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Research on Climate and Environment**

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Research Topic:

Climate Change Adaptation Strategies: Perception of Nigerian Youths

Author:

Taiwo Quadri Olatunbosun

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ABSTRACT

Background: As the global climate crisis continues to heighten, adaptation and mitigation efforts must be doubled in response to the wrath of climate extremes. Nigeria is currently facing adversities of climate change; excessive heat, coastal erosion and severe flooding are ravaging its cities with little or no adaptive measures. However, young people have active roles to play in proffering workable solutions to the identified environmental problems. Youth are seen as one of the best and the most promising resources any nation can have (National Youth Policy report 2019). Their numerical strength serves as a major yardstick to determine a country's prospects for sustainable development, i.e. without them, tomorrow is not assured. This research work investigates the perception of Nigerian youth on climate change adaptation strategies.

Methodology: Using the convenience sampling technique, an online survey was conducted among Nigerian Youth distributed in the six (6) geopolitical zones. A pre-designed google form containing specific questions concerning the discourse was used to register the responses of 253 respondents. Individual data were collected and documented in real-time with the aid of a google sheet. The data were afterward processed and analyzed using IBM SPSS data analysis software (version 20.0) before they are being presented in frequency tables and Chi-square tests.

Results and Conclusion: The research findings showed that the vast majority of the respondents were learned young men and women participants that are between the ages of 15 – 35 years. Furthermore, 88.9% of the respondents showed a great understanding of climate science while most of the respondents strongly believed that climate-related hazards are due to harmful anthropogenic activities. However, the chi-square hypothesis test result revealed and concluded that green fixes/infrastructures, as well as the global call for climate action (UN SDG 13), are the ideal measures and smart practices for climate change mitigation and adaptation strategies. As equally perceived by the respondents, climate change needs to be addressed with a framework of sustainable development.

Recommendations: The study therefore strongly recommends that young people should embrace solid involvement in sustainable efforts/initiatives required for climate adaptation. Private sectors, NGOs, and government at all levels should cooperate with the youths by providing enabling environments necessary for teaching, innovative research, and development. More so, international communities and donors should equally assist third-world countries as the case of Nigeria, with adequate funding to build adaptive capacities for climate change.

Keywords: *climate change adaptation, global warming, green fixes/infrastructures, intuitive recognition, Nigerian youths.*

INTRODUCTION

Climate change is the foremost environmental challenge facing humans at the moment, even though its severity varies from place to place around the world (Obot, Chendo, Udo, & Ewona, 2010). Increasing heat waves, coastal erosion, high magnitude flooding, and increased frequency of natural disasters impact people's lives, therefore, there is an urgent need for adaptation measures to enhance resilience to cope with the adverse impacts of the changing climate. IPCC's fourth assessment report described climate change as any sort of change in the climatic condition over time that may be induced by natural variation or anthropogenic activities (IPCC 2007a, p. 6). Climate change is a global occurrence that emanates from the emission of greenhouse gases (Mohammad, 2020, p. 1). As consequence, "Global warming" occurs, most times people take Climate change to be the same as the former. Global warming is an aspect of climate change (Joe-Ikechebelu, Azuike, & Nwankwo, 2019). Many believed that IPCC's fourth assessment report concluded that the third world countries are the most vulnerable to the risks of climate change as they have the least adaptation capacity (IPCC 2007b, p. 12). For example, in West Africa, forty percent of her population resides in coastal cities, and it is expected that the 500 km of coastline between Accra and the Niger delta will become a continuous urban megalopolis of about 70 million inhabitants by 2030 (Hewawasam, 2002). There is a high propensity that there could be an increase in coastal flooding due to sea-level rise in the aforementioned delimited territories (Nicholls, 2004). Consequently, Nigeria is considered one of the countries whose coastal population is most vulnerable to the environmental and social impacts of climate change (Boko, Niang, Nyong, Vogel, Githeko, Medany, Osman-Elasha, Tabo, Yanda, 2007 & Piguët, 2010).

Although, international communities, world leaders, pressure groups, and individuals have shown concern in finding long-lasting solutions to this challenge. Efforts have been initiated (knowingly or unknowingly) either to mitigate the occurrence of climate change or reduce it to the barest minimum and then adapt to the devastating effects of the changing climate. According to the United Nations Environment Program (UN Environment, 2019; Olaleru, Kirui, Elegbeleye,

& Aniyikaiye, 2021), climate change mitigation refers to efforts to curtail greenhouse gas emissions (GHGs) such as CO₂, N₂O, and O₃ from the upper atmosphere. Mitigation measures include massive investments in green infrastructures/fixes- green nanotechnology, green architecture, and zero-carbon resilient building developments; encouraging the use of clean/renewable energies- solar technologies, hydropower, and geothermal energy; changing consumer buying patterns and household practices; advocacy on climate action, climate literacy as well as Environmental Sustainability Education (ESE), all in the bid to minimize the release of greenhouse gases (GHGs) into the atmosphere. After climate change awareness was widely created by front-liner organizations, mitigation was initially the main objective. Over time, it became evident that mitigation was inadequate to abate the consequences of climate change. Instead, scientists came to realize that there is an urgent need to adapt to the increasing climatic changes. This brought about the concept of climate change adaptation (Joe-Ikechebel, et al., 2019) or in other words, climate change resilience. In essence, climate change adaptation measures would assist affected individuals, families, communities, and governments to adjust and cope with the adverse impacts of the climatic changes. Interestingly, global youths whom I believe are present-day game-changers are taking rigorous steps to proffer adaptive approaches to climate change through sustainable initiatives (technological inventions) and advocacy strategies (environmental justice). Nigeria National Youth Policy (2019), considers persons between the ages of 15 and 35 as a youth. This exploratory research is one of the first to touch light on how young people perceive climate adaptation approaches, especially in the context of Low-middle income countries (LMICs) as previous studies have shown that they are the most vulnerable to the wrath of climate extremes. Empirical facts on the perception of youths on climate change adaptation strategies are still very much lacking. The study utilizes “mental models” to explore the assumptions and thought processes that people use to decide on a particular matter (Samuel, George, & Virginia, 2013). Morgan, Fischhoff, Bostrom, & Atman (2002) reported that mental models are often used in the field of risk assessment, analysis and communication.

In a precise manner, this paper attempts to investigate the intuitive recognition of climate change adaptation strategies among Nigerian youths. To achieve this, the study was designed to address the following research questions and as well test the hypotheses below:

Research Questions

- RQ1 Do Nigerian youths understand the essential principles of Earth's climate system i.e., the science behind climatic changes?*
- RQ2 To What extent do anthropogenic activities induce climate-related hazards?*
- RQ3 To what extent can green fixes/infrastructures help to achieve climate change resilience?*

RQ4 What is the effect of the global call for climate action on climate change/global warming before the year 2050?

Hypotheses

1. H₀: There is no relationship between the understanding of climate science and Nigerian youths' level of education.
2. H₀: There is no relationship between anthropogenic activities and climate-related hazards.
3. H₀: There is no relationship between the reliance on green fixes/infrastructure and the global call for climate action (UN SDG 13) as effective strategies to achieve climate change adaptation.

METHODOLOGY

Study area: This study was conducted in Nigeria. Nigeria is geographically located on Latitude 4⁰ and 14⁰N, and longitudes 2⁰ and 15⁰E, in western Africa on the Gulf of Guinea with a total area of 923,768km², it is the 32nd-largest country in the world and the most populous African country. It shares a border with Niger, Chad, Cameroun, and Benin. Nigeria has thirty-six (36) States and a Federal Capital Territory (FCT), which can be divisible into six (6) geopolitical zones, North-East, North-West, North-Central, South-East, South-South, and South-West. In these states, there are 774 Local Government Areas (LGAs) in total.

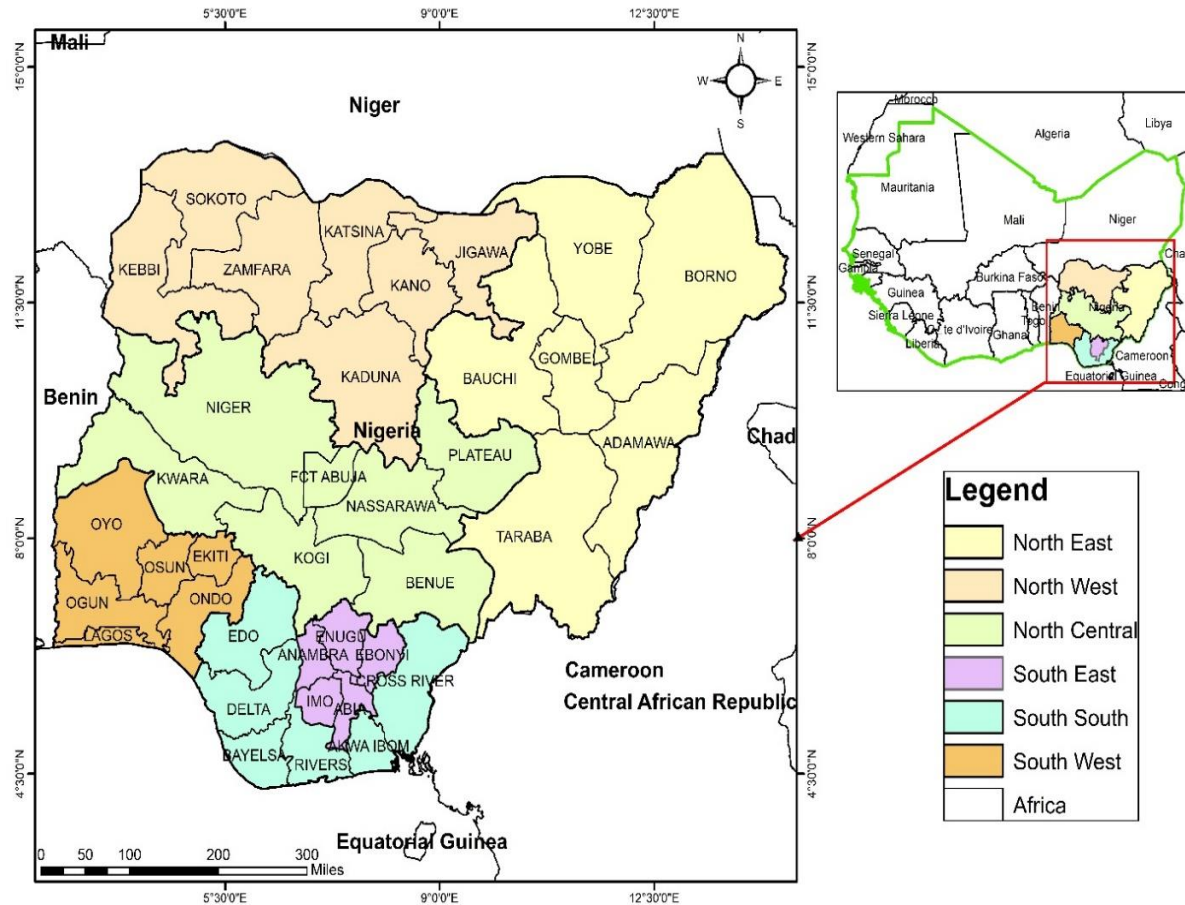


Figure 1: A cross-section showing Map of West Africa and a Map of Nigeria.
 Source: Map drawn using ArcGIS

Study design, Sampling technique, Sample size, and Data collection: The study population included male and female youth participants who are between the ages of 15 and 35 years. Since time immemorial, Nigeria’s youth has played significant roles in the overall National development. Hence, the study population was divided into six (6) geographical locations which comprise specific states as aforementioned, viz. South-East, South-South, South-West, North-East, North-West, and North-Central. Figure 1 illustrated member states of the geographical locations. More so, this study employed a primary source of data in which an online survey was conducted using Google forms to register responses of 253 individuals who were drawn out of the six (6) geopolitical zones via a convenience sample technique. This sampling technique was adopted for in-depth study, but budgetary and time still remains a constraint.

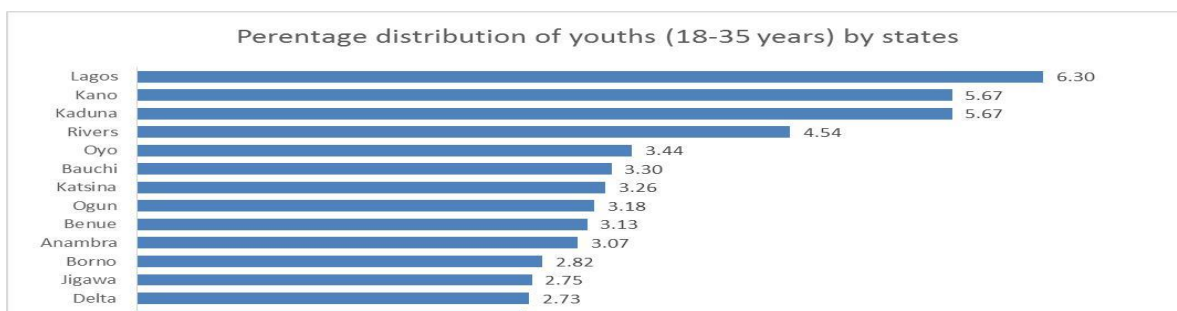


Figure 2: (%) Distribution of Youth (18 – 35) across the Nigerian States
 Source: National Bureau of Statistics (NBS) Database

Data analysis: The elicited data were cleaned, organized, and compared before they are being analyzed using IBM Statistical Package for the Social Sciences (SPSS, version 20.0). The findings were presented using descriptive and inferential statistics; frequency tables and Chi-square tests respectively.

RESULTS AND DISCUSSION OF FINDINGS

Descriptive Statistics

Table 1: Age distribution of the respondents

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid 15 - 29	166	65.6	65.6	65.6
30 - 39	73	28.9	28.9	94.5
40 - 49	10	4.0	4.0	98.4
50 and Above	4	1.6	1.6	100.0

Total	253	100.0	100.0
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Source: Online Survey, 2022

Table 1 shows the age distribution of the respondents. Out of the 253 respondents that participated in the online survey 65.6% of them were between the ages of 20 and 29 years, 28.9% of the respondents were between the ages of 30 and 39 years, 4.0% of the survey participants fall within the age range 40 – 49 while 1.6% of them were between the ages of 50 and above. Hence, the majority of the respondent are between the ages of 15 and 29. i.e. this is a clear indicator that the vast majority of the respondents that participated in this survey were youths.

Table 2: Gender of the respondents

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Female	115	45.5	45.5	45.5
Valid Male	138	54.5	54.5	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 2 shows the distribution of respondents by gender. The table indicates that 115 respondents were female while 138 of them were male. Hence, the survey was all-gender inclusive as the theme of the study is vital to all, irrespective of the gender.

Table 3: Highest Level of Education

	Frequency	Percent	Valid Percent	Cumulative Percent
HND/BSC	177	70.0	70.0	70.0
MSC	23	9.1	9.1	79.1
Valid NCE/OND	16	6.3	6.3	85.4
OTHERS	11	4.3	4.3	89.7
WAEC	26	10.3	10.3	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 3 shows the distribution of respondents by highest educational attainment. Among the survey participants, 70% of them possessed HND/BSC, 9.1% of the respondents were MSC holders, 6.3% of the respondents held NCE/OND certificates, and 4.3% of the survey participants held Ph.D. degrees while 10.3% of them were high school leavers. Thus, the majority of the respondents have the basic education needed to understand the theme, climate change adaptation strategies.

Table 4: State of Origin by Geographical Location

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
North central	38	15.0	15.0	15.0
North east	3	1.2	1.2	16.2
North west	11	4.3	4.3	20.6
Valid South east	25	9.9	9.9	30.4
South south	20	7.9	7.9	38.3
South west	156	61.7	61.7	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 4 shows the distribution of the respondents' state of origin by geopolitical zones. 15% of the respondents were from North-Central, 1.2% of the survey participants were indigents of North East, 4.3% of the respondents were settlers of Northwest, the survey revealed that 9.9% of the respondent were from Southeast, 7.9% of the respondents originated from South-south while 61.7% of the survey participants were indigents of Southwest. The table depicts that the vast majority of the respondents were from the following states Osun, Ekiti, Ondo, Lagos, Ogun, and Oyo.

Table 5: Do you understand the essential principles of Earth's climate system i.e., The science behind climatic changes?

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
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	No	28	11.1	11.1	11.1
Valid	Yes	225	88.9	88.9	100.0
	Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 5 features the understanding of Nigerian youths on the essential principles of the earth's climate system. Out of the 253 respondents, 28 (11.1%) participants do not understand the science behind climatic changes while 225 (88.9%) respondents clearly understand the earth's climate system. A study done in Southern town in Nigeria on perception of climate change among youth reported that 96.1% of the youth understands the science behind climate change (Joe-Ikechebelu et al., 2019).

Table 6: Are climate-related hazards (coastal erosion, flooding, heat waves) human-induced i.e., due to anthropogenic activities such as; burning of fossil fuels, deforestation, dangerous agricultural practices, over-exploitation and so on?

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Agree	114	45.1	45.1	45.1
Disagree	2	.8	.8	45.8
Indifferent	6	2.4	2.4	48.2
Strongly agree	127	50.2	50.2	98.4
Strongly disagree	4	1.6	1.6	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 6 shows responses on whether climate-related hazards are human-induced. 45.1% agreed with the research question, 0.8% disagreed, 2.4% felt indifferent about the assertion, 50.2% of the respondents chose the strongly agreed option, 1.6% strongly disagreed with the statement while 1.6% of respondents strongly disagreed that climate stressors (flooding, coastal erosion, prolonged droughts, desertification, etc.) are induced by man's actions. Therefore, from the above table, the vast majority strongly believed that climate-related hazards are consequences of anthropogenic activities. Such as carbon emissions, dangerous agricultural practices, deforestation, over-exploitation, and so on.

Table 7: Can climate change adaptation be attained through reliance on green fixes/infrastructures i.e., adoption of sustainable initiative such as; renewable/green energy, zero-carbon resilient buildings, green transport system, waste recycling systems, afforestation and reforestation, land conservation and so on?

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Agree	127	50.2	50.2	50.2
Disagree	3	1.2	1.2	51.4
Indifferent	10	4.0	4.0	55.3
Strongly agree	111	43.9	43.9	99.2
Strongly disagree	2	.8	.8	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

From the table above, out of the 253 online survey participants, 50.2% of the respondents agreed that climate change adaptation could be achieved through reliance on green fixes, infrastructures, and technologies, 1.2% slightly disagreed with the statement, 4.0% of the respondents neither agree nor disagree to the assertion, 43.9% of the respondents fully agreed while 0.8% of the survey participants firmly disagreed that green fixes/infrastructures are of no relevance to climate change adaptation strategies. Hence, the vast majority of the respondents were of the strong opinion that massive investments in green fixes are very much required to adapt to climate stressors.

Table 8: Is the global call for “Climate Action” (UN SDG 13) an effective strategy to curb climate change/global warming before the year 2050?

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Agree	131	51.8	51.8	51.8
Disagree	9	3.6	3.6	55.3

Indifferent	38	15.0	15.0	70.4
Strongly agree	73	28.9	28.9	99.2
Strongly disagree	2	.8	.8	100.0
Total	253	100.0	100.0	

Source: Online Survey, 2022

Table 8 indicates the Nigerian perception of the global call for Climate Action as an effective strategy to curb climate change/global warming before the year 2050. From the overhead data, it was apparent that 51.8% of the respondents slightly agreed that SDG 13 is the right call to adapt and at the same time mitigate climate change/global warming before the prescribed year. Furthermore, 3.6% disagreed with this assertion, 15.0% of the online survey participants were indifferent, probably knew little or nothing about the resilience call, and 0.8% of the respondents disagreed with the assertion. However, 28.9% of the respondents firmly believed that collective efforts on the call for climate action (UN-SDG 13) could curb climate change/global warming before the year 2050.

Inferential Statistics

H_0 : There is no relationship between the understanding of climate science and Nigerian youths' level of education.

Table 9: Relationship between the understanding of climate science and Nigerian youths' educational attainment.

	Highest Level of Education				
	HND/BSC	MSC	NCE/OND	OTHERS	WAEC
No	13	1	4	2	8

Do you understand the essential principles of Earth's climate system i.e., The science behind climatic changes?	Yes	164	22	12	9	18
Total		177	23	16	11	26

Source: Online Survey, 2022

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.523 ^a	4	.002
Likelihood Ratio	14.385	4	.006
N of Valid Cases	253		

Source: Online Survey, 2022

Table 9 shows the analysis of the chi-square test of independence (goodness of fit) which stated that there is no relationship between the understanding of climate science and Nigerian youths' level of education. It was observed from the table that the Pearson chi-square coefficient value of 17.523 exceeded the tabulated coefficient value of 9.49 at a 5% level of significance. Furthermore, the asymptotic significant value (P-value) of 0.002 is less than the 0.05 level of significance. This implies that the null hypothesis is rejected with the conclusion that there is a statistically significant relationship between the understanding of climate science and Nigerian youths' educational attainment.

H₀: There is no relationship between anthropogenic activities and climate-related hazards.

Table 10: Relationship between anthropogenic activities and climate-related hazards.

	Do you understand the essential principles of Earth's climate system i.e., The science behind climatic changes?		Total
	No	Yes	

	Agree	19	95	114
	Disagree	1	1	2
	Indifferent	4	2	6
	Strongly agree	4	123	127
	Strongly disagree	0	4	4
Total		28	225	253

Source: Online Survey, 2022

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.143 ^a	4	.000
Likelihood Ratio	27.372	4	.000
N of Valid Cases	253		

Source: Online Survey, 2022

Table 10 shows the analysis of the chi-square test of independence (goodness of fit) which stated that there is no relationship between anthropogenic activities and climate-related hazards. It is observed from the table that the Pearson chi-square coefficient value of 34.143 exceeded the tabulated coefficient value of 9.49 at a 5% level of significance. Furthermore, the asymptotic significant value (P-value) of 0.000 is less than the 0.05 level of significance. This implies that the null hypothesis is rejected with the conclusion that there is a statistically significant relationship between anthropogenic activities and climate-related hazards.

H₀: There is no relationship between the reliance on green fixes/infrastructure and global call for climate action (UN SDG 13) as effective strategies to achieve climate change adaptation.

Table 11: Relationship between the reliance on green fixes/infrastructure and the global call for climate action.

		Is the global call for “Climate Action” (UN SDG 13) an effective strategy to curb climate change/global warming before the year 2050?		
		Agree	Disagree	Indifferent
Can climate change adaptation be attained through reliance on green fixes/infrastructures?	Agree	73	7	27
	Disagree	3	0	0
	Indifferent	6	2	2
	Strongly agree	49	0	9
	Strongly disagree	0	0	0
Total		131	9	38

Source: Online Survey, 2022

		Is the global call for “Climate Action” (UN SDG 13) an effective strategy to curb climate change/global warming before the year 2050?		Total
		Strongly agree	Strongly disagree	
Can climate change adaptation be attained through reliance on green fixes/infrastructures?	Agree	19	1	127
	Disagree	0	0	3
	Indifferent	0	0	10
	Strongly agree	53	0	111

	Strongly disagree	1	1	2
Total		73	2	253

Source: Online Survey, 2022

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	113.926 ^a	16	.000
Likelihood Ratio	65.003	16	.000
N of Valid Cases	253		

Source: Online Survey, 2022

Table 11 shows the analysis of the chi-square test of independence (goodness of fit) which stated that there is no relationship between the reliance on green fixes/infrastructures and the global call for climate action (UN SDG 13) as effective strategies to achieve climate change adaptation. It is observed from the table that the Pearson chi-square coefficient value of 113.926 exceeded the tabulated coefficient value of 26.30 at a 5% level of significance. Furthermore, the asymptotic significant value (P-value) of 0.000 is less than the 0.05 level of significance. This implies that the null hypothesis is rejected with the conclusion that there is a significant relationship between the reliance on green fixes/infrastructure and the global call for climate action (UN SDG 13) as effective strategies to achieve climate change adaptation. (Sussams, Sheate, & Eales, 2015) reported in their work that as the climate crisis continues to amplify, policy-makers suggested that the world will need to cope with this threat as well as mitigate against it. Green fixes/infrastructure(s) is therefore an essential climate change adaptation policy response.

CONCLUSION AND RECOMMENDATIONS

It was concluded that Nigerian youths have a good perception of climate change adaptation strategies, but they still need to play a proactive role in abating the consequences of climatic stressors in Nigeria and beyond. Their relentless and solid involvement in efforts that propagates sustainable initiatives, inventions, discoveries, and practices would continue to offer blueprints for climate change adaptation. Hence, responsibilities must be taken. Consequently, the citizenry especially young people, the government, private sector, non-governmental agencies (NGOs), and international communities have crucial roles to play concerning approaches to adapt to the adverse impacts of climate change. This study, therefore, recommends the following below:

1. Nigerian youths should indulge more in environmental activism, campaigns, and movements against environmental nuisance. That is, awareness and advocacy against anthropogenic practices that are harmful to the climate and environment. Early warning for disaster preparedness is equally achieved.
2. Government at all levels, private sectors, and NGOs should establish environmental research institutes to better equip the public with knowledge and information about environmental changes- climate stressors, vulnerability, resources management, mitigation, resilience, and adaptation strategies.
3. The government should encourage massive investments in green fixes, infrastructures, and technologies - such as solar panels, hydropower, geothermal energy, windmills, green transport, waste recycling systems, zero-carbon resilient buildings, and so on. For example, substituting low-emission liquefied propane gas for kerosene and fuel wood Nigerian households cook with (Aaron, 2011); introducing eco-friendly transportation systems as well as mass transit scheme popularization; harnessing alternative sources of energy. This would help to reduce carbon emissions drastically which would equally enhance better health.
4. Education could help to accelerate climate change adaptation processes. The inclusion of environmental sustainability education (ESE) in the curriculum of schools from elementary to tertiary level would improve human-environment interactions.
5. Nigerian youths and other members of the public should collaborate with the government on Tree planting activities. The planting of new trees could stabilize wetlands and coastlines vulnerable to coastal erosion and high-magnitude flooding. Afforestation and reforestation should be amplified while deforestation should highly be discouraged.
6. Adaptation is financially driven. Nigeria needs and deserves the assistance of developed countries on climate change. For instance, the construction of dykes, embankments, and all other sustainable infrastructures as flood defenses. More so, provision of recovery aids needed by affected communities concerning evacuation of victims for relocation requires adequate funding. In a nutshell, philanthropic donations from advanced climes would speed up processes involved in adaptation strategies as required in Nigeria.
7. Multinational organizations should continue to canvass global youths' involvement in environmental sustainability exercises.

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REFERENCES

- Aaron S., (2011). Climate Change Adaptation and Conflict in Nigeria. The U.S. Institute of Peace; *Special Report 274*: Washington, DC 20037.
- Boko, M., Niang, I., Nyong, A., Vogel, C., Githeko, A., Medany, M., Osman-Elasha, B., Tabo, R., and Yanda, P., (2007). Impacts, adaptation and vulnerability; Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change; Parry, M.L., Canziani, O.F., Palutikof, J.P., Van der Linden, P.J., Hanson, C.E., Eds.; *Cambridge University Press: Cambridge, UK*, 2007; pp. 433–467.
- Hewawasam, I. (2002). Managing the Marine and Coastal Environment of Sub-Saharan Africa: Strategic Directions for Sustainable Development; *World Bank*: Washington, DC, USA, 2002; p. 57.
- IPCC (2007a): Climate change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working group II contribution to the fourth assessment report of the Intergovernmental Panel on Climate Change. *UK: Cambridge University Press*.
- IPCC (2007b): Summary for Policymakers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. *Cambridge, UK: Cambridge University Press*, pp. 7–22.
- Joe-Ikechebelu N.N., Azuike E.C., and Nwankwo B.E. (2019). Perception of Climate Change among Youths in a FBO in a South-Eastern Town in Nigeria: A Pilot Study. *Journal Community Med Public Health Care* 6: 050.
- Mohammad A., (2020). Climate Change Vulnerability of the Urban Poor in Dhaka City: A Case Study of the Korail Slum: *Technische Universität Berlin.*, p. 1.
- Morgan G., Fischhoff B., Bostrom A., and Atman C., (2002). Risk communication: a mental models approach. *Cambridge University Press*: Cambridge.
- Nicholls, R.J. (2004). Coastal flooding and wetland loss in the 21st century: Changes under the SRES climate and socio-economic scenarios. *Glob. Environ. Chang.*, 14, 69–86.
- Nigeria National Youth Policy (2019), https://en.m.wikipedia.org/wiki/Youth_in_Nigeria
- Obot, N. I., Chendo, M. A., Udo S. O. and Ewona, I. O., (2010). Evaluation of rainfall trends in Nigeria for 30 years (1978-2007). *International Journal of the Physical Sciences Vol. 5(14)*, pp. 2217-2222.
- Olaleru S.A., Kirui, J.K, Elegbeleye F.I., and TE Aniyikaiye., (2021). Green Technology Solution to Global Climate Change Mitigation. *Energy Environment and Storage (2021) 01-01-26-41*.

Piguat, E. (2010). Linking climate change, environmental degradation and migration: A methodological overview. *Wiley Interdiscip. Rev. Clim. Chang.* 2010, 1, 517–524.

Samuel, A. C., George O., and Virginia B. (2013). Perception, experience, and indigenous knowledge of climate change and variability: the case of Accra, a Sub-Saharan African city. *Regional Environmental Change* Vol. 13 (3). ISSN 1436-3798. DOI 10.1007/s10113-013-0500-0.

Sussams, L.W., Sheate, W.R., and Eales, R.P. (2015). Green infrastructure as a climate change adaptation policy intervention: Muddying the waters or clearing a path to a more secure future?, *Journal of environmental management*, Vol: 147, Pages: 184193.

United Nations Environment Program (2019). Mitigation: *UNEP*, Nairobi, Kenya.

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