



# **Climate Change: Media Coverage and Perspectives of Climate Change in Kano, Nigeria**

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## **Authors' contributions**

*This work was carried out in collaboration between both authors who designed the study, reviewed the literature, designed the methodology, performed the statistical analysis and wrote the first draft as well as abstract of the study. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

This study assess the nexus between climate change and media coverage vis a vis the influence of the diversified positions on climate change and how it pave way for the creation of new perspectives and understanding amongst individuals about climate change issue in Kano, Nigeria. The study concludes that there is a very high level of media awareness about climate change issue in Kano; media coverage and representations about climate change has positively impacted and shaped individuals' understanding about climate change issue. The study also reveal that social media platform remain the predominant source of information about climate change issue in Kano; and the causes of climate change in Kano is deemed to be artificial rather than natural; while change in weather pattern is the noticeable consequences of climate change in Kano. The study concludes that media coverage and representations about climate change shapes the perspectives, understandings and knowledge of individuals about climate change in Kano, Nigeria.

**Keywords:** *Climate change; media coverage; greenhouse gases; public awareness.*

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## 1. BACKGROUND OF STUDY

Apparently, the mass media has proved to the global public to be an actor that tremendously contributes, shapes, and positively affects science, technology, environment, and global discourse, understanding, perceptions, opinions as well as actions on and about climate change issue. [1] Point out that, studies has proven that the publics learn and get exposed to numerous knowledge and perspective about science through mass media consumption of news content.

In developing countries like Nigeria, media representations contains a wide array of news and information packaged in different formats targeting the global public via numerous channels to provide perspectives, knowledge, narratives and developments in multifarious ways about the global discussion on climate change. Interactions on climate science, policy, media and public are complex and dynamic. "The news media are the central interpretative system of modern societies" Peters and Heinrichs (2005) as cited in [2].

Thus, the mass media takes lead in communication about climate change because seemingly, climate change, compared to other global issues is complex, and undesirably noticeable topic amongst people because the societal effects as well as the most severe consequences of climate change are not occurring now but most likely in the future.

The mass media goes beyond mere interpersonal communication and aimed for global discussion about climate change issues. Carvalho (2010) as cited in [3], added that, "they are important arenas and important agents in the production, reproduction and transformation of the meaning of climate change". However, due to the diversification of perspectives as well as positions and competitions amongst scientists, industries, policymakers, NGOs, and international community on the existence of climate change and its urgency as well as decisions about it, the mass media coverage and representations about climate change is often mixed up with subjective views and positions of these stakeholders. Hence, eventually influencing public perceptions, opinions, awareness and knowledge about climate change as well as paving way for the creation of new perspectives on that. The causes and consequences of climate change and its

implications are not directly and easily perceivable. Also, what virtually all people know about climate change issues stems from the media of communication.

[4] Noted that, Mass media coverage and representational practices have tremendously affected translations between science and policy as well greatly shaped public's perceptions of various issues of environment, technology and risks. Therefore, this study assesses the influence of media coverage as a result of the diversified positions on climate change and how it pave way for the creation of new perspectives and understanding about climate change in Kano state, Nigeria.

## 2. LITERATURE REVIEW

### 2.1 Climate Change

The term climate change and global warming are using interchangeably but the issue of climate change is greater than mere warming trends. Climate change is referred to as the variation in the prevailing condition of the climate on all temporal and spatial scales. This variation could be either due to natural causes such as volcanic eruption, forest fire, or anthropogenic activities such as emission of greenhouse gases, including methane, carbon dioxide among others. According to [5] climate change is real and it caused typically by anthropogenic activities. However, the issue is attracting concern globally due to the destruction it results in the environment, including desertification, flooding, rising sea level, and land degradation, which can also escalate if appropriate measures were not taken. Additionally, many diseases that are uncommon in some certain climatic regions are becoming more common while those diseases that already reached extinction are now reappearing as a result of changes in weather conditions.

Climate change issue is becoming more obvious beyond a reasonable doubt daily. In recent years, the world experiences harsh weather events more especially Africa. The summer of 2015/16 was connected with the most intense El Niño event ever recorded. The year 2015 found to be the warmest calendar year in recorded history [6]. It was the first year in which the global average surface temperature was 1°C warmer than the pre-industrial revolution. This era of exceptional high global temperature is considered to be as a result of greenhouses gas

emission and other natural phenomena. Mundo-Molina [7] mentioned that the observation systems of the World Meteorological Organization recorded an increase in the global mean temperature from 3°C to 6°C during the last hundred due to the continue emission of greenhouse gases into the atmosphere during the last 2000 years. This accelerates the degree of climate change which drastically affect the agricultural sectors of Mexico by increasing the longevity of dry period based on the results observed from general circulation models, which in turn leads to water resources scarcity that negatively affects the socio-economic activities and the rate of agricultural production in the country.

However, desertification is becoming a problem of great concern because of its complicated implication and relationship with climate change. Holthuijzen et al. [8] suggested that climate may enhance the threat of drought conditions and the intensity of desertification, which is a drastic environmental problem that Mali experience with many other nations of Sahel areas. The evaluation of global scale desertification severity is very vital, to understand the extent of vulnerability and measures that needs to put in place to address it. Though there is no global desertification map that focuses on both climate change and anthropogenic activities. But the studies carried out by Huang et al. [9] using the probability density function of the global desertification vulnerability index (GDVI), categorized desertification susceptibility into four categories: very high, high, medium, and low. The results of the analysis revealed that areas around deserts and infertile land have a greater threat of desertification. Areas with a moderate, high, and very high desertification threat recorded 13%, 7%, and 9% of the global area, respectively. However, among the representative concentration pathways (RCPs), RCP 8.5 predicted that the regions of moderate to very high desertification risk will rise by 23% toward the end of this century. The regions where desertification risks are projected to increase over time are mostly in Africa, North America, and the northern areas of China and India.

Climate change is not only real but also in most cases as a result of anthropogenic activities associated with release of greenhouse gases [10]. Despite all robust evidences and severity of climate which world experiences today. One of the reasons that mitigation strategies of cutting greenhouse gas emissions are partially active is

because many countries consider economic development at the expense of the environment.

## 2.2 Greenhouse Gases

According to the Idso as cited in Harris [11]. The information on controlling factors of Earth's energy budget is very essential for understanding the past, present, and future climatic conditions of our surroundings. These involve the nature and origin of ice ages, contributing factors as well as possible anthropogenic activities among others. Addressing the disastrous issue of climate change can have detrimental effects on the economic sector in converting to low carbon production with little or no realistic gaining in profits and investments. Enforcing tradable permit can drastically decrease the human-induced greenhouse gases (GHG) emission in contrast to earlier regulatory measures [12]. Planning an effective emission trading scheme is an elusive task for regulatory bodies. Trade permit leads to behavior change by encouraging the stakeholders to decide the manner they will comply with rule and regulation, whether by cutting their emission or buying an extra permit from other stakeholders.

However, the Earth is encircled by one particular atmosphere, this means that from environmental perspectives, any emission, removal of a concentration of greenhouses has an impact on global atmospheric condition regardless of where it occurred. Whereas from an economic perspectives, the cost of cutting greenhouse gases varies from one country to another depending upon the advancement of the country in terms of industrial development and emission of GHGs. Though, Ferrier [12] mentioned that tradable permit is a cheaper method of cutting greenhouse gases. Open access of atmosphere to everyone which many people considered it as a resource of common pool contributes significantly to mismanagement and damages of the atmosphere. People have perception even if I did not cause harm or damage the atmosphere someone else will. Thus, trading permits that will authorize permits to concerned parties to release a certain amount of greenhouse gases can considerably reduce the emission at a more affordable cost when compared to command and control policies [12].

The overall active pool of carbon at the surface of the Earth in fewer 10,000 years is approximately 40,000gig tons C (Gt C, a gigaton is one billion tons, or the weight of nearly 6

million blue whales), and around 95% (~38,000Gt C) is deposited in the ocean, commonly as dissolved inorganic carbon [13]. On the other hand, emission of greenhouse gases from agriculture and LULUCF (land use, land-use change, and forestry) areas are mostly underestimated or even overlooked. But it accounts for about one-third of the total estimated emissions and its overall segment is rising significantly [14].

Acid News [15] reported that developed nations are largely blamable of the present high level of greenhouse gases emission, due the more than 150 years of industrial activity. Thus, the Kyoto Protocol applies strong tasks on developed nations under the principle of "common but differentiated responsibilities." The Kyoto Protocol is an international agreement attached to the United Nations Framework Convention on Climate Change that adopted in Kyoto, Japan in 1997 and come into action in 2005. The main goal of the Kyoto Protocol is to provide mandatory targets for 37 industrialized nations and the European community for cutting greenhouse gas (GHG) emissions. Particularly, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrocarbon (HFCs) and perfluorocarbons (PFCs). Even though the U.S is one of the leading industrialized nations but turns blind eyes to ratify the resolution of the Kyoto protocol.

### 2.3 Media Coverage and Representations on Climate Change

[16] While stressing the relevance of mass media coverage and representation of climate change especially in African countries, he note that the radio as a media of communication has been an important medium casts as a conduit for diffusion of climate change related news and communication messages, especially in rural areas. The mass media plays an indefatigable role in the futuristic of climate change adaptation and mitigation in both the rich and poor countries. However, oftentimes, regarding the issue of media coverage on climate change, Wilso (2000) as cited in [17] notes that: "the underlying causes and long-term consequences are often overlooked in the day-to-day grind to find a new angle by deadline".

Several studies reveal how media coverage and representation of climate influences perspectives overtime. [18], examined the ongoing narratives on reporting in the newspapers (New York Times

and Washington Post) from 1980-1995. Thus, the study reveal two most important factors which are: the agenda setting function of the media as well as the influences of external factors such as dramatic events which oftentimes shapes media coverage.

[19] Studied newspaper coverage in 255 different sources from 2003 to 2004, the findings reveal that, wire services have significantly played a key role in shaping and reinvigorating the ways in which climate science is framed, represented, covered and discussed in reporting.

[20] Conducted a survey to examine the nexus between knowledge of climate change causes diffused via the media as well as individual's behaviors. The study, using over 1,200 surveys reveal that if there is increased in comprehension about climate change causes, there will also be increases in individual's motivations and intentions to do something about the climate change issues. [21], corroborate this finding in his study about beliefs and attitudes regarding the difficulties and complexities of climate change. The study which aim at establishing a room for analysis of public perceptions and action regarding climate change was conducted in 1997 and 1998 through telephone interviews of 1,413 adults. The finding reveal that, beliefs were a function of three factors namely:

- Possible relevant personal experiences (such as: exposure to weather disasters)
- Perceived consequences of climate change (such as: relative vulnerability) as well as
- Messages from the informants especially scientists through the mass media.

Thus, the study concludes that, there is a robust linkage between knowledge and action. Knowledge can increase certainty which as a result would increase the assessment of national seriousness and eventually increase policy support. However, the knowledge alone may not necessarily support for relevant policy, rather the presence of beliefs, attitudes as well as beliefs about human responsibility and their incorporation is what will make it possible for necessarily reasoning to reach a promising point [21].

The impact of mass media coverage and representation about climate change is very significant in influencing and shaping the understanding and knowledge of individuals

about climate change as well as paving way for the creation of new perspectives about the whole climate change issue.

In a study conducted by [1] to explore the relationship and the kind of connection individuals have had with climate change related information through the media, a survey of 649 university students was carried out in 1992 and the findings reveal that, a large proportion, almost half of the students indicated that, the mass media, especially the national TV news remain their primary source of information and knowledge about climate change issues. [22], corroborate this finding in his study about understanding the connection between fossil fuel use and climate change which is also linked to identifying the individual's sources for information about climate change. The findings reveal that newspapers and TV were the predominant sources of news and information about global warming which is a climate change issue.

Therefore, the reviewed literatures above reveal that there is a strong correlation between media coverage, climate change issue and individuals' perspective & knowledge about the climate change. Apparently, climate change has remain one of the media's most important topic of discussion. The prominence and importance attached to climate change is part of the media's agenda to diffuse information about it which will eventually provide an avenue for the creation and formation of opinions and news perspectives about climate change. Therefore, this study assess the influence of media coverage as a result of the diversified positions on climate change and how it pave way for the creation of new perspectives about climate change in Kano state, Nigeria.

### 3. METHODOLOGY

A survey method is used to elicit information about the opinion, attitude, behavior, orientation and perspective of individuals. Purposive sampling technique is used to select the sampling elements that fits the characteristics needed for this study. Due to the complex and broadness nature of the population, the usage of purposive sampling is more feasible to carry out this study. A sample size of 400 is drawn using [23] formula for determining sample size. Questionnaire is used as the instrument of data collection.

## 4. RESULTS AND DISCUSSIONS

### 4.1 Research Question One: What is the Level of Media Awareness about Climate Change in Kano State, Nigeria?

#### 4.1.1 Are you aware of media coverage and representation about climate change in Kano state, Nigeria?

The data in Fig. 1 below indicate that 333 respondents representing 83% are aware of media coverage and representation about climate change in Kano state, Nigeria. While 67 respondents representing 17% are not aware. Thus, the level of media awareness about climate change in Kano is very high.



**Fig. 1. Are you aware of media coverage and representation about climate change in kano state, Nigeria?**

#### 4.1.2 How does media coverage and representation about climate change impacted on you and shape your understanding about climate change issue in Kano state, Nigeria?

The data in Fig. 2 below indicate that 328 respondents representing 82% were impacted positively; 51 respondents representing 13% were impacted negatively; and 21 respondents representing 5% were not impacted at all. Thus, it reveals that media coverage and representation about climate has positively impacted and shape the individuals understanding about climate change issue in Kano.

This finding affirmed the argument of [24] that in regards to climate change issue, increased media coverage of climate change during the last 10 years has brought about major corresponding increase in public interest, in both positive and negative ways.



**Fig. 2. How does media coverage and representation about climate change impacted on you and shape your understanding about climate change issue in Kano state, Nigeria?**

**4.1.3 What is your predominant source of information about climate change in Kano state, Nigeria?**

The data in Fig. 3 below indicate that, 50 respondents representing 13% receive information about climate change in Kano through Newspaper; 140 respondents representing 35% receive through Radio; 33 respondents representing 8% receive through Television; while 177 respondents representing 44% receive through Social media platforms and none of the respondents receive through magazine. Thus, to the majority of the respondents, social media platform is the predominant source of information about climate change in Kano.

**4.2 Research Question Two: What is the Perspective Regarding the Causes of Climate Change in Kano State, Nigeria?**

**4.2.1 What do you think about the causes of climate change in Kano state, Nigeria?**

The data in Fig. 4 below indicate that 112 respondents representing 28% opined that the causes of climate change in Kano state is natural; 270 respondents representing 68% opined that the causes of climate change in Kano

state is artificial; while 18 respondents representing 4% are not sure about the causes. Thus, majority of the respondents believe the causes of climate change to be artificial.

**4.3 Research Question Three: What is the Perceived Consequences of Climate Change in Kano State, Nigeria?**

**4.3.1 What do you perceived as the noticeable consequences of climate change in Kano State, Nigeria?**

The data in Fig. 5 below indicate that, 17 respondents representing 4% perceived 'Drought' as the noticeable consequences of climate change in Kano; 320 respondents representing 80% perceived 'Change in weather pattern' as the consequences of climate change in Kano; 60 respondents representing 15% perceived 'Desertification' as the consequences ; while 3 respondents representing 1% perceived different other things. Thus, majority of the respondents perceived that change in weather pattern is the noticeable consequences of climate change in Kano. This findings corroborate the findings of [25] in their analysis of the influence of the Nigerian Mass Media on public understanding of climate change. The findings revealed that the respondents' idea on climate change was linked to weather changes and talks about ozone depletion.

**4.4 Research Question Four: What is the Contributing Factor(S) Shaping Individuals' Perspectives about Climate Change Issues in Kano State, Nigeria?**

**4.4.1 What is the contributing factor shaping your perspective and knowledge about climate change issue in Kano state, Nigeria?**

The data in Fig. 6 below indicate that 258 respondents representing 65% opined that Media coverage and representations about climate change is the contributing factor that shape their perspective and knowledge about climate change issue in Kano; 88 respondents representing 22% opined that the Government shape their perspective and knowledge; 14 respondents representing 3% opined that subjective norms (society) shape their perspective and knowledge about climate change in Kano; and 40 respondents

representing 10% opined that the positions of climate change stakeholders is what shape their perspective and knowledge about climate change in Kano. Thus, media coverage and representations about climate change is what shape the perspectives and knowledge of the majority of the respondents in Kano state. This findings corroborate what [26] revealed in their

study “Press coverage of climate change issues in Nigeria and Implications for public participation opportunities” in attempt to explore the dominant issues in newspaper reportage of climate change in Nigeria, the results proved that 61.2% of the coded reports on climate change in Nigerian newspapers are germane to the political and economics of climate change rather about

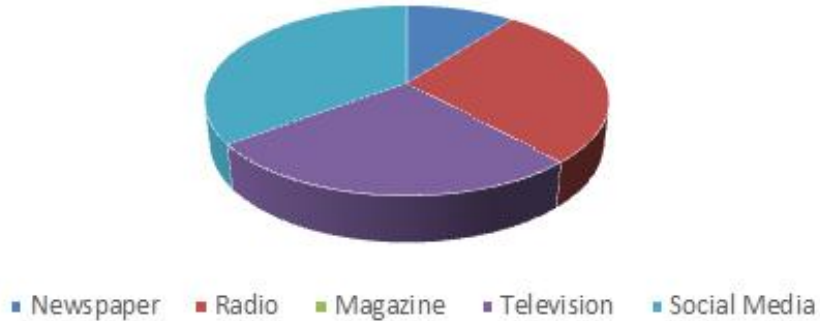


Fig. 3. What is your predominant source of information about climate change in Kano state, Nigeria?

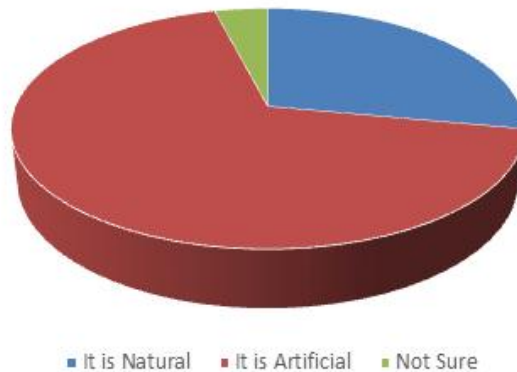


Fig. 4. What do you think about the causes of climate change in Kano state, Nigeria?

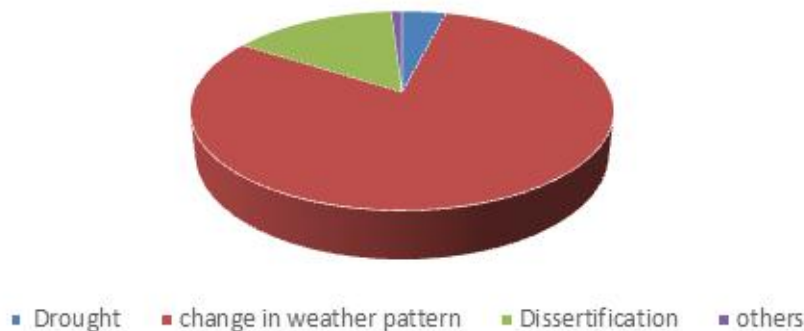
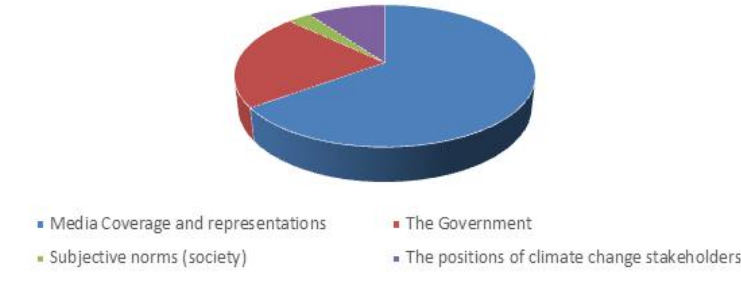


Fig. 5. What do you perceived as the noticeable consequences of climate change in Kano State, Nigeria?





**Fig. 6. What is the contributing factor shaping your perspective and knowledge about climate change issue in Kano state, Nigeria?**

natural or bio-physical climate change occurrences such as: heat waves, floods, oceans surges, desertification, drought amongst others. Hence, this brought the imbalance of coverage which as a result affects and shape the perspectives of public understanding about climate change. On the same vein, [27] argued that, "The quantity of climate change coverage in African Media is disproportionate to level of threat it poses to the content"

## 5. CONCLUSION

Conclusively, the findings of this study proved that there is a robust nexus between climate change and media coverage as well as the diversified positions in relation to how media coverage influences individual's perspectives and knowledge about climate change issue in Kano.

Based on the above discussion of findings it can be deduced that the level of media awareness about climate change issue in Kano, Nigeria is very high; Media coverage and representation about climate change has positively impacted and shaped individual's understanding about climate change issue in Kano; and majority of individuals used social media platform as their predominant source of information about climate change in Kano. The study also reveal that, the causes of climate change in Kano is artificial not natural; and change in weather pattern is the noticeable consequences of climate change issue in Kano. In addition, the study concludes that media coverage and representation about climate change is what shape the perspectives and knowledge of individuals about climate change issue in Kano, Nigeria.

Therefore, in order to add up to the positive strategic process of climate change mitigation process, emphasis on media coverage and

adequacy of representation about climate change should be prioritize to help keep the society informed and educated about environmental ethics and other climate change related developments.

## CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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