ORIGINAL ARTICLE

Mass Media and Climate Change Management among Farmers in Selected Local Governments in Benue State

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Abstract

It is unarguable that the Nigerian Media have a pivotal role to play in effectively communicating the debilitating effects of climate change to farmers in Nigeria. What is the performance of the Nigerian media on the issue? It is based on this premise that the researcher seeks to investigate if climate change has affected farming in Benue State, and what the media is doing to ameliorate the development. The Agenda Setting Theory and Development Media Theory were adopted for the study as well as the descriptive survey design. The study population included all the registered farmers in Benue State. From the list of twenty-three local government areas in the state, two L.G.As, Gboko and Makurdi were selected through purposive sampling technique. The sample size of 200 farmers were selected from the list of 38,916 registered farmers in the selected L.G.As through a combination of systematic and proportional sampling techniques. The instrument used was the questionnaire. Findings revealed that the media did not create enough awareness on the issue. The study therefore concluded that the media have not done enough sensitization on the issue. On the basis of the findings, it was recommended that the issue of climate change should be given front-burner attention by the Nigerian Media.

Key words: mass media, climate change, farmers, Benue State.

Introduction

One of the greatest challenges facing Nigerian media today is how to effectively communicate the debilitating consequences of climate change on Nigerian agriculture to farmers.

Kehinde (2011) in Tsebee (2011) notes that:

> The effect of climate change and food crisis has become very dreadful as major staple food in Nigeria escalate with little or no concern from government authorities... the irregural and unpredictable rainfall and farm inputs like fertilizer also pose a great challenge, as well as lack of storage facilities and lack of technology that could give the country edge over other countries... (p.11)

According to the United Nations Development programme 2007 report "climate change is estimated to cause over 145 million deaths in sub-Saharan Africa, as manifested by extreme famine, flooding, drought, erosion, biodiversity loss and conflicts arising from competition for scarce resources in the next 25 years" (p.4). Odogwu (2014) observed that ironically across the continent, strategies, policies and action plans needed to defeat the challenges posed by climate change continue to face unnecessary set backs at country and regional levels, and this is partly due to limited understanding of the issues at hand and poor designs of potential solutions to address climate change issues.

But the core of the problem is the fact that compared to other societal issues such as politics, the issue of climate change has not received necessary attention from the mainstream media, whose duty it is to simplify, demystify and communicate the seemingly arcane field to the masses, while ensuring the issues are accorded front burner attention. Therefore, every journalist has a moral and professional obligation to report issues that pertain to climate change. This does not necessarily entail the media man becoming an environmental journalist.

In fact, climate change is so important that

there are strong opinions that it should be divorced from the environment and given its own pedestal with intersectoral and cross cutting status. This is because classifying climate change in the environment reporting genre does not fit. Climate is about rapidly accelerating changes in the substrate of modern civilization, the weather patterns, and sea levels that have held relatively steady throughout all advanced human development. By its nature, it affects everything that rests on the substrate: agriculture, land use, transport, energy, politics, behavior, name it. Climate change is "not a story" but a background condition for all future stories. The idea that it should or could be adequately covered by a subset of "environmental journalists" was always an insane fiction. It is especially insane due to the declining number who identify themselves as such.

There is a need to disentangle the fate of environmental journalism from media coverage of climate change. The two need not be connected. The pressing or rather existential imperative to divert from the status quo and radically reduce green house gas emissions is necessarily enmeshed in all major human decisions. Journalists who cover those decisions, whatever their "beat," need to understand how climate change as a background condition informs or shapes the decisions. In journalism as in other fields, climate needs to be freed from environmental "straight jacket".

One of the salient roles of the media is information dissemination. Communication is central to human existence just like air is to human beings. Human beings cannot help but communicate among themselves. They live by communicating because most of their daily activities involve communication at the family level, in the offices, in the markets, churches, and mosques; even in the height of Boko Haram insurgency in Nigeria, both soldiers and the insurgents are communicating (Tsebee, 2016). The value of communication can be explained with a Biblical allusion of the tower of Babel in Genesis 1:4-10:

> Now the whole earth had one language and few words. And as men migrated from the east they found a plain in the land of Shinar and settled there. Then they said come let us build a city and a tower with its top in the heavens and let us make a name for ourselves... (Revised Standard Version 1971) (p.7).

This angered God and he came down and confused their language and as a result they could not understand one another's speech (Communication breakdown) in order to stop the building of the tower of Babel. Therefore communication is crucial in achieving the desired climate change management among farmers in Benue State and Nigeria in general, while the lack of it would only lead to underdevelopment of the agricultural sector of the Nigerian economy.

There are a coterie of definitions on what actually constitutes communication. According to Okwechime (2012) in Tsebee (2016), communication is the transmission of information from one party to another through the use of symbols within a frame of reference common to both parties; thus, communication is the process of exchanging ideas and information from the sender to receiver.

The Importance of Agriculture in the Nigerian Economy

The importance of agriculture in the Nigerian economy cannot be over-emphasized. Liverpool Tasie-Kuku & Ajibola (2011) in (Ibid, p.6) notes that agriculture remains a crucial sector in the Nigerian economy being a major source of raw materials, food and foreign exchange employing over 70 percent of the Nigeria labour force, and serving as a potential vehicle for diversifying the Nigerian economy.

In fact, the Ashby Commission set up by the Federal government of Nigeria in (1959) has this to say on Agriculture:

> Three out of four Nigerians work on the land, seventeen shillings out of every pound

> earned from Nigerian exports come from agricultural products. Investment in agricultural improvement and agricultural education could increase Nigeria's yield, yet investment in agriculture is inadequate and is rarely in the public eye. Publicity goes to industrialization, construction and the like. (p.2)

The above quotation from the Ashby Commission cannot be more apt than in the present Nigerian democracy being piloted by the Buhari Administration that is anchored in the change mantra. To achieve agricultural development there must be massive investment in agriculture. Food is indispensable for the survival of every human being and for Nigeria to move away from oil dependent economy there is the need to invest in agriculture.

Statement of the Problem

Communication is pivotal in managing change, in all spheres of life. The importance of communication in highlighting the dangers of climate change in agriculture cannot be over emphasized. The discussions and call for the Nigeria government to join the globe in finding ways to mitigate the effects of climate change on agriculture in Nigeria have not been fully attended to. What is the performance of the Nigerian Mass Media in conscientising farmers on the effects of climate change on Agriculture in Benue State? It is based on the above premise that this paper seeks to investigate the performance of Nigerian Media in providing information on climate change to farmers in Benue State.

Objectives of the Study

The Objectives of the study include:

1. To ascertain to what extent climate change has affected farming in Benue State.
2. To assess the performance of the Nigerian media in communicating the effects of climate change on agriculture to farmers in Benue State.
3. To determine the frequency of media messages on the effects of climate change on farming in Benue State.

Research Questions

The study answers the following research questions:

1. To what extent has climate change affected farmers in Benue State?
2. What is the performance of the Nigerian Media in communicating the effects of climate change to farmers in Benue State?
3. How frequent were the media messages on the effect of climate change on farming in Benue State?

Theoretical Framework

The Mass Media in Nigeria have a crucial role to play in communicating climate change management among farmers for sustainable agricultural development in Nigeria. This study is predicated on two Mass Communication theories: The agenda setting theory and the Development Media Theory.

The Agenda Setting Theory

In an article captioned "Broadcasting plus integrity equals better image for Africa" filed by Kabir Alabi Garba and published by the *Guardian* (2006, November 20), the agenda setting was defined in simple terms thus:

> Agenda setting claims that what the media finds important will eventually be mirrored in what people think are important. From agenda setting stems the formation of public opinions and the distribution of pros and cons of a particular issue or people. This will efficiently shift the focus of attention away from immediate effects on attitudes and opinions to longer-term effects on cognition.

Specifically focusing on the agenda setting function of the Media, Lang and Lang (1966, p.466) in Tsebee (2016) observe:

> The media force attention to explain issues. They build up public images of political figures. They are constantly presenting objects suggesting what individuals in the mass should think about, know about, and have feelings about.

Perhaps, this hypothesized agenda setting function of the mass media is most succinctly stated by Cohen (2004) in Janowitz and Hirsch (1981, p.128), who noted that the press may not be successful most of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about.

Folarin (1998, p.68) posits that agenda setting implies that the mass media predetermine what issues are regarded as important at a given time in a given setting. Agenda setting does not ascribe to the media the power to determine what we actually think; but it does ascribe to them the power to determine what we are thinking about. They set agenda for political campaigns for instance. The elements involved in agenda setting include:

- The quantity or frequency of reporting;
- Prominence given to the reports through the headline display, pictures and layout in newspapers, magazines, films, graphics, or timing on radio and television;
- The degree of conflicts generated in the reports: and
- Cumulative media effects over time.

In addition to politics and elections, research on agenda setting later focused on racial unrest, student riots, crime statistics, inflation, drug abuse, etc. additional examples that could furnish relevant research material in Nigeria include "June 12", military interventions, ethnic rivalries. "419", and paid assassination. Kunczik (1988, p.192) points out that the opportunity for agenda setting by the mass media becomes enhanced when the value structure of a society is in a state of flux (Relate this to Nigeria). Approximate procedures for examining agenda setting involve comparisons between media content over a certain period and the subjects that most people in society are discussing. The greater the consonance, the more agenda setting hypothesis, but it is generally agreed that it has a strong enough basis in logic and experience. As McLuhan (1968, p.204) concludes, the press can colour events by them in a particular way or by refusing to use them at all.

Collaborating with the above views, Defleur (1998, p.272) says a theory concerning the influence of the press on people's beliefs and an evaluation of the topics reported in the news was first reported by Max McCombs and Donald Shaw. The theory explains how individuals tend to regard some events and situations that they encounter through reports in the press as more important than others. Thus, the agenda set implies a relationship between the treatment of an issue or event in newspapers, television and radio news and the beliefs about the importance or significance on the part of individuals who make up the news audience.

Agenda setting theory grew out of the presidential political campaign 1968. Its authors studied how people in a community decided what issues among those that received extended news attentions are important. As it turned out, the public did not develop a kind of rank in their own minds about the importance of the different issues discussed in the news. The authors of the theory found a high level correspondence between the amount and kind of attention paid to a particular political issue by people in the community who had received information about it from newspapers and other news sources.

It was the press therefore that determined during a political campaign what issues people would discuss among themselves and how much importance they would attach to them. In other words, the people developed its own agenda concerning what issues were news and how much space and prominence to give to them. The agenda of the people then became the agenda of those who followed the news of political campaign. This does

not imply that the press tells people what it should think about and decides the issues. However, it does imply that the press tells people what they should think about and what issues were important enough to require their discussions.

Hundreds of research projects have been carried out by communication scholars since McCombs and Shaw first published their theory. The theory is applicable mainly to the relationship between political issues as these are discussed in the press and the beliefs about their importance. In any case, its basic propositions are these:

1. The press (news media in general) selects a number of issues, topics, and events from its continuous surveillance of the environment to process and report daily as the "news".
2. Because of limited space and time and because of journalists convictions as to what is "newsworthy", many issues and topics are ignored and do not become part of the news.
3. The press gives each of news stories selected greater or lesser prominence in its report by assigning it a particular position, or giving it more or less space or time, in their print and broadcast news presentations.
4. The selection of stories presented, with their different levels of prominence, space, and time, forms the news agenda of the press.

Therefore, when the public attends to these news reports they will perceive the order of prominence assigned by the press in its agenda of stories and will use it to decide on the personal rankings of importance of the issues and topics that make up the news.

Development Media Theory

According to McQuail (1987, p.121), the one thing which gives most unity to a development media theory is the acceptance of economic development itself (thus social change), and often the correlated "nation-building", as an overriding objective. To this end, certain freedom of the media and of journalists are subordinated to their responsibility of helping in this purpose. At the same time, collective ends rather than individual freedom are emphasized. One relatively novel element in development media theory has been the emphasis on "right to communicate" based on article 19 of the Universal Declarative of Human Rights: "Everyone has the rights to freedom to hold opinion without interference and to seek, receive and impart information ideas through any media regardless of frontiers." The main principles are summarized as follows:

- Media should accept and carry out positive development tasks in line with nationally established policy.
- Freedom of the media should be open to restriction according to (1) economic pictures (2) development needs of society.
- Media should give priority in news and information links to other developing countries which are close geographically, culturally or politically.
- Journalists and other media workers have responsibilities as freedoms in their information-gathering and dissemination tasks.
- In the interest of development ends, the State has a right to intervene in, or restrict, media operations, and devices censorship, subsidy and direct control can be justified.

In his own contribution, Odozi (2005, p.28) reasons that, because the road of underdevelopment has been traced to poor political leadership which thrives in corruption, favoritism, tribalism and despotism and because the greed of some leaders has resulted in the pauperization of the people, civil war and accumulation of stupendous wealth in the hands of very few, the media practitioners who believe in the tenets of development media theory reason that all the conditions leading to worsening welfare of the people should be exposed to pave way for desired development.

One of the tenets of agenda setting theory is that the mass media predetermines what issues are regarded as important at a given time in a given society. Agenda setting claims that what the media

finds important will eventually be mirrored in what people think are important. Thus, the media (print and electronic) are crucial in creating the needed awareness on the debilitating effects of climate change on Nigerian agriculture.

Relatedly, the development media theory according to Tsebee (2016) emphasizes constructive news, consisting of stories about social change, social economic welfare, and news that highlights technological, cultural or cordial relationships between nations. Nigeria is a third world or developing country; therefore, the tenets of this theory would help the media in communicating the effects of climate change on agriculture in Nigeria.

Tsebee (2016) observed that one of the salient roles of the mass media is information dissemination, a process by which message is transmitted from the sender to the receiver through a channel of communication. From ages communication has remained an important factor in human life and activities. The media encourages exchange of information, messages and ideas between people. It disseminates information for people for the purpose of education, entertainment or persuasion on issues bordering on all aspects of the society. Meyers and Meyers (1982) in (Ibid) believe that Man cannot but communicate as communication cannot be wished away. This is why communication plays a crucial role in managing climate change for sustainable agricultural development in Nigeria.

Literature Review

The term "climate change" can be defined as a synthesis or an amalgam of weather. In other words, it is the expectation of weather at a given time over a location or area. It can be regarded as the statistical abstraction of actual weather experienced in an area over a long period of time. This is why men see climate as the average weather condition (Ologunorisa, 2011, p.412). This notion of climate is not strictly correct. This is because climate includes not only the average weather conditions but also the probability of occurrence or re-occurrence of a particular weather event (Ayoade, 2003). The changeability of weather is a common phenomenon. This is because weather variations occur frequently often at a time scale of several years or hundreds of years. Climate is a variable phenomenon with variations occurring on varying time scales. And that is why various terms are used to describe variations or fluctuations in climate and these are valid with reference to some appropriate time at which the variations or fluctuations are considered. The terms "climate variability", "climate variations" and "climate fluctuations" are used to express the inherent variability of climate. Climate is not fixed or static but rather dynamic and changing. Climate trends occur only when fluctuations or variations in climate follow a trend over a period of time. The fluctuation may also be cyclical in nature to give rise to climate cycles. Over a long period of time, climatic fluctuations may be such that shift in type of climate over a given area. When this occurs, we then say there is a change or climate change

Climate change may involve a shift in climate zones or rain belts especially in the tropics. The effects of such shifts in rain belts on agriculture may be desirables or undesirable depending on whether or not the envisaged increase or decrease in precipitation amounts favours crop productivity. Since Co_2 is vital for photosynthesis, increase in Co_2 concentration would lead to increase in plant growth all things being equal. A doubling of Co_2 may increase the photosynthesis rate from 30% to 100% provided other environmental conditions such as temperature and moisture are suitable.

It should also be mentioned that plants respond differently to increase in Co_2 concentration depending on whether they are C_3 plant or C_4 plants while crops respond positively to the increase in the Co_2 content of the rain. Examples of C_3 crops are wheat, rice and soybeans. In contrast, C_4 plants and crops are less responsive to increased Co_2 level. Examples of C_4 crops are maize, sugarcane, sorghum and millet.

Parry (1990) observes that C_3 crops in both temperate and tropical regions may also benefit

from reduced weed in gestation under elevated level of Co_2 since most of the weeds that affect them are C_4 plants which would not be able to compete with crops under such conditions. On the other hand, C_3 weeds in C_4 crops areas especially in the tropics could become more of a problem.

High temperature under condition of global warming will encourage high rates of evaporation. Consequently there may be decrease in the length of the growing season in areas of the tropics without a compensating increase in precipitation. In contrast, high temperature would increase the length of the growing seasons in the middle and high latitudes as well as areas of high elevations increase. The submergence of coastal area and oceanic islands that would occur as a result of global warming-induced rise in sea level would wipe out such areas for agricultural production. Coastal and deltaic areas will also be adversely affected by a rise in sea level. Climate change would lead to increase in rise of crop failure as a result of high frequencies of drought, floods, storms and other related weather hazards to agriculture. Finally climate change may affect agriculture indirectly by influencing the types of crop pests and diseases that would be prevalent under the new climate regime.

Mass Media and Climate Change in Agriculture

Over the years, the agriculture sector has suffered neglect, especially on the part of government. The sector cannot be said to be developed (Tsebee, 2011, p.93). The discussions and calls for the Nigerian government to join the globe on ways to mitigate climate change in Nigeria have been left to very few environmentalists, journalists and learned agriculturalists all over the world. The changes in the climate are affecting all humans in adverse ways: the air we breathe, the food we eat and the water we drink (The *Guardian*, November, 2015, p. 8). In an article by Akotola titled "Food crisis stare Nigerians in the Face" and published in *Business Day* of October 18, 2011 (p.11), the debilitating effect of climate change and food crisis has become dreadful as poor yield in major stable food in Nigeria escalates with little or no concern from government authorities. The irregular and unpredictable rainfall and farm input like fertilizer pose great challenges as well as lack of storage facilities and technology that could give the country an edge over other countries.

The mass media no doubt have vital roles to play in conscentising Nigerians on the problem of climate change in agriculture. This can be done by constantly reporting on the consequence for agriculture in Nigeria.

Methodology

The study adopted descriptive survey design to collect quantitative data. The population of the study includes all the LGAs in Benue State. Due to paucity of funds and time the total population could not be studied. Consequently from the twenty-three LGAs in Benue State, two (2) local government areas were purposively selected for study.

Sample Size and Sampling Technique

The sample size of 200 farmers was selected from the 38,916 farmers through a combination of systematic and proportional sampling technique from the list of registered farmers from the selected LGAs in Benue State. The breakdown of farmers from the selected LGAs is as follows:

Gboko - 32,528
Makurdi - 6,388
Total - 38,916

The 200 farmers represent the sample population that questionnaire were issued. A structured questionnaire comprised of three main sections based on the three research questions of the study was used.

Table 1: List of Local Government Areas that were sampled from Benue State through proportional Sampling.

S/N	Name of Local Government	Percentage of total selected LG Population	Proportional Allocation of Respondents
1.	Gboko	83.6 %	167
2.	Makurdi	16.4%	33
	Total	100%	200

Source: Researcher, 2016

Proportional Sampling

Total Population in selected LGAs in Benue State = 38,916

Gboko = $\frac{32,528}{38,916} \times 100 = 83.6\%$ of 200 respondents of allocated to Benue State.

$= \frac{83.6}{100} \times 200 = 167$ respondents which is 83.6% of 200 respondents

Makurdi = $\frac{6,388}{38,916} \times 100 = 16.4\%$ of 200 respondents of allocated to Benue State.

$\frac{16.4}{100} \times 200 = 33$ respondents which is 16.4% of 200 respondents

Table 2: Farmers Listing Survey of Benue State

LGAs IN BENUE STATE

Ado	12,770	Agatu	20,445	Apa	27,176	Buruku	39,016	Gboko	32,528
Guma	13,833	Gwer East	17,357	Gwer West	2,665	Katsina Ala	27,939	Konshisha	47,328
Kwande	12,272	Logo	16,334	Markurdi	6,388	Obi	19,567	Ogbadibo	14,968
Ohimini	11,332	Oju	42,728	Okpokwu	14,189	Otukpo	31,176	Tarka	16,227
Ukum	12,351	Ushongo	8,544	Vandeikya	30,877				
Total								478,064	

Source: Planning, Monitoring and Evaluation Department, Benue Agricultural and Rural Development Authority (BNARDA), Makurdi, Benue State, 1992

From the sampling above, the two selected Local Governments were Gboko and Markurdi. Next, the researcher proceeded to select farmers who were 18 years and above who volunteered to participate from each of the selected LGAs based on proportional sampling technique where the population is divided into sub-populations (Strata) and random samples are taken of each stratum (The free dictionary, 2015, Tsebee, 2015).

In order to evaluate the coverage of the mass media on climate change among farmers in Benue State, 200 questionnaires were administered and 180 questionnaires were returned fully completed representing 90% response rate. Descriptive statistics such as frequencies and percentages, tables and graphical representations was used in the study.

Findings and Discussions

Research question 1: What is the effect of climate change on farming in Benue state?

Table 1: Effects of climate change on farming in Benue State

Effect	Frequencies	Percentage
Increase in crop failure	50	28
High frequencies of drought	40	22
High frequencies of floods	40	22
Increase in crop, pests and diseases	50	28
Total	180	100

Source: Field Work, 2016

Table 1 showed respondents' perception to the study question, what is the effect of climate change on farming in Benue State? A cursory look at the table reveals that the issue of increase in crop failure and increase in crop, pests and diseases are rated at 50 (28%) of the respondents, while high frequencies of flood and drought were considered by 40 (22%) of the respondents respectively. This reveals that increase in crop failure and increase in crop, pests and diseases are the major effects of climate change on farming in Benue State. This supports the literature reviewed which states that changes in climate are affecting farmers in adverse ways in Nigeria and Benue State in particular.

Research Question 2: What is the performance of the Nigerian media in communicating the effects of climate on agriculture to farmers in Benue state?

Table 2: Performance of Nigerian media in communicating climate change on agriculture to farmers in Benue State

			The media did not create enough awareness			
			Completely True	Some what True	Unsure	Total
Media performance on climate change	Yes	Freq (%)	110 (61%)	30 (17%)	30 (17%)	170 (94%)
management	No	Freq (%)	10 (6%)	0	0	10 (6%)
Total		Freq	140 (78%)	40 (22%)	40 (22%)	180 (100%)

Source: Field Work, 2016

Table 2 above showed that 110 respondents' representing 61% were of the opinion that it is 'Completely true' that the media did not create enough awareness; 30 respondents representing 17% were of the opinion that it is 'Somewhat true'; 30 respondents representing 17% were 'Unsure' while 10 respondents representing 6% chose that it is completely true that the media created awareness; no respondents was of the opinion that it is somewhat true or are unsure that the media created enough awareness. Indeed, on responses above, it is glaring that the Nigerian media did not create enough awareness in communicating the effects of climate on agriculture to farmers in Benue State to a very large extent.

Research question 3: How frequent were the media messages on the effects of climate change on farming in Benue State?

Table 3: Frequency of media messages on the effects of climate change on farming in Benue State

	Frequency	Percent %
Very Often	35	19 %
Fairly Often	25	14%
Occasionally	120	67%
Total	180	100%

Source: Field work, 2016

It can be seen from Table 3 above that 35 (19%) of the respondents believed that the frequency of the media messages on the effects of climate change on farming was very often; 25 (14%) said fairly often while 120 (67%) supposed occasionally. Therefore, it is accepted that the media did not adequately expose farmers to media messages on the effects of climate change on farming in Benue State. These findings support the literature reviewed on the issue which affirms that the effect of climate change on farming in Benue State has not been given a front desk attention.

Conclusion

One of the greatest challenges facing Nigerian Media in Benue State today is how to effectively communicate the debilitating consequences of climate change on agriculture among farmers. The media has an important role of disseminating information to farmers. This is why this study attempted to answer a very pertinent question on what is the performance of the media in communicating the effects of climate change on agriculture among farmers in Benue State.

The assessment of the media on their role of communicating climate change to farmers in Benue State showed negative development based on the findings of the study. It was concluded that the media did not create enough awareness on the effect of climate change among farmers in Benue State. Out of 180(100%) respondents those who said the media did not create enough awareness on the issue (to a very large extent) were 110 (61%) while only 10 (6%) of farmers said the media created enough awareness. Those who said it is "somewhat true" the media created enough awareness were also 10 (6%).

It is therefore concluded that the media have not adequately communicated the effects of climate change on agriculture to farmers in Benue State. Thus, the problem of climate change in Benue State has not received the desired attention from the media. The study also established that the media did not adequately expose farmers to messages on the effects of climate change on agriculture in Benue State.

Recommendations:

On the basis of the findings above, the following recommendations are made:

1. The issue of climate change should be given front burner attention by the Nigeria media
2. Journalists should be periodically exposed to training and re-training on how best to report climate change issues.

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