Effectiveness of the Use of Indigenous Language in Disseminating Climate Change Information for Sustainable Environmental Development in Nigeria

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Abstract
Climate change has undoubtedly brought with it many seemingly intractable challenges and is already having significant impacts in Nigeria, and these impacts are expected to increase in the future. Rural dwellers environmental behaviour is not all that positive, because the language used in disseminating environmental issues, is mostly English and not the indigenous language. Information disseminated in English Language in most cases is not easily comprehended, because most of the rural dwellers are not literate in it. The instrument used is a self-constructed test. The study adopted the quasi experimental method. Purposeful sample was used to select two groups, with twenty people in each group. The two groups were taught the causes and effects of climate change, one group was taught using English Language and the other group using Yoruba. A test was administered to each group to determine their level of comprehension. Data were analysed using mean and standard deviation. Yoruba group are more in-depth in their knowledge of climate change than English group. The use of mother tongue is germane in the dissemination of information regarding environmental sustainability, however climate change messages will be most effective if there is mix of English Language and Yoruba Language as there is no segment of the society that will be left out.

Keywords: Climate Change, Language, Mother tongue, adaptation, mitigation

1. Introduction
The issue of climate change seems to be the most dominating social discourse in the 21st century because it has undoubtedly brought with it many seemingly intractable challenges.

Climate can simply be defined as 'average weather' and is described in terms of the mean and variability of relevant characteristics such as temperature, precipitation and wind over a period of time ranging from months to thousands or millions of years. Climate reflects how weather behaves over the long-term, it is different from weather which is regarded as a particular meteorological condition that humanity experience daily, it is often characterized by precipitation, temperature, wind, and so on. Meteorological conditions, like the annual average temperature at the earth's surface, change over time, and a small change in these conditions can result ice ages, or warm periods. Over the past century, an increase of the earth's average surface temperature of about +0.76°C has been observed. Several natural factors that can influence the climate, include changes in the Earth's orbit around the sun, volcanic eruptions, or heightened or diminished solar activity. However,

the current global warming that humanity is experiencing has been primarily linked to an increased concentration of heat-trapping greenhouse gases (GHGs) such as carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) in the atmosphere (UNESCO/UNEP, 2011).

The 2007 Intergovernmental Panel on Climate Change (IPCC) Assessment Report confirms that the warming of the global climate is unequivocal and this is due to human activities (also known as anthropogenic activities) which have been increasing since the dawn of the industrial age. These activities include, among others, the burning of fossil fuels (coal, oil and gas), clearing of forests, and agricultural practices all of which lead to increased GHG concentration in the atmosphere. The impacts of global warming manifest in conditions such as melting glaciers, increased frequency of extreme weather events such as droughts, cyclones or heavy rainfalls, sea level rise, and changes in plant growth which affect agriculture and food production. These and other observed changes are expected to intensify and inflict a significant impact on human societies and the environment around the world especially if no drastic efforts are undertaken to reduce the emissions of GHGs into the atmosphere (UNESCO/UNEP, 2011).

There is a discernible human influence on the global climate; put simply, humans have contributed to observed global warming. The current consensus of the scientific community is that the following fundamental conclusions provide only a glimpse of the changes that future generations will have to accept and face (UNESCO/UNEP, 2011):

- The planet is warming due to increased concentrations of heat-trapping gases in our atmosphere.
- Most of the increase in the concentration of these gases over the last century is due to human activities, especially the burning of fossil fuels and deforestation.
- Natural causes always play a role in changing Earth's climate, but are now being overwhelmed by human-induced changes.
- Warming the planet will cause many other climatic patterns to change at speeds unprecedented in modern times, including increasing rates of sea level rise and alterations in the hydrologic cycle. Rising concentrations of carbon dioxide are also making the oceans more acidic.
- Climate change impacts are already being observed, including more frequent and extreme weather patterns, changes in plant growth affecting agriculture and food production, loss of plant and animal species unable to adapt or migrate to changing conditions, changes in the spread of infectious diseases in terms of the rate and the expansion of ranges, changes in the flow of ocean currents, and changes in seasons.
- The combination of these complex climate changes threatens coastal communities and cities, our food and water supplies, marine and freshwater ecosystems, forests, high mountain environments, and far more.

The effects of human activities have also been identified in many other aspects of the climate system, including changes in ocean heat content, precipitation, atmospheric moisture and Arctic sea ice.

2. Mitigation and Adaptation

Proactive efforts to reduce greenhouse gas (GHG) emissions – mitigation – and lessen the harm of climate change impact – adaptation – are two different but complementary approaches towards dealing with climate change. Mitigation tackles the causes of climate change while adaptation tackles its effects on society and the environment. Mitigation is necessary as a means to avoid climate change impacts. The idea that less mitigation now will result in greater climatic change and consequently require more adaptation later is the basis for the urgency surrounding GHG emission reductions. If no action is taken to reduce emissions, the concentration of GHGs in the atmosphere could reach double that of pre-industrial levels by 2035, virtually binding the planet to a global average temperature rise of over 2 °C. In the long term, there would be a greater than 50% chance that the temperature rise would exceed 5 °C. This rise is equivalent to the change in average temperature from the last ice age (10,000 to 12,000 years ago) to date. Such a radical change would lead to major changes to where people live and how they live their lives. It would also mean radical changes that will likely impact negatively on each of the world regions. UNESCO/UNEP (2011) suggested that the following strategies are necessary to reduce the risks of climate change:

- Mitigation – the causes of climate change are removed by reducing GHG emissions. "avoid the unmanageable…"
- Adaptation –

the effects of climate change are dealt with by coping with their negative impacts.

"… and manage the unavoidable" (Kropps and Scholze 2009). Adaptation to observed and projected future climate change is already taking place, though only on a limited basis. Some examples of adaptation measures that are being implemented include the introduction of drought tolerant crops, building of houses which are more resistant to weather events, introduction of flood and coastal defences, and restoring mangroves to reduce vulnerability to storm surges and sea level rise (UNESCO/UNEP, 2011).

3. Climate Change impact in Nigeria

The impact climate change is assuming alarming dimension in Nigeria. Flooding, cyclone, desertification, ocean incursion, acid rain and so are in the increase and are already having significant impacts in Nigeria, and these impacts are expected to increase in the future. Recent estimates suggest that, in the absence of adaptation, climate change could result in a loss of between 2% and 11% of Nigeria's GDP by 2020, rising to between 6% and 30% by the year 2050. This loss is equivalent to between N15 trillion (US$100 billion) and N69 trillion (US$460 billion). This large projected cost is the result of a wide range of climate change impacts affecting all sectors in Nigeria (Federal Ministry of Environment, Climate Change Department 2011).

A study by DFID (2009) predicts a possible sea level rise from 1990 levels to 0.3 m by 2020 and 1m by 2050, and rise in temperature of up to 3.2°C by 2050 under a high climate change scenario. This is based on IPCC climate change assumptions, latest research findings and results of a consultation exercise in Nigeria. The low estimate predictions are for sea level rise of 0.1 m and 0.2 m by 2020 and 2050 respectively, and a temperature increase of 0.4 to 1°C over the same time periods. Sea level rise of 1m could result in loss of 75% of the Niger Delta (Ministry of Environment 2010).

The National Environmental, Economic and Development Study (NEEDS) document identified paucity of information as one of the challenges facing climate change policy formulation in Nigeria. It stressed that up-to-date data that is critical for climate change analysis and information dissemination, as well as improve our understanding of the climate problem in the context of sustainable national development, is not readily available in Nigeria in a coherent and accessible manner. The country will need to reinforce its efforts at putting in place a comprehensive climate change information management system that is updated periodically and readily accessible (Ministry of Environment 2010).

4. Need for Specially Packaged Information Model for Climate Change Information

Climate change by its peculiar nature calls for a special climate change information design. For example climate information and support services play a critical role in providing early Warning Systems (EAS) as well as increasing awareness for building the capacity and disaster preparedness to a changing climate. Choice of of the dissemination channels can influence access and use of climate information and service disseminated to enable the vulnerable groups exposed to climatic hazards build adequate response capacities (Cherotich, Saidu and Bebe 2012) According to Menny, Osberghaus, Pohl, and Werner (http://ftp.zew.de/pub/zew-docs/dp/dp11060.pdf) climate change is the triggering mechanism for a variety of changes, but it cannot be experienced in itself. The consequences triggered by climate change happen very slowly and can only be determined through statistical analysis of temperature and precipitation data, and by continuous monitoring of their variations and the effects induced on the natural environment such as extreme weather events. These observations and analyses have to take a long view, therefore generating long-term predictions.

Perusing literature, Menny, Osberghaus, Pohl, and Werner (http://ftp.zew.de/pub/zew-docs/dp/dp11060.pdf) discovered that all these factors create an image of climate change as a phenomenon in which most people can believe or not since they mainly must rely on scientific models, expert judgments, and media reports. Personal

experiences with potential effects of climate change, e.g. longer drought periods for farmers or more frequent flooding of homes, are rare. Therefore it can be assumed that the majority of people rate the risk of climate change on an abstract, cognitive level which might lead to an underestimation of the hazards of climate change.

Information dissemination is a two way process, passing information, knowledge or ideas from a (source) one person or a group of persons to another person or group of persons (receiver) in a cyclic manner in which the source may turn the receiver and vice-versa. An examination of environmental messages by authors and authorities shows an alienation of most of the people who the messages are meant for. The reason is that the messages are packaged in the language that most people do not understand- English language. The newspapers content, and most radio and television programmes are designed in English language, Not only does the language of packaging make the messages foreign and elite-oriented, it results in the ex-communication of the people for whom messages are meant. Olusola (2007) itemised the following significance of indigenous languages to environmental communication:

Language is primarily a means of conveying meaning from one person to another i.e it is a means of communication. However, it does not exist independent of culture. In other words, language is situated within a socio-cultural setting or community. It is an integral part of culture, a reflection of many features of a given culture. Like culture itself, it is a learned behaviour, which can be facilitated or enhanced through direct or indirect context of acculturation.

The inseparable nature of language from culture makes it of much significance to environmental communication. As noted by Soola (1998) cited by Olusola (2007) the success of any development message will be determined by the extent to which such communication is "predicated on an understanding of the society's culture, its peculiar syatem of values and attitudes"

Wallace 1996 cited by Olusola (2007), also noted that cultural context and intimacy with culture will give a deeper meaning to the understanding of language and the circumstances in which it occurs will determine believability or sense of reality. This aligns with Oladipo's 1995 Cited in Olusola (2007) view that the meaning of a linguistic expression cannot be established outside the context of the form of social interaction which shapes it. It follows then that indigenous language being a part and carrier of culture is best suited for communicating environmental messages. Owens-Ibie 2002 quoted by Olusola (2007) identifies the acceptability of language of communication to the audience as one of the criteria for thriving environmental awareness campaign. This stresses the significance indigenous language to environmental communication because it is most acceptable language to the audience being an integral part of the culture of the people. Wallace 1996 as recorded by Olusola (2007) emphasised the point that native language when used in the media, writing or the arts is powerful in bringing about changes in the lives of people. He also stated that the native language heals; it sets the mind positively in whatever endeavour being undertaken and that it is critical to being whole and well. He adds that the native language is a catalyst toward strengthening the concept of becoming; that is, the recognition of the importance of self, getting to know and accepting self. Indigenous language has been proved to be very potent in creating a critical mass of real communication for substantial change (Burnay, 1997 cited in Olusola 2007). Fafunwa cited in Adekunle 1995 and quoted by (Olusola 2007) also noted that indigenous language can be used to raise the standard of living in the rural areas by using them in adult education programmes to teach basic technology. Folarin and Mohammed 1996 quoted by Olusola (2007) had also called attention to the fact that indigenous language press can be a veritable instrument in mobilising the vast majority, who are unlettered in English language, to be involved in the political process.

Going by the foregoing, it is incontrovertible that climate change information dissemination seems defective in Nigeria, hence the submission of Mbah and Ayegba (2013) that lack of proper information dissemination, is the major problem militating against proper management of human environment. He further argued that a good number of people are yet to be aware of causes and effects of climate change because of lack of proper information dissemination.

5. Statement of the Problem

A perusal of environmental messages shows a disconnect of the target audience of such messages, this is because the messages are disseminated through a language that is not commonly understood by the majority of the vulnerable people. Environment messages in newspapers and most radio and television programmes are usually disseminated in foreign language " not only does the language of packaging makes the message foreign and elite oriented, it results in ex-communication of the people who the messages are meant for". Even the the indigenous language newspaper (Alaroye) gives very low coverage to environmental sustainability. A study on development content of Yoruba newspapers (Salawu, 2002) shows that all the development issues combined take 27.3% of editorial content issues of newspapers analysed. Olatumile (2014) content analysed some community newspapers and found that environmental issues were not part of their editorial content. One major challenge facing implementation of policies in Nigeria is inadequate dissemination of information, especially to the marginalised rural dwellers. The imperative of communication to environment as it concerns creation of awareness and attitude change demand urgent attention, because the magnitude of environmental problems underscores the urgent need for a more determined approach to solving the problems. Rural dwellers environmental behaviour is not all that positive, because the language used in disseminating environmental issues, is mostly English and not the indigenous language. Information disseminated in English Language in most cases is not easily comprehended. Therefore this study is set to make a case for the use of indigenous language in disseminating information on climate change among rural dwellers.

6. Purpose of the Study

- Ascertain the difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers

- Ascertain the difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of sex

- Ascertain the difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers

- Ascertain the difference between Yoruba and English language in the understanding and assimilation of information as regard environmental sustainability

7. Research Question

- Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers?

- Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of sex?

- Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of age?

- Is there any difference between Yoruba and English language in the understanding and assimilation of information as regard environmental sustainability?

8. Research Method

The population of the study is inhabitants of Akungba-Akoko in Ondo State Nigeria. Akungba-Akoko is a heterogenous community that is assuming an urban status because it houses a university. With the influx of University students, the population is becoming explosive and it is not devoid of the implication of environmental

challenges. The instrument used is a self-constructed test. The study adopted the quasi experimental method. Purposeful sample was used to select two groups, with twenty people in each group. The two groups were taught the causes and effects of climate change, one group was taught using English language and the other group using Yoruba language. Yoruba is one of the three major languages spoken in Nigeria, it is the language of the people of South West Nigeria. Data were analysed using mean and standard deviation.

Research Question 1: Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers?

Table 1: Cross tabulation showing difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers

Language	Scores	40%	60%	80%	100%	Total
English	F	4	7	5	4	20
	%	20.0	35.0	25.0	20.0	100.0
Yoruba	F	0	5	5	11	20
	%	0.0	25.0	25.0	55.0	100.0
Total	F	4	12	9	15	40
	%	10.0	30.0	22.5	37.5	100.0

The result in table 1 above revealed that most of the participants that got the information in Englisg Language assimilated with an average performance of 60%. The distribution was such that 4 (20%) of the participants that got the information in English Language had 40% on the rating, 7 (35%) had 60% rating, 5 (25%) had rating of 80%, while 4 (20%) had rating of 100%. The findings of participants that got the information in Yoruba showed that none had rating of less than 60%. 5 (25%) had rating of 60%, 4 (20%) had rating of 80%, while 11 (55%) had rating of 100%.. These imply that majority of those that got information in Yoruba Language performed better compared to those that got the information in Yoruba performed better compared to those that got information in English Language. Therefore dissemination of information on environmental sustainability is better delivered using mother tongue.

Research Question 2: Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of sex?

Table 2: Mean and standard deviation summary showing the difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of sex

Language	Sex	Mean	Std. Deviation	N
English	Male	3.13	6.41	8
	Female	3.67	1.231	12
	Total	3.45	1.050	20
Yoruba	Male	4.57	.787	7
	Female	4.15	.899	13
	Total	4.30	.865	20
	Male	3.80	1.014	15
Total	Female	3.92	1.077	25
	Total	3.88	1.042	40

From the table above, it was depicted that both males and females that received information on environmental sustainability in English Language had similar mean score they all ranged around three. Although, there were little difference such that females (M=3.67; SD=1.231) scored higher compared to males (M=3.13; SD=0.641). The findings from the retention of information disseminated in Yoruba Language indicated that both males and females

had similar mean score, but contrary to that of English Language, males (M=4.57; SD=0.787) performed a little higher compared to their female counterparts (M=4.15; SD=0.899).

Research Question 3: Is there any difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of age?

Table 3: Mean and standard deviation summary showing the difference in the use of mother tongue and English language when disseminating information on climate change among rural dwellers on the basis of age.

Language	Age	Mean	Std. Deviation	N
English	21-30 years			
	31-40 years	3.71	1.380	7
	41-50 years	3.36	.924	11
	51-60 years	3.00	.000	2
	Total	3.45	1.050	20
Yoruba	21-30 years	3.00		1
	31-40 years	4.33	.707	9
	41-50 years	4.67	.816	6
	51-60 years	4.00	1.155	4
	Total	4.30	.865	20
	21-30 years	3.00		1
Total	31-40 years	4.06	1.063	16
	41-50 years	3.82	1.074	17
	51-60 years	3.67	1.033	6
	Total	3.88	1.042	40

The result in Table 3 above showed the influence of language on disseminating of environmental sustainability information on the bases of age groupings. The result of those exposed to information in English Language revealed that they all had similar mean score ranging around 3. The differences were such that those within the age ranges of 31 and 40 years had the highest impact mean score of 3.71. This was followed by those within the age ranges of 41 and 50 years with mean score of 3.36. Lastly were those within the ages of 51 and 60 years. This implies that using English language impacted more in younger individuals better compared to older ones. The result of those exposed to environmental sustainability in Yoruba indicated that most of them fall within the mean score of 4. The highest observed were those within the age range of 41 and fifty years with mean score of 4.67. this was followed by those within the age ranges of 31 and 40 years with the mean score of 4.33. the least were those within the age range of 21 and 30 years with the mean score of 3.00, while they were followed by those within the ages of 51 and 60 years with mean score of 4.00. The result indicated that the highest dissemination and assimilation of environmental sustainability information in Yoruba was among individuals within the ages of 31 and 50 years, while those below and above these groupings were less impacting.

Research Question 4: Is there any difference between Yoruba and English language in the understanding and assimilation of information as regard environmental sustainability?

Items	Response		Language		
			English	Yoruba	Total
What is climate Change?	Right	F	9	17	26
		%	45.0	85.0	65.0
	Wrong	F	11	3	14
		%	55.0	15.0	35.0

One of the human factors that cause climate change is?	Right	F	18	18	36
		%	90.0	90.0	90.0
	Wrong	F	2	2	4
		%	10.0	10.0	10.0
What method could be used to reduce climate change?	Right	F	16	18	34
		%	80.0	90.0	85.0
	Wrong	F	4	2	6
		%	20.0	10.0	15.0
What are green house gases?	Right	F	7	16	23
		%	35.0	80.0	57.5
	Wrong	F	13	4	17
		%	65.0	20.0	42.5
What are the effects of climate change?	Right	F	19	17	36
		%	95.0	85.0	90.0
	Wrong	F	1	3	4
		%	5.0	15.0	10.0

The result in table 4 above showed the extent to which language could affect the dissemination, assimilation and understanding of information on environmental sustainability. It was indicated on the first item enquiring about knowledge of climate change, majority of the participants (55%) that got the information on English Language did not understand it properly. On contrary view, majority of those that got the information in Yoruba (85%) understood it, while just 15% did not assimilate the information properly. This implies that it is preferable to pass information on definite meaning of climate change through mother tongue than the use of other formal language.

The question about the human factor that causes climate change indicated that participants in both group (English and Yoruba) understood and assimilated the information rightly. This was with majority of 90% each getting the message in the right forms. This implies that the dissemination of information on the human factor causing climate change could either be disseminated in mother tongue or English Language, this is because it will be well assimilated by the target audience.

The response on the method that could be used to reduce climate change indicated that participants that got the information in Yoruba understood it better than those that got it in English. This was such that 90% assimilated properly in Yoruba while 80% did in English Language. This implies that the dissemination of information on method to reduce climate change can best be done using mother tongue since individuals will understand and assimilate better when enlightened through the medium of Yoruba.

The test on understanding of what greenhouse gas means indicated that majority will better understand this concept if explained in their mother tongue. This was with the findings that showed that most of the participants that got the information in English Language were not able to explain the concept (65%). Just 35%. From the list of those that got the concept in Yoruba Language, 80% were able to explain the concept rightly. This implies that information on greenhouse gases are better disseminated in Yoruba than in English Language.

Lastly, the table revealed that most of the participants that got the information on the effect of climate change in both languages understood it. Although those that got it in English Language were higher than those that got it in Yoruba Language. This was with 95% in English language and 85% in Yoruba Language. This implies that information on effect of climate change will better be disseminated in English language.

9. Discussion

Findings of the study corroborated the findings of other researchers. For instance, Okafo and Noah 2014 found that 98.07% of the total respondents opined that the language used in carrying out developmental projects is of great significance to the success of the project. 97.11% respondents believed that when local languages are used in the execution of community development projects, participation is enhanced. 100% of the respondents agreed that the use of local language of the target group is better than the use of foreign language for the purpose of community mobilization. Oyero (2007) in his study found that indigenous language is significant in broadcasting, 88% of the respondents understand radio programme better in their indigenous language. 95% agreed that they derive better meaning from the radio messages when the indigenous language is used.

10. Conclusion

Knowledge is key to sustainable environmental development, as such knowledge of people about climate change is key to the development in the area of sustenance of the environment. The use of mother tongue is germane in the dissemination of information regarding environmental sustainability more in particular the use of mother tongue in dissemination of information seems to be more effective in rural communities who seem more vulnerable, however climate change messages will be most effective if there is mix of English Language and Yoruba Language as there is no segment of the society that will be left out.

11. Recommendations

- Climate change messages should be packaged using a blend of English Language and indigenous languages in Nigeria.

- Mother tongue and the its components like folklore, tales, proverbs, riddles songs and the likes should be used in packaging of information regarding environmental sustainability for rural dwellers.

- Media outfits, Environmental Professionals, NGOs, and environmental Activists should translate climate change messages to the indigenous Languages of the immediate environment in Nigeria..

- Local Government should organise seminars, workshops, and talks in Languages of the environment for the purpose of sensitising people about the need to be environmentally conscious.

- Female children should be encouraged at tender age to cultivate the habit of using mother tongue

- Production of billboards, posters, handbill, flyers with climate change messages in the language of the environment should be encouraged

References

Centre for European Economic Research. Retrieved from http://ftp.zew.de/pub/zew-   docs/dp/dp11060.pdf   on 22 May 2016

Cherotic V K, Saidu O, Bebe B O (2012) Access to climate Change Information and Support   Services by the Vulnerable Groups in Semi-Arid Kenya for Adaptive Capacity   Development. *African   Crop Science Journal* 20 (2) 169-180 of the Roles of Discussion Paper No. 11-060

Federal Ministry of Environment (2010) National Environmental, Economic and   Development   Study (NEEDS) for Climate Change in Nigeria (Final Draft). Abuja: Federal Ministry of Environment.

Federal Ministry of Environment Climate Change Department (2011) National Adaptation   Strategy   and Plan of Action on Climate Change for Nigeria (NASPA-CCN). Abuja: Federal Ministry of Environment.

IPCC (Intergovernmental Panel on Climate Change), 2007 Climate Change 2007: Impact,   Adaptation and Vulnerability. Contributions of WorkingGroup II to t5he 4th   Assessment   Report   of   the Intergovernmental Panel on Climate Change. M L Parry,O   F Canziani, J P Palutikof, P J Van Der Liden and C E hanson eds Cambridge   University Press. Cambridge, 976 pp

Mba, E E and Ayegba M (2013) Proper Dissemination of Information on Climate Change: A   comparative Study of the roles of Official and Indigenous Language in Nigeria.   *International Journal of Physical and Human Geography*. 1 (2): 21-30.

Menny C, Osberghaus D, Pohl M, and Werner U (N. d) General Knowledge About Climate   Change, Factors Influencing Risk Perception and Willingness to Insure.

Okafo M and Noah P (2014) The Role of Local Languages in Sustainable Community   Development Projects in Eboyin State, Nigeria. *European Scientific Journal*. 10 (35):   272-283

Olatumile, A. (2014). "Impact of Rural Newspapers for Adult Education and   Development   in   Ondo State, Nigeria." *Akungba Journal of Historical Studies*, 13&14.

Oyero , O. (2007) Dynamics of Indigenous Language in Environmental Communication. *Lagos Papers in English Studies* 1 (1): 228-235.

Salawu, A (2002) Development Communication in Yoruba Newspapers in Soola E. O. (ed.)   Communicating for Development Purposes. Ibadan: Kraft Books Limited.

UNESCO/UNEP 2011 Climate Change Starter's Guidebook. Paris UNESCO

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