical connections used to explicitly explain the notion of climate change synthesis vis-à-vis healthy resilience among the inhabitant of Gombe. SPSS method and chi-square mathematic computation was employed in the data analysis. The study major findings were that healthy attitude in Gombe state Nigeria exerted positive influence on climate change synthesis and thus, recommendations was deduced for the policymakers to pay more attention to improving mitigation measures in order to reduce the enormous doom accruing to climate change The study suggested that future studies should classify countries according to their climate change adaptations

Keywords: *Climate change, women resilience, health attitude, food security, solar variability hypothesis*

Introduction

Background to the Study

Climate change is one of the greatest challenges of our time, largely affecting countries negatively, although by varying degrees and channels (Baez et al., 2010). Beyond the immediate human and material damage,

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@A Publication of the Department of Economics, ADSU, Mubi. ISSN- Print: 2550- 7869; ISSN-Online: 3043-5323. Journal homepage: https://ajaefm.adsu.edu.ng

Cited as: Nwogu, P., O. (2024) An Assessment of Climate Change Synthesis and the Health Resilience Among the People of Gombe State Nigeria, *Journal of Applied Economics, Finance and Management, 9*(S1), 84-100. Special Issue: Sustainable Finance and Green Economy: "Pathways to Environmental and Economic Resilience".

climate change leads to a decrease in the yields of certain crops, which affects agricultural output and the food security of populations. Droughts reduce the availability of water, leading to reduced water supply (for nutrition and sanitary usage), factor productivity (Henseler and Schumacher, 2019; Letta and Tol, 2019) and economic growth (Dell et al., 2014). As a consequence, droughts drive population displacement and migration (Baez et al., 2017; Berlemann and Steinhardt, 2017). These impacts are felt by all countries, but the economies of poor countries are more affected (Dell et al., 2009, 2012; The Intergovernmental Panel on Climate Change (IPCC), 2014a, 2022; Tol, 2018).

Within the developing countries, vulnerable groups are the most affected (IPCC, 2001, 2014a, 2022; Park et al., 2018) because they are more dependent on natural resources and lack the capacity to adapt to climate change (Fankhauser and McDermott, 2014; Hallegatte and Rozenberg, 2017; Stern, 2007). Previous literature shows that the impacts of climate change are not gender-neutral (Adzawla et al., 2019; Andersen et al., 2017; Asfaw and Maggio, 2018; Cannon, 2002; Denton, 2002; Eastin, 2018; Goh, 2012; Nelson et al., 2009; Paudyal et al., 2019; Quisumbing et al., 2018; Rao et al., 2019). Women are more vulnerable than men to changes caused by globalization, economic crises, and environmental degradation (Denton, 2002).

Among the poor social groups, women are particularly vulnerable to climate change for a variety of reasons. They have unequal access to productive resources such as land or other assets, and less access to economic opportunities (Mehar et al., 2016; Mersha and Van Laerhoven, 2016; Potsdam Institute for Climate Impact Research and Climate Analytics, 2013; SOFA Team and Doss, 2011). Moreover, as they have less access to financial services and credits, they have less capacity to cope with the effects of climate change (Deressa and Hassan, 2009; Eastin, 2018; Terry, 2009). Climate change, therefore, threatens to exacerbate women's precariousness and increase their vulnerability (Denton, 2002). In developing countries, women mainly work in agricultural sectors. Indeed, the share of female labour is estimated at approximately 40% (in middle income countries) and 50% (in low income countries) (International Labour Organization 2019, Palacios-Lopez et al. 2017, World Bank, 2022). Yet, this sector is identified as the most impacted by climate change (Dell et al., 2012; FAO, 2019; Fischer et al., 2005; Hertel and Rosch, 2010; IPCC, 2014a, 2022). Working mainly in agriculture, which is highly affected by climate change, exposes women to income losses.

A decline in agricultural yields or a reduction in the length of growing season affects the production of food that women provide for their families. At the national level, this may threaten the country's food

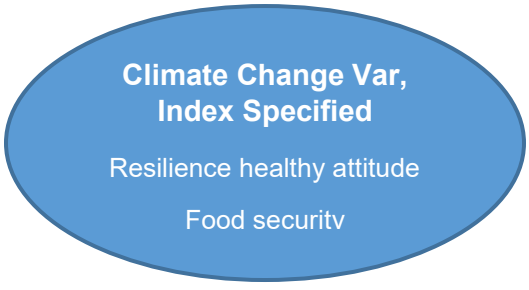
security (IPCC, 2007, 2001, 2022). The decrease in production also leads to a drop in agricultural income. The drop in income thus further increases women's vulnerability and poverty. Women are usually responsible for domestic tasks, including childcare, water and wood collection for the household (Wood and Salway, 2000). These unpaid domestic activities reduce the amount of time women can spend on paid work (Elson, 1999; Fontana and Van Der Meulen Rodgers, 2005). For example, after repeated droughts, clean water may become scarce and therefore the distance and collection time may increase. Consequently, women's available time for paid work reduces, and gender gaps in paid and unpaid work widen, to women's disadvantage. The social norms and women's social status within the society also determine their resilience capacity, such as their marital status (married, divorced or widowed women) (Azong and Kelso, 2021; Wineman, 2019).

Despite the importance of climate change adaptations, there is no known empirical research that investigates the association between climate change synthesis and variable such as, positive attitude towards climate change, management of food during flooding, changing negative energy by regulations

The following Specific objectives were specified by the author

i. To examine how climate change synthesis in Gombe brings about healthy and resilirnce attitude among the people
ii. To examine how climate change synthesis in Gombe brings about the adaptations to food security in the state
iii. To examine how climate change synthesis in Gombe brings about the regulations of negative energy among victims

SECTION TWO: LITERATURE REVIEW/CONCEPTUAL FRAMEWORK



Author's Design, 2024

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The concept of Climate Change Synthesis Explained

Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas (Climate Ambition Summit 2023) Climate scientists have showed that humans are responsible for virtually all global heating over the last 200 years. Human activities like the ones mentioned above are causing greenhouse gases that are warming the world faster than at any time in at least the last two thousand years.

The average temperature of the Earth's surface is now about 1.2°C warmer than it was in the late 1800s (before the industrial revolution) and warmer than at any time in the last 100,000 years. The last decade (2011-2020) was the warmest on record, and each of the last four decades has been warmer than any previous decade since 1850.

Many people think climate change mainly means warmer temperatures. But temperature rise is only the beginning of the story. Because the Earth is a system, where everything is connected, changes in one area can influence changes in all others.

The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.

Climate change can , ability to grow food, housing, safety and work. Some of us are already more vulnerable to climate impacts, such as people living in small island nations and other developing countries. Conditions like sea-level rise and saltwater intrusion have advanced to the point where whole communities have had to relocate, and protracted droughts are putting people at risk of famine. In the future, the number of people displaced by weather-related events is expected to rise.

Causes of Climate Change

i. Power plants
ii. Agriculture
iii. Vehicles and transport
iv. Landfills
v. Offshore drilling
vi. Fracking
vii. Deforestation
viii. Overfishing
ix. Melting permafrost
x. Consumerism

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Resilience to Climate Change

People can feel helpless when facing danger and adversity. Performing adequately despite adverse circumstances is often referred to as resilience (Connor et al., 2003). Resilience is defined as a process, ability, or outcome of successful adaptation to the environment, despite dangerous or adverse conditions. Everyone will face adversity at some point and resilience is a significant factor in wellbeing (Karam et al., 2014). Resilience is the ability or skill that allows us to overcome life's obstacles and maintain our mental and physical health in the face of adversity (Clauss-Ehlers, 2008). Resilience can therefore be used as a measure of a person's capacity to handle stress that could negatively impact their mental health (Connor et al., 2003). The word resilience comes from latin roots, coming from the latin work "resilio" meaning "to jump back" (Klein et al., 2003; Cimellaro et al., 2010).

The concept of resilience has changed significantly over time. It was initially understood to be a system's capacity to remain constant despite external change (Manyena et al., 2019; Holling, 1973). Over time, resilience has grown as a concept and has encompassed more attributes related to the core theme, including capacity to learn (Dovers & Handmer, 1992), the ability to return to a homeostatic state (Tilman &Downing, 1994), manage external shocks, stresses, and hazards (Mileti, 1999; Adger, 2005, Bruneau et al., 2003), maintain a systems internal function (Walker et al., 2002), and thrive despite adverse circumstances (Magis, 2010)

Resilience theory is a conceptual framework for understanding how some individuals can recover from experiencing adverse conditions in a strength-focused approach (Masten et al., 2005). Understanding resilience is essential to help people to cope with inevitable events such as natural disasters, crime, war, accidents, and abuse. There has been a long fascination with resilience, due to the observation that some people are able to emerge from incredibly difficult situations relatively unscathed psychologically, while others are significantly harmed. Resilience is not understood to be a personality trait, but rather a dynamic process to successfully adapt to threats and adversities in life. Resilience as a complex process can be viewed with many factors, including biological, psychological, and social/cultural factors which interact in complex ways to result a given person's response to an adverse situation (Southwick et al., 2014).

Resilience should also be thought of as a continuum, rather than a binary concept, with individuals or groups being more or less resilient, rather than being viewed as not being resilient at all. Such a complex view of resilience, though more accurate, can make it difficult to clearly define the concept and study the factors that most strongly impact on people's ability to cope with life's stressors. It is it therefore essential to be clear when discussing and defining resilience, whether the terms are being used to describe a process, a trait, or an outcome, and whether this is viewed in the context of an individual, a group, a non-organism, or even an entire ecosystem. The factors that influence resilience will vary significantly depending on the specific scenario in which it is being defined and studied.

Climate Change, Adaptations and Mitigation Measures

Worldwide observed and anticipated climatic changes for the twenty-first century and global warming are significant global changes that have been encountered during the past 65 years. Climate change (CC) is an inter-governmental complex challenge globally with its influence over various components of the ecological, environmental, socio-political, and socio-economic disciplines (Adger et al. 2005; Leal Filho et

al. 2021; Feliciano et al. 2022). Climate change involves heightened temperatures across numerous worlds (Battisti and Naylor 2009; Schuurmans 2021; Weisheimer and Palmer 2005; Yadav et al. 2015).

With the onset of the industrial revolution, the problem of earth climate was amplified manifold (Leppänen et al. 2014). It is reported that the immediate attention and due steps might increase the probability of overcoming its devastating impacts. It is not plausible to interpret the exact consequences of climate change (CC) on a sectoral basis (Izaguirre et al. 2021; Jurgilevich et al. 2017), which is evident by the emerging level of recognition plus the inclusion of climatic uncertainties at both local and national level of policymaking (Ayers et al. 2014).

Climate change is characterized based on the comprehensive long-haul temperature and precipitation trends and other components such as pressure and humidity level in the surrounding environment. Besides, the irregular weather patterns, retreating of global ice sheets, and the corresponding elevated sea level rise are among the most renowned international and domestic effects of climate change (Lipczynska-Kochany 2018; Michel et al. 2021; Murshed and Dao 2020). Before the industrial revolution, natural sources, including volcanoes, forest fires, and seismic activities, were regarded as the distinct sources of greenhouse gases (GHGs) such as CO_2, CH_4, N_2O, and H_2O into the atmosphere (Murshed et al. 2020; Hussain et al. 2020; Sovacool et al. 2021; Usman and Balsalobre-Lorente 2022; Murshed 2022). United Nations Framework Convention on Climate Change (UNFCCC) struck a major agreement to tackle climate change and accelerate and intensify the actions and investments required for a sustainable low-carbon future at Conference of the Parties (COP-21) in Paris on December 12, 2015. The Paris Agreement expands on the Convention by bringing all nations together for the first time in a single cause to undertake ambitious measures to prevent climate change and adapt to its impacts, with increased funding to assist developing countries in doing so. As so, it marks a turning point in the global climate fight. The core goal of the Paris Agreement is to improve the global response to the threat of climate change by keeping the global temperature rise this century well below 2 °C over pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5° C (Sharma et al. 2020; Sharif et al. 2020; Chien et al. 2021.

Furthermore, the agreement aspires to strengthen nations' ability to deal with the effects of climate change and align financing flows with low GHG emissions and climate-resilient paths (Shahbaz et al. 2019; Anwar et al. 2021; Usman et al. 2022a). To achieve these lofty goals, adequate financial resources must be mobilized and provided, as well as a new technology framework and expanded capacity building, allowing developing countries and the most vulnerable countries to act under their respective national objectives. The agreement also establishes a more transparent action and support mechanism. All Parties are required by the Paris Agreement to do their best through "nationally determined contributions" (NDCs) and to strengthen these efforts in the coming years (Balsalobre-Lorente et al. 2020). It includes obligations that all Parties regularly report on their emissions and implementation activities.

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Nexus between Climate Change and Resilience Attitude of the People

Modern society faces the problem of alteration of the planetary climate which is almost certainly caused by human activity (The Intergovernmental Panel on Climate Change 2021). Climate change can trigger ecological, economic, and social processes capable of disrupting the forms of life on the planet (European Central Bank 2021). The models used by economists to predict the damage of global warming differ from those used by scientists, seriously underestimating the impact of this phenomenon on human habitability (Keen et al. 2022). The European Union has become the leader regarding policies to face this challenge. However, recent international conflicts such as Russia's invasion of Ukraine, may negatively affect the implementation of policies, strategies to reduce the use of polluting sources and diversification of raw materials to produce clean energy, and addressing the causes and mitigating of the damage at a global level.

The analysis of the annual reports of the International Monetary Fund (IMF) and the communications of its members, revealed a discrepancy between the support of these countries for the IMF initiatives to address the causes and solutions to climate change, versus their absence in the communiqués of the countries, revealing the lack of an agreement between these countries on how to address climate change (Dormido et al. 2022). According to Caballero et al. (2007), without a change in attitude, in developed countries, pro-environmental policies will not materialize; therefore, becoming aware of the seriousness of the problem is crucial to moving towards change.

Theoretical Review

Climate Change paradigm/Hypothesis

The analysis of Climate Change discourse shows that the issue from its initial perspective of 'an entirely scientific issue' moved to be the cause of 'Environmental Degradation' and finally in recent time has turned something much larger and going beyond environmental degradation. Vlassopoulos (2012) quotes a personal interview with one UNDP representative, 2010). The change or transformation of the underlying philosophy around the issue has been occurring due to confrontation with newly emerged perspectives among the concerned community. Every time a revolution in the existing philosophy is evident. Thus, based on the trend, it is anticipated that in the new millennium the shift in the concern from environmental degradation to human wellbeing in other words 'Eco-centric' to an 'Anthropocentric' paradigm is expected to be continuing with a number of correcting measures like inclusion of diversified actors, increased responsibility of pertinent developing nations in mitigation target instead of differentiated responsibility and equal emphasise on mitigation and adaption.

Global Climate Change Theoretical Framework

Global climate change can be directly and/or indirectly attributed to human activity, in addition to the natural variability of the climate observed during comparable periods of time (Framework Law on Climate

Change of Chile 2022). The scientific evidence has proven that since the beginning of the Industrial Revolution, the atmospheric concentration of carbon dioxide (CO2) and other greenhouse gases (GHG) such as methane (CH4) and nitrous oxide (N2O), have increased appreciably because of the burning of fossil fuels, although other causes are also pointed out, such as the expansion of certain agricultural and livestock activities (IPCC 2013). The data in this regard offer no doubt that this effect has taken place, since according to the Fourth IPCC Report (2007: 30) the average temperature of the Earth has increased by 0.74 ºC during the century from 1906 to 2005. Unlike other climatic changes, the current alterations are developing at a relatively fast pace.

2.4. Empirical Review

Although there are many studies evaluating the impacts of climate change in developing countries (e.g., on the agricultural sector and productivity), there is a dearth of studies on distributional impacts of climate change between men and women. Indeed, including gender in such literature has only significantly increased since 2000, with a trend of moving from qualitative general assessments focused on women's vulnerability to more regional and quantitative assessments, including adaptation and economic growth.

In the early 2000s, the first studies pointed to the need to assess climate change from a gender perspective. These studies were mainly descriptive and were focusing on the channels of vulnerability of women, and the need to include a gender lens in the climate impact studies. For example, Denton (2002) explained that rural women are the most vulnerable to climate change but are absent from decision-making processes. The author calls for an inclusion of women in the different international organizations to make sure climate change does not hamper gender equality. Then, IPCC (2007) started to report gender differences of climate change in terms of vulnerabilities and how climate change would affect the achievement of the Millennium Development Goal 5 (gender equality). The report identified rural women as the most affected because they rely on natural resources for their livelihoods and are responsible for domestic chores such as collecting clean water and wood. Neumayer and Plümper (2007) found that more women were dying during and right after climatic events mainly due to harsher impacts brought about by their lower socio-economic status. Following Denton, (2002), Terry (2009) and Alston (2014) there has been a call to shape adaptation and mitigation strategies with a gender lens. Since then, the number of articles, specifically empirical studies, including a gender lens has increased.

Some studies were trying to identify the drivers of this gender inequality in given climate change. For instance, Dillon and Gill (2014) found that the unequal access to irrigation equipment and other agricultural capital in Mali would worsen gender differences in crop production during a climate shock. Flatø et al., (2017) showed that, domestic burdens on women keep them from adjusting to climate shocks, especially in terms of mobility. Eastin (2018), published one of the few macro studies that analyses the links between gender equality and climate change. He finds that climate change reinforces pre-existing gender inequality in developing countries and calls for studies that can address the compatibility of the different micro-studies.

Previous literature reviews provide overviews on specific impacts of climate change: women's vulnerability (Pearse, 2017), and women and agriculture (Doss et al., 2018; SOFA Team and Doss, 2011).

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Since 2000, a large number of new literature reviews present the nexus of climate change and women, either with a focus on specific countries (e.g., Anugwa et al., 2022; Nakiyemba et al., 2022 for Nigeria and Uganda) or on specific aspects. Awiti (2022) presents different angles of women's vulnerability to agricultural production, food and nutrition security, health, water and energy, climate-related disaster, migration, and conflicts. Desai et al., (2021) and Pankhurst (2022) focus their review on the climate change-induced health impacts and on the education of girls and women. Jain et al. (2022) describes the climate change impacts on women on the agricultural labour market adaptation effects in rural areas. Gardezi et al., (2022) and Huyer and Partey (2020) review adaptation strategies differentiated by gender, especially initiatives on smart agriculture. Loarne-Lemaire et al., (2021) and Sprout (2022) review how technological progress, innovation and information can be used to adapt to climate change and to mitigate gendered impacts. Mohammed et al., (2022) review women's participation in climate change policies, while, Lau et al., (2021) call for reviewing and revising the assumptions underlying some gendered climate policies.

Gap Analysis

In the current unstable climate (both atmospheric and political, and of course the two are connected) it is becoming ever more important to engage directly with the politics of knowledge. The pursuit of knowledge is inevitably a political act, if only because the sorts of knowledge that one chooses to create and to endow with authority carry political ramifications.26 Such confrontations cannot escape dealing with normative issues where, I have suggested, knowledge thickening, rather than gap filling, is the most that can be achieved. Reasoning together in public to make actionable knowledge must allow for the expression of contrasting value commitments, however inconvenient this may be.

Research Methodology

Methodology Applied

Likewise, it is essential for researchers to select the appropriate research design to meet the objectives of the study. The quantitative descriptive approach was selected for this study it is as a result of the belief that attributes, phenomena, or variables in human behavior can be studied empirically. Thus, a survey research design—specifically a cross-sectional survey research design was used in this study (Fowler, 2014). Additionally, this study employed purposeful sampling (Creswell, 2009) to identify participants. The reliability measure of the scale‘s internal consistency for the variables index study (without the demographic information) is reflected in the Cronbach‘s alpha of .84 (Asempapa, 2016, 2018, 2020).

An Online self-administered survey was chosen because it is believed the participants in the study have the skills and access to use the internet (Dillman et al., 2009). Moreover, with self-administered surveys, participants do not have to share answers with an interviewer, which makes collection of sensitive data likely valid (Fowler, 2014). Because of the nature of the data collection non-responses were unexamined and incomplete surveys were discarded. Because Likert scales were used in the data collection process, it gave the researcher the ability to combine the scale items into a single composite score during the data analyses (Boone & Boone, 2012; Joshi et al., 2015; Subedi, 2016), which helped provide quantitative

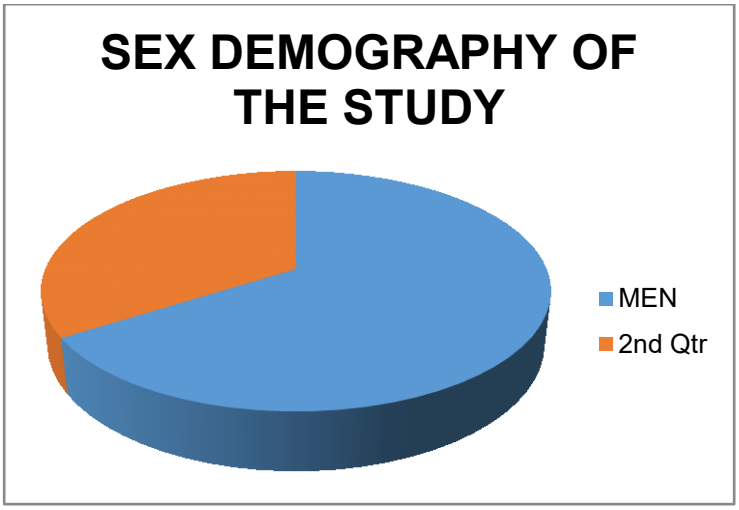
measures of the relationship between climate change synthesis vis-a- vis resilience against climate change in Gombe state Nigeria, Pearson moment correlation were used to explore the relationship between among the variables selected and the three proxies under study were positive attitude, food security management, regulations of negative energy etc,. All data were analysed using SPSS version 25. In all statistical analyses, a $p < .05$ was considered to be statistically significant.

Demographic Characteristics of the Study Area

Table 1 showing the Sex Demographic Characteristics of the Study Area

MEN	**186**	**66%**
FEMALE	**100**	**34%**

Source: Fieldwork 2024 : Authors Calculations of Sampled Opinions from respondents



Source: *Fieldwork 2024 : Authors Calculations of Sampled Opinions from respondents via pie chart*

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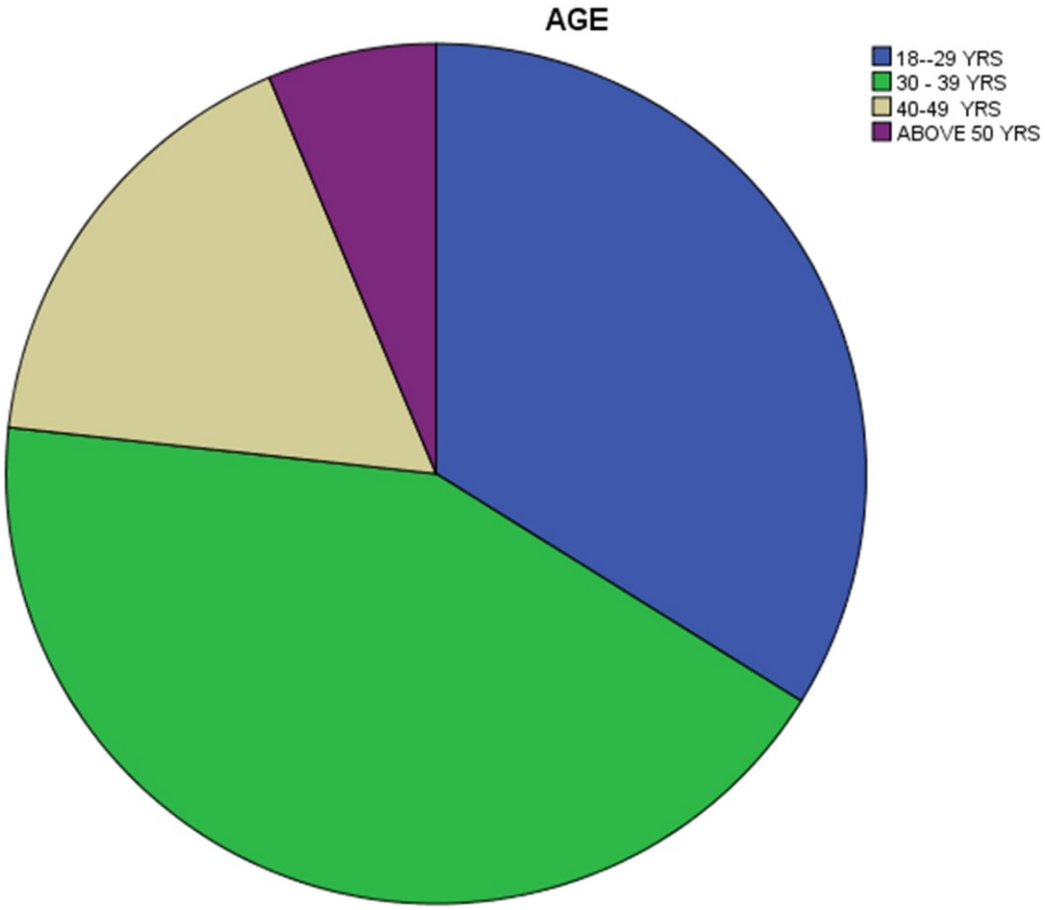

Figure 4.1: Age of Respondents
Source: SPSS 23 (Fieldwork, 2024)

33.9% of the respondents are between the ages 18-29, 42.9% are between the ages 30-39, 16.9% are between the ages 40-49, while the remaining 6.3% are above 50 years.

Level of Experience of Respondents about Climate Change

This section was undertaken to avail if the issues surrounding the paricipation vis-a- vis their experience to prior climate change in the Environment

Table: Showing Level of Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid entry level	122	32.3	32.3	32.3
intermediate level	220	58.2	58.2	90.5
supervisory level	36	9.5	9.5	100.0
Total	378	100.0	100.0	

Source: SPSS 23 (Fieldwork, 2024)

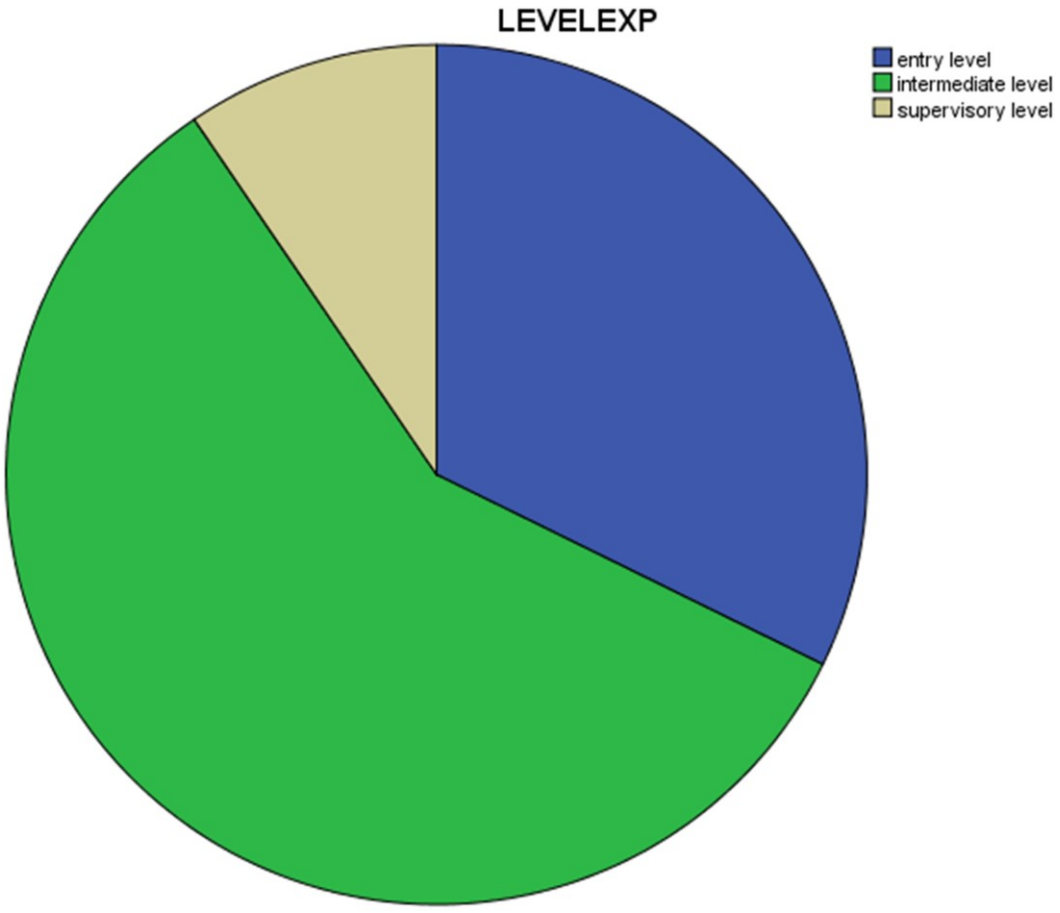

Figure 4.4: pie chart showing Level of Experience of respondents that enhance the decisions of the investigator

Source: SPSS 23 (Fieldwork, 2024)

From tables above a significant portion of 58.2% of the respondents have intermmdiate level of

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experience about climate change, 32.3% have primary entry level experience, while the remaining 9.5% of the respondents have supervisory level experiences. The result indicates that the respondents have a moderate level of experience to enhance decisions making by the researcher

Data Presentations

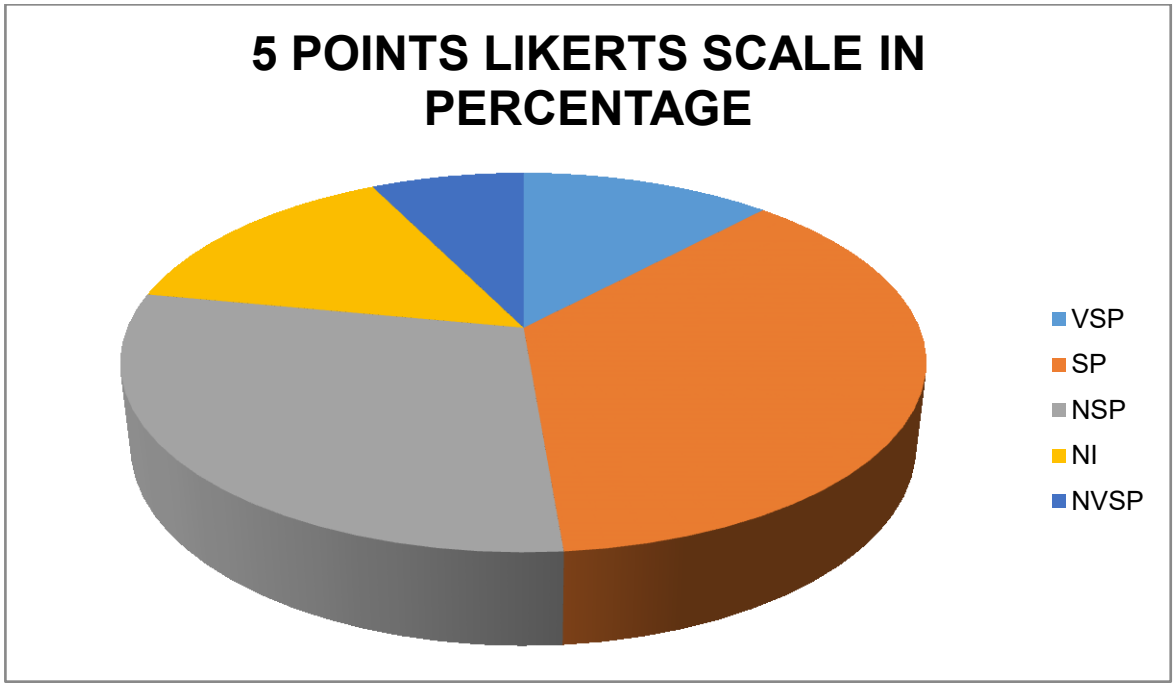
Table 1: .People in Gombe state Nigeria exerts healthy resilience attitude towards climate change effects. Do you agree?

STRONG POINT	NOT STRONG POINT	VERY STRONG POINT	NO IDEA	NOT VERY STRONG POINT
25%	**20%**	**35%**	**10%**	**5%**
1	**2**	**3**	**4**	**5**

Source: - Field survey, 2024

60% of the respondents said the point is a very strong point, that, the People in Gombe state Nigeria exerts healthy resilience attitude towards climate change effects, while, negligible number of the respondents opted out saying , they are not very satisfied with the point, but because the number of respondents that disagreed is negligible compared to the numbers that accepted, the researcher, based on the sampled opinions of the respondents concluded that, People in Gombe state Nigeria exerts healthy resilience attitude towards climate change effects.

Pie chart showing the 5 point Likert scale SPSS Scale: that the People in Gombe state Nigeria exerts healthy resilience attitude towards climate change effects.



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Source: - Field survey, 2024

Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	*.710[a]*	*.672*	*.661*	*1.10818*	*2.242*

a. Predictors: (Constant), CC

b. Dependent Variable: HRA

Source: SPSS 23 (Fieldwork, 2024)

The model summary measures the relationship between the dependent and independent variables as captured by Pearson's Coefficient (R). The R-value of .710 (71.0%) showed a significant relationship between the observed (HRA) ie, healthy resilience attitude towards climate change (CC) ie, climate change or constant variables. The adjusted R-square value of .661 (66.1%) shows that 66.1% of variations in the HRA on the subject under questionnares, CC vis-a-vis HRA. The result from the CC effects on HRA in Gombe State Nigeria. adopted by the pearson corelated moment was negatively related. In addition, the adjusted R-square shows that 66.1% figure in the computation could cause a huge damage to the economic growth and development in the place under study and could even lead to the reccesion of the economy thereby leading to low standard of living in the place under study. The remaining 33.9% variations in the study are accounted for by other variables not captured by the error term. The result of the Durbin-Watson test shows no autocorrelation in the model. .The result therefore did not corroborate with respondents views that, climate change exerts positive influence on healthy resilience attitude in Gombe State Nigeria.

Discussions of Results

The research clearly identifies resilience as a key concept in both preparing for, and mitigating the consequences of climate change and climate change disasters. Through understanding resilience in its various contexts, including physical, environmental, and psychological resilience, better systems can be developed to both prevent climate change disasters, and to cope with them when they occur. Future research should focus on the identification of core features of climate resilience specifically. The current focus on psychological resilience is useful for understanding how individuals may act post disaster, however through better understanding physical and environmental resilience to climate change, it may be possible to identify vulnerable populations and implement resilience bolstering policies in advance of any climate impact.

With a projected increase of 2.4 billion people by 2050, it is vital that current food production systems should adopt an environmentally friendly system so that Malthus' prophesy of geometric growth of population and arithmetic growth of food production leading to inevitable food insecurity does not come true. The wider adoption of environmentally friendly food production systems would allow for sustainable development and progress for current and future generations to come and a higher chance of achieving both

food security and better management of climate change. This is because with more environmentally friendly food production systems and the introduction of environmental certification regimes, the current levels of GHG emissions can be reduced or maintained at levels where we are still able to seek solutions to mitigate and adapt to this phenomenon and address the problems in the other systems. The reduction of climate change effects will help to improve the food security problem as it reduces the likelihood of crop failure or the deaths of livestock due to natural disasters and climate change. It is also important to note that the factors identified for causing climate change and the lack of food security in this report are limited and there remains a huge range of other factors that can or are contributing to climate change and threatening food security such as political instability and economic interests.

Conclusions and Recommendations

Climate Change Synthesis can promote adaptations to food security in place under study. The relationship between climate change synthesis and the adaptations to food security in the study areas is a strong positive relationship

Guided by inquiry Climate Change Synthesis and the regulations of negative energy among the people of Gmbei state Nigeria.

The study concluded that healthy attitude to climate change in Gombe state Nigeria exerted positive influence on climate change synthesis and thus, policymakers should pay more attention to improving mitigation measures in order to reduce the enormous doom accruing to climate change The study suggested that future studies should classify countries according to their climate change adaptations.

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