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Comparative Analysis of Lifestyle Responses to Climate Change Between Civil Servants and Traders in Uyo Metropolis of Akwa Ibom State, Nigeria

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Abstract

The aim of the study was to determine lifestyle responses to climate change between Civil servants and Traders in Uyo Metropolis of Akwa Ibom State, Nigeria. Three specific objectives encompassing two research questions and one hypothesis were raised to guide the study. A survey research design was adopted for the study. The population of the study comprised of 2000 respondents (1,118 civil servants and 982 traders). A sample size of 333 respondents was selected using purposive and stratified random sampling techniques. The instrument used for data collection was a questionnaire titled: Lifestyle Responses to Climate Change Questionnaire (LRCCQ). The instrument was validated by three experts all from University of Uyo, Uyo. The reliability of the instrument was ascertained using Cronbach alpha statistical tool which yielded a reliability coefficient of 0.81. The research questions were analysed using mean while the hypothesis was tested using independent t- test at 0.05 level of significance. Findings revealed that a mean value of 3.40 Civil servants respond to heat induced by climate change by staying under the air conditioner while 2.22 of the respondents indicated that they use white chalk on their bodies to stem the effect of heat occasioned by climate change. However, traders in the study area indicated that they respond to climate change by drinking water to ameliorate dehydration caused by the condition (3.15). The result of the hypothesis however revealed that, there was no significant difference in the mean responses to climate change between civil servants and traders in the study area. Based on the findings, the researchers conclude that civil servants and traders alike all experience the unusual rise in temperature causing excessive heat radiation as a consequence of climate change but they vary in their lifestyle responses to the situation although the level of variance is not significant. The researchers therefore, recommend among others that civil servants and traders should adopt and maintain natural ways of coping with climate change to forestall health challenges in the near future occasioned by either excessive exposure to cold through the use of air conditioner or lying on the bare floor.

Key Words: Lifestyle responses, Climate Change, Civil Servants, Traders, Greenhouse gases

Introduction

Human life is shaped by the environment and this underscore the need to identify and mitigate any threat to growth and survival. One of the global events that has arisen from man-environment transaction is climate change. Climate change has become one of the major threats to human existence. It is caused mainly by three factors which are: radiation from the sun, earth's natural temperature cycle as a result of changes in the earth's magnetic field and the accumulation of carbon dioxide ($C0_2$) in the

atmosphere. Climate change includes the average global increase in temperature recorded since 2000 occasioned by both the carbon dioxide (CO2) and other air pollutants and greenhouse gasses that collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. These pollutants then trap heat and cause the planet to get hotter resulting large-scale shifts in weather patterns (https:// www.nrdc.org). This phenomenon of global warming takes place in the atmosphere between earth surface and the ozone layer which is about 50 km up in the atmosphere (Ngungar, 2010). The existing ozone layer around the earth protects the world population from the radiation of sun. However, the continuous increase in human activity on earth has led to an increase in greenhouse gases and consequent formation of holes in the ozone layer. Greenhouse gasses include water vapour, carbon dioxide, methane, nitrous oxide, ozone and some artificial chemicals such as chlorofluorocarbons (CFCs) found in the atmosphere (www.environment.gov.au>greenhouse). According to National Geographic (2019) greenhouse gasses have far-ranging environmental and health effects. They cause climate change; contribute to respiratory diseases from smog and air pollution; extreme weather; food supply disruption due to draught and increase in wildfires amongst others.

Intergovernmental Panel on Climate IPCC, (2007) defined climate change as a change in the state of the climate that can be identified by using statistical tests by changes in the mean and or the variability of its properties, and that persists for an extended period typically decades or longer. Climate change refers to an increase in average temperature on account of a rise in emission of greenhouse gases. As the environment warms-up, human body tends to warm-up as well. Even small increases in Earth's temperature caused by climate change can have severe effects. The body's internal thermostat maintains a constant inner body temperature by pumping more blood to the skin and by increasing sweat production. In this way, the body increases the rate of heat loss to balance the heat burden.

In a very hot environment, the rate of heat gain is more than the rate of heat loss and the body temperature begins to rise above the normal body temperature which is 37^0C or 98.6^0F. A rise in body temperature indicative of heat related illnesses. Anderson (2012) asserted that climate change poses an unprecedented challenge to the global community. Its repercussions affect all aspects of sustainable development, including human health and well-being, food security, economic growth, natural resources and biodiversity. Facing this challenge will require behavioural changes to adapt and respond to immediate crises while also learning to adopt more sustainable practices to reduce greenhouse gas emissions for the longer term.

Throughout history people and society have adjusted to cope with changes in climate and extremes weather with vary degrees of results. Climate change can be curtailed through Mitigation and Adaptation. Mitigation refers to human intervention to reduce the emission of greenhouse gases by sources or enhance their removal from the atmosphere by "*sinks*" which are forests, vegetation, or soils that can reabsorb CO_2; while Adaptation refers to readjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts on humans. Adaptation further refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change (Alam, Bhatia and Mawby, 2015). Aswathanarayana (2010) posits that response to global warming requires immediate reduction in activities that enhance the level of future climate change by individuals and communities and ability to cope with less predictable rainfall patterns, more frequent droughts, stronger heat wave, different diseases and weather hazards. Adjustments are possible

in practice within the limits of available income and technology. Various types of adaptation exist, for example anticipatory and reactive, private and public, and autonomous and planned.

Adaptive capacities is the ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences (IPCC, 2007). Although it is the responsibility of all governments to develop strategies and projects that will enable people cope with changes occasioned by climate change, individuals at the personal level ought to adopt coping measure to reduce threats. Sulaimon (2010) noted that there are individuals and groups within all societies that have insufficient capacity to adapt to climate change. Haider (2019) assert that women in developing countries are more vulnerable to climate change as they have low adaptive capacity. It depends on sufficient education, assets, information and income. IPCC (2007) posit that the capacity to adapt is dynamic and influenced by economic and natural resources, social networks, entitlements/ (privileges), institutions and governance, human resources, and technology.

Climate information and support services play a critical role in increasing awareness for building capacity and disaster preparedness to changing climate. Awareness of climate information and support services relevant to adaptation could be through early warning signals, weather forecasts, food aid distributions, emergency guidelines, and financial support, medical and veterinary assistance .Odjugo (2011) in a study on the perception of climate change in the Niger Delta Region of Nigeria reported that respondents have some knowledge of climate change and that lack of basic awareness of the problem has a wide range of implications, ranging from the lack of political pressure on local and national governments to act, to potentially greater long-term vulnerability as individuals and communities make decisions regarding urban and coastal development, agricultural and subsistence practices.

In the rural and urban areas women and men irrespective of their status are continually modifying their practices to naturally varying climate conditions according to their specific needs, knowledge and access to resources. Ballara (2013) observed that limited attention has been given to gender differences within at-risk populations although experience shows that interventions to strengthen livelihoods are more efficient and effective when gender differences are properly understood and addressed.

Risks associated with climate change threaten both the civil servants and traders. Civil servants and traders belong to different social strata/level of the society based on their socio-economic status. United Nation Development Program (2010) observed that poor individual's limited access to resources, restricted rights, limited mobility and voice in community and household decision-making enhances vulnerability to climate change. These consequences play a unique role in the stewardship of natural resources and support to households and communities.

Experience in development interventions shows that individual of high social status tends to control more resources and tend to be more less vulnerable because their easy access to resources, high levels of education, less burden and good health. However, social status analysis is imperative to coping with climate change.

Uyo Metropolis has become plagued by erratic weather conditions and unpredictable rainfalls and sunshine lately. The study area is also prone to a number of environmental challenges such as acute deforestation, over population, gas flaring, pollution, environmental degradation, emission of gas pollutants, flooding, desertification, acid rain fall and extreme temperatures. These have posed serious threat to the livelihood of the people in the areas of health, and economics.

Furthermore, information sharing among climate change actors in the study area is limited due to barriers of poverty, lack of infrastructure, illiteracy and socio- economic factors. Limitations also exist in the

information delivery mechanisms in terms of reliability, timing and infrastructural development. Adoption of appropriate and timely measures to mitigate the impact of climate change by individuals becomes pertinent. Based on these identified challenges, the researchers sought to compare lifestyle responses to climate change between Civil Servants and Traders in Uyo Metropolis of Akwa Ibom State, Nigeria.

Objectives of the Study

The purpose of the study was to compare lifestyle responses to climate change between civil servants and traders in Uyo metropolis of Akwa Ibom State, Nigeria. Specifically, the study sought to:

1. identify lifestyle responses of civil servants to climate change in Uyo Metropolis of Akwa Ibom State;
2. identify lifestyle responses of traders to climate change in the study area;
3. determine the difference in lifestyle responses between civil servants and traders to climate change/in the study area.

Research Hypotheses

One null hypothesis was formulated to guide the study and tested at 0.05 level of significance:

1. There is no significant difference in lifestyle response to climate change between civil servants and traders in the study area

Methodology

Research Design

The study adopted the descriptive survey research design. Descriptive survey employs the study of large and small populations by selecting and analyzing data collected from the group through the use of questionnaire, personal or telephone interview. According to Wyk (2010), the aim of descriptive survey design is to provide an accurate and valid representation of the factors or variables that are relevant to the research objectives.

The study was conducted in Uyo metropolis of Akwa Ibom State. Uyo metropolis is stratified into four on the basis of the major roads that make up the metropolis namely: Olusegun Obasanjo Way (Abak); Wellington Bassey Way (Barracks); Aka; Oron and Ikot Ekpene roads. The State secretariat which accommodates most of the civil servants in the State is located on Olusegun Obasanjo Way. Traders who sell various wares are also found within the metropolis. Climate change is a global phenomenon that affects all humans irrespective of their occupational affiliation and individual lifestyle responses vary. It is against this premise that the researchers sought to compare the lifestyle responses of civil servants and traders to the phenomenon in Uyo metropolis of Akwa Ibom State, Nigeria.

Population of the Study

The population for the study comprised 2,000 respondents;1,018civil servants(Akwa Ibom State Civil Service, 2019) and 982 traders.

Sample Size and sampling Technique

A sample size of 333 respondents was determined using Taro Yemen Formula and selected for the study using purposive, stratified and simple random sampling techniques. The figure covered 169 civil servants and 164 traders. Purposive sampling was adopted because all the civil servants used for the study worked in the secretariat. Stratified simple random sampling technique was used to select 41 traders each from the four major roads (Ikot Ekpene, Abak, Wellington Bassey Way and Oron) that make up the metropolis. This resulted in a total of 164 traders.

Instrument for Data Collection: A structured questionnaire titled 'Lifestyle Responses to Climate Change Questionnaire, (LRCCQ)' was used for data collection. The instrument had two sections, A and B and 16 items. Section A contained six items on the demographic characteristics of the respondents while section B with 10 items was constructed to

elicit information on lifestyle responses to climate change. Items in section B were structured under a four - point rating scale of: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

Validation and Reliability of the Instrument

The instrument was face and content validated by three lecturers from the Department of Agriculture and Home Economics Education in University of Uyo, Uyo. The purpose, research questions and hypotheses guiding the study were given to the experts to aid them in the validation process. The experts restructured some of the items in the instrument to ensure they were suitable in measuring the specific objectives, research questions and the hypothesis that guided the study.

To ascertain the internal consistency of the instrument, 30 copies of the instrument were administered on respondents who did not form part of the study. The data obtained was subjected to analysis using Cronbach Alpha statistical tool. The analysis yielded a reliability coefficient of 0.81 which implied that the instrument was reliable and suitable for the study.

Method of Data Collection

Consent was sought and obtained from the Head of Service for the administration of the instrument on the civil servants. Three research assistants were deployed to assist in the administration of the instrument on the civil servants and the traders in the study area.

Method of Data Analysis

The research questions were analyzed using Mean. Decisions on answering of the research questions were based on the cut-off point of 2.50 and ranks. Items with mean values above 2.50 indicated that the respondents agreed to the statement and vice versa. The research hypothesis was analyzed using independent t-test statistics. In testing the null hypothesis, the significance levels on the SPSS sheet were compared with 0.05 level of significance. When the significance level on the SPSS sheet is greater than or equal to 0.05, the null hypothesis (H_0) was upheld. On the other hand, when the significance level on the SPSS sheet is less than 0.05, the null hypothesis was rejected.

Results

Table 1 shows the mean analysis for lifestyle responses of civil servants to climate change in Uyo metropolis of Akwa Ibom State. Findings revealed bathing frequently, wearing of light materials, drinking of water regularly, consumption of fruits and vegetables, staying under the fan and air conditioners had mean values of 2.50 and above. Rubbing of clay local chalk /powder, leaving windows open at night and sleeping on the floor had mean values below 2.50. The rankings indicate that civil servants in the study area respond to the heat induced by climate change by using electronic gadgets such as air conditioners and fans whereas, the least adopted lifestyle was rubbing white clay/ local chalk on the body to wade off excessive heat.

Table 1: Mean Analysis of Lifestyle Response of Civil Servants to Climate Change in Uyo Metropolis of Akwa Ibom State

S/N	Lifestyle Response to Climate Change	Mean	SD	Rank	D
1	I bath frequently to reduce irregular sweating	2.98	0.55	4	A
2	I rub white clay local chalk/powder to maintain my body temperature at night	2.22	0.74	8	D
3	I wear light clothes to avoid heat	3.20	0.80	3	A
4	I drink water regularly to stay hydrated during the day	2.70	0.62	5	D
5	I consume more vegetables/fruits to manage myself against climate change	3.20	0.88	3	A
6	I leave my window open at night to reduce heat in the house	2.30	0.48	7	D
7	I sleep on the floor to keep my body cool	2.40	0.38	6	D
8	I stay under the fan to reduce heat	3.38	0.94	2	A
	I stay under the Air conditioner to reduce heat	3.40	0.90	1	A
9.	Grand Mean	2.86			

Table 2 indicates the lifestyle responses of traders to climate change in Uyo metropolis of Akwa Ibom State. Findings showed that frequent bathing, rubbing of white clay/ powder, wearing of light clothes, drinking water regularly, consuming fruits and vegetables, leaving windows open at night, sleeping on the floor and using of fan had mean values of 2.50 and above while the use of air conditioner had a mean value of below 2.50. The rankings revealed that the respondents drink water regularly and sleep on bare floor as a response to the heat induced by climate change.

Table 2: Mean Analysis of Lifestyle Response of traders to Climate change in Uyo Metropolis of Akwa Ibom State

S/N	Lifestyle Response to Climate Change	Mean	SD	Rank	D
1	I bath frequently to reduce irregular sweating	2.74	0.58	5	A
2	I rub white clay/powder to maintain my body temperature at night	3.04	0.92	3	A
3	I wear light clothes to avoid heat	3.00	0.99	4	A
4	I drink water regularly to stay hydrated	3.15	0.90	1	A
5	I consume more vegetables/fruits to manage myself against climate change	2.52	0.54	7	A
6	I leave my window open at night to reduce heat in the house	2.64	0.52	6	A
7	I sleep on the floor to keep my body cool	3.11	0.87	2	A
8	I stay under the fan to reduce heat	2.50	0.62	8	A
	I stay under the Air conditioner to reduce the heat	2.00	0.30	9	D
9	Grand Mean	2.74			

Table 3 reveals that the aggregate mean response to climate changes by civil servant is 2.86 while traders is 2.74. The aggregate mean difference between the responses of civil servants and traders is 0.12. This indicates that, there is very little difference in the response of civil servants and traders to climate change in the study area.

Table 3: Mean Difference in lifestyle responses to climate change between civil servants and traders in Uyo Metropolis of Akwa Ibom State

Category	N	$\bar{X}$	SD	Mean Difference	Decision
Civil Servants	169	2.86	0.67		
				0.12	Very Little Difference
Traders	164	2.74	0.74		

Table 4 indicates the t-test analysis of the difference in lifestyle response to climate change between civil servants and traders in Uyo metropolis of Akwa Ibom State. Findings revealed that the calculated t-value 0.12 is less than the critical t-value of 1.960 at0.05 significance level and 331 degrees of freedom. Thus, null hypothesis is retained. This implies, there is no significant mean difference in response to climate change between civil servants and traders in the study area.

Table 4: t-test Analysis of the Difference in Lifestyle response to climate change between civil servants and traders in Uyo Metropolis of Akwa Ibom State

Category	N	$\bar{X}$	SD	Df	t-cal	t-crit	Decision
Civil Servants	169	2.86	0.67				
				331	0.12	1.960	NS
Traders	164	2.74	0.74				

NS = Not Significant at $p<0.05$

Discussion of the Findings

Findings of the study indicated that civil servants respond to climate change by bathing frequently, wearing of light materials, drinking of water regularly, sleeping on the floor and staying under AC/ fan. The result further shows that most civil servants do not use white clay powder to maintain the body temperature as well as keep their window open at night. Findings of the study further revealed that traders respond to climate change by the use of frequent bathing, wearing of light materials, drinking of water regularly, sleeping on the floor and staying under AC/fan as well as use of white clay/powder to maintain their body temperature and keeping of window open at night. This finding adds credence to assertion by Monday (2019) that since climate change impact on the wellbeing of people, individuals must be prepared to imbibe attitudinal change in order to build capacity for adaptation towards climate change.

More so, findings of the study showed that there is a very little difference in the respond of civil servants and traders to climate change in the study area. Also, findings of the study showed that there is no significant mean difference in responses to climate change between civil servants and traders in the study area. However, the mean score of traders on the level of response to climate change was greater than that of the civil servant. The finding may be triggered by the fact that traders spend ample time outdoors exposed to the harsh climate conditions of intense heat, cool and the likes. In an attempt to manage the impact of these harsh climate conditions they employ various measures such as drinking of water regularly, leaving the window open at night, sleeping on the floor and rubbing of white clay/powder among others. Also, the response measures adopted by the traders suit their economic status as they could not afford higher technologies like the use of air conditioners in the business premises and home. Meanwhile, most civil servants stay in-door

in air-conditioned offices provided them by the government and spend barely little hours out-side during hot hours of the day. The finding aligns with the observations of Aswathanarayana (2010) who noted that response to global warming requires immediate reduction in the level of future climate change by individuals and communities and ability to cope with less predictable rainfall patterns, more frequent droughts, stronger heat wave, different diseases and weather hazards. The finding also agrees with the assertion of Sulaimon (2010) who observed that there are individuals and groups within all societies that have insufficient capacity to adapt to climate change because the capacity to adapt is dynamic and influenced by economic and natural resources, social networks, entitlements/privileges, institutions and governance, human resources, and technology. The findings further support the declaration by Monday (2019) that, individuals at the personal level ought to adopt coping measure to reduce climate change threats.

Conclusion and Recommendations

On the basis of the findings of this study, the researchers concluded that civil servants and traders in Uyo metropolis of Akwa Ibom State adopt various lifestyle response measures to cope with and reduce the impact of climate change on their health. Although, civil servants and traders do not differ significantly on the lifestyle measures adopted to control climate change impact, the lifestyle adopted depends on the economic status of the individual that is, the capacity and resource available to the individual.

Based on the findings of this study, the following recommendations are made:

1. Civil servants in the study area should utilize natural methods to better adapt to climate change as long and protracted use and exposure to air conditioner is known to cause health hazards.
2. Traders should desist from sleeping on the bare floor to forestall diseases that may arise from this act, like pneumonia. In addition, they should abstain from leaving their windows open at night to prevent the danger of burglary in their homes.
3. Climatologist, Anthropologist, Environmentalists, Home Economist and all stake holders in health and environmental issues should organize workshops, seminars and forums on climate change adaptation and mitigation in schools, offices, religious houses, motor parks and public places.

References

Alam, M., Bhatia, R., and Mawby, B. (2015). Women and Climate Change: Impact and Agency in Human Rights, Security and Economic Development. Georgetown (INSTITUDE)stittue for Women, Peace and Security. Retrieved from: https://giwps.georgetown.edu. 23rd May 2020.

Anderson, A. (2012). 'Climate Change Education for Mitigation and Adaptation'. *Journal of Education forSustainable Development. 6(* 2):191-206.

Aswathanarayana, U. (2010). Renewables and Climate Change in Green Energy Technology, Economics and Policy in U.Aswathanarayana, T.Harikrishnan, and K.M.ThaySTITUTEyib Sahini, eds., in: *Green Energy Technology, Economics and Policy,* CRC Press, p.7.

Ballara, M. (2013). Life Long Learning Integrating Gender Issues into Climate Change Mitigation and Adaptation Approaches and Activities. International Council for Adult Education Gender office,

Building Nigeria's Response to Climate Change (BNRCC) (2011). National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN). Prepared for the Federal Ministry of Environment Special Climate Change Unit. https:/

/:csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf.

Greenhouse Effects. Department of Agriculture, Water and the Environment. Retrieved from https://www.environment.gov.au>greenhouse 20th December, 2020.

Haider, H. (2019). Climate Change in Nigeria: impacts and responses. K4D Helpdesk Report 675, Brighton, UK: Institute of Development Studies. Retrieved from: https://opendocs.ids.ac.uk/opendocs/handle 20th December 2020.

Intergovernmental Panel on Climate (IPCC). (2007). IPCC adapts major assessment of climate change science. Retrieved from http://www.ipcc.cn/press/prwg2feb07.htm on 22nd May, 2020.

Monday, I. F. (2019). Investigating Effects of Climate Change on Health Risks in Nigeria. Retrieved from: https://dx.doi.org/10.5772/intechopen.86912.

National Geographic (2019). Effects of greenhouse gases. Retrieved from www.nationalgeographic.com. 20th December, 2020.

Ngungar, C. P. (2010). Oceanic Influences and Continental Precipitation in Africa. *Journal of Marine Development 4(2): 65-85.*

Odjugo, P. A. O. (2011). *Perception of Climate Change in the Niger Delta Region of Nigeria.* Centre for Population and Environmental Development (CPED), Ambik Press Limited, Lagos.

Sulaimon, S. (2010). Renewable Energy, *The Guardian, p.73* February 23.

United Nations Development Programme (UNDP) (2010). *Gender, Climate Change and Community-Based Adaptation*, UNDP, New York.

Wyk, B. (2010). *Research Design and Methods: Part1.* University of Western Cape, University Press, Cape Town.