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Abstract

Climate change is one of the most serious environmental and human threats of the 21st century. It is a product of the consumers' actions and inactions, directly or indirectly that has led to high levels of the various greenhouse gases in the atmosphere and that have caused temperature to rise more than normal. Consumers demand for and consumption of products and services has gone unabated and particularly those rooted in unsustainable production methods. As years go by with no significant actions, the impacts of climate change will intensify with probable catastrophic effects. Across the world, how well informed are consumers about climate change or ready to take actions on it has no certain answer. This study determined the level of consumers' awareness and perception of climate change. It also investigated consumers' adaptation actions against climate change. A sample of 500 respondents was used for the survey. The findings of the study were mix; the relationship between consumers' perception of climate change and the adoption of all the adaptation variables used in the study were significant but for three variables (Turn off all electrical appliances when not in use; Buy a locally made product rather than one imported from far away and; Talk to friends or family about global warming). The result also showed that some of the variables the consumers adopted were more expensive than the ones they declined. This created the suspicion that such variables were chosen for social status rather than to control climate change. Other finding included that the consumers lacked understanding of their role in the cause of climate change. Also the knowledge of what the consumer roles are in mitigating climate change was insufficient. So enlightenment is required; electronic media particularly radio should be used as the primary mass media for communicating climate change information as it is readily available and can be powered by battery in locations where there is no electricity. Government and media must partner to ensure that consumers are well positioned to have access to climate change information for knowledge and to take action.

Keywords: Adaptation measures; Climate change; Consumer awareness; Global warming and; Perception of climate change.

Introduction

Climate change refers to a change attributed directly or indirectly to human activities that alter the composition of the global atmosphere and which are in addition to natural climate variability observed over comparable time periods (United Nations Framework Convention on Climate Change, 1992). Mainly, these human activities are generated in order to meet the consumption needs of individuals often refer to as consumers. To link the consumers with climate change, it is important to mention how their actions impact to cause a change in the climate. Global warming and climate change have a cause and effect relationship, the consumers' consumption demands and activities create greenhouse gases. The greenhouse gases in the atmosphere form a blanket that trap the sun's heat which causes the globe to warm up than normal. The effect is that there is a variability in climate more than could be attributed to nature (EPA 2015).

The activities carried out by consumers directly or on their behalf by producers and suppliers produce different types of greenhouse gases that cause the atmosphere to become warmer than it will be naturally, with the resultant adverse change in the global climate. It is one of the most serious environmental and human threats undermining the achievement of the Millennium Development Goals (MDGs) and the international communities' efforts to reduce extreme poverty (Nzeadibe et al 2011).

The heightened impacts of climate change are likely to intensify in the coming years, have overwhelmed local and traditional knowledge and technologies, leaving many people with inadequate information and little means to deal with the challenges (Abiodun et al 2011). However the focus on climate change as a phenomenon suggests it is a consumer issue in terms of the causes and effects. Whilst on the one hand consumers contribute significantly to climate change by engaging in unsustainable consumption behaviours, other consumers, many with low consumption habits, are unconsciously suffering the impact across the whole world (Consumers International, n.d.). Hence consumer actions and/or inactions are important in climate change discussion going forward; must form the basis upon which adaptation and mitigation strategies revolve.

The studies by Consumers International (2007) and Swim et al. (2010) indicated that consumers believe that climate change is a mainstream consumer issue and are strongly concerned about global warming; are ready to take action and that some consumers, particularly from developed countries have already made some easy, close-to-home changes such as reducing energy consumption at home and buying energy efficient light bulbs or appliances.

As encouraging as the outcome of Consumers International (2007) and Swim et al. (2010), it cannot be generalised world-wide today due to different level of awareness and perception of global warming and climate change. In sub-Sahara Africa, the climate change campaign has not received the necessary boost to create the much needed awareness that assist perceptual definition of the individuals in relation to climate change. Worst still is the fact that many other problems such as poverty, hunger, political conflict and war make less attention to be given to climate change issues (Ochieng & Koske 2013). Apart from awareness, many consumers concerned about climate change do not feel motivated or empowered to take action despite the increased perception of climate change as a threat across the world (Leiserowitz, 2006; Ochieng & Koske 2013; Pew Research Centre, 2013). Also very few consumers have translated their perception of climate change as real, into broader purchasing choices, or behaviour change (Consumers International 2007). The objectives of this study therefore are to determine the level of consumers' exposure to climate change information, their perception of the phenomenon and what they are doing or willing to do as adaptation measures.

This study was conducted in Nigeria and it is important for setting policy direction and implementation. According to Sayne (2011), Nigeria's climate will experience growing shifts in temperature, rainfall, storms, and sea - levels throughout the twenty-first century. The Intergovernmental Panel on Climate Change (IPCC) identified Nigeria as a climate change "hot spot" likely to see major shifts in the weather condition (Boko et al 2007). Understanding Nigeria's climate future and how to develop adaptation responses depends on better country-specific and local-level analysis. So it is important that the role of the consumers in the climate change dilemma must be discussed.

Literature Review

Consumers and climate change

Consumers International (n.d.; 2007) reported consumers are concerned about climate change and about its effects; many want to act in ways consistent with reducing emission of greenhouse gases. Many consumers, particularly in the developing world, are dealing with the effects of climate change already (Klein 2013; Nordlund & Garville 2003; Baumberg 2003). In spite of the global agreement about the problem, there is a lack of effective action towards changing consumption behaviour of the consumers (Consumers International, n.d.; Boko et al., 2007).

Consumer attitude, needs and lifestyle are reported to be mainly responsible for global warming and the changes being experienced in the climate. In this regard, there is the belief that it is the responsibility of individuals to tackle climate change, not necessarily the government despite the need for the government to drive the agenda (Consumer International 2007; European Commission 2011).

As consumer actions are major direct and indirect contributor to climate change, changing consumer understanding and behaviour worldwide is a crucial task in responding to the phenomenon (Patchen 2006). Though there is a gradual shift in consumer awareness, understanding and consciousness of climate change and its impacts on a global scale, the roles of consumers, consumer groups, governments and industries are still not clear (Patchen 2006; Consumers International, n.d.; 2007).

Effective consumer action against greenhouse emission is limited by sparse or misleading product and service information, lack of effective and clear regulation, and lack of helpful choice. While consumer action remains key to climate change adaptation, the large number of consumers who seek to promote sustainable consumption through their purchasing behaviour are lost or confused in the face of underdeveloped, scarce, and inconsistent product and service quality standard (Consumers International, n.d.; 2007). According to Grant (2011) and European Commission (2011), changing consumers' behaviour, especially toward energy efficiency will play an important role in addressing the problems of climate change. This suggests that under the right conditions, changed consumer behaviour can lead to culture-based solutions by providing time to make a cultural transition.

There is a general willingness among consumers to pay for government implemented energy efficient measure to the best of the individuals' ability (Klein 2013). However, Patchen (2006) noted that people are more likely to act to preserve the environment and specifically to combat climate change when they are emotionally aroused at the present reality and future dangers of environmental threats and; to see that their actions will bring net benefits to themselves, society, and the natural world. Consumers form such judgments and emotions in the context of their values thus, messages providing information about the consequences of climate change need to be framed in the context of those values that are central to particular audiences (Patchen 2006; Clore & Huntsinger 2007).

Providing people with information that arouses their emotion about the dangers of climate change is not likely, in itself, to stimulate effective action. For emotion to translate into deed, people must see themselves as sharing personal responsibility for the problem and must be informed about specific actions that they can take and support to counter climate change (Patchen 2006).

Consumer awareness and perception of climate change

Knowledge about climate change and its impacts is related to availability and accessibility to information on the phenomenon. It was found that the mass media (radio/TV and newspaper) was the largest source of information on the climate change phenomenon. A significant number of respondents, however, reported that their source of climate change information was word-of-mouth (Nzeadibe et al 2011).

A major step in fighting environmental threats is to increase the knowledge about the environment and the awareness that many environmental problems are largely the results of human activities. Moreover, the lack of environmental knowledge is a major barrier to consumers' engagement with protecting the environment. (Peycheva et al 2014).

Consumer perception of climate change varies; Pugliese and Ray (2009) reported that climate change is more likely to be perceived as a serious problem in the developed world than in developing countries, despite developing countries being the most vulnerable to climate change impacts. As resources are put together to mitigate climate change, there is need for change in the perception of consumers through awareness creation and education of consumer about climate change. According to Nzeadibe et al. (2011) and Ochieng and Koske (2013), increasing consumer awareness on climate change through education is an important measure to persuade people at all levels in the community to play an active role in mitigating and adapting to climate change.

Perception of climate change as a threat across the world has been increasing over the years due to the severity and increased frequency of climate change impacts (UNDP, 2007), but it is still not considered a priority environmental issue especially in the developed countries for economic reasons (Ochieng, & Koske 2013; Pew Research Centre, 2013). While economic considerations impact negatively on the people's perception of climate change in the developed countries, the populace in developing countries are more likely to perceive climate change as a threat (Ochieng, & Koske 2013; Pew Research Centre, 2006; Godfrey et al., 2009). Patchen (2006) noted that perception of climate change is fuelled by positive or negative emotions towards environmental issues and this helps in attitude formation towards the phenomenon and the possible display of personal or public behaviours.

While many consumers will not claim any personal responsibility for environmental problem such as climate change, there appears to be a fairly widespread recognition that consumption behaviours contribute to creating the problem. Bulkeley (2000) reported almost two-thirds of respondents surveyed in Newcastle, Australia, mentioned community contributions, such as those from industry, traffic and power generation impact climate change. About half of the respondents also acknowledged their part in these activities, such as participating in traffic, burning fossil fuel, and using electricity. However it is argued that the community and personal activities that impact on climate change are all geared towards providing goods and services to satisfy consumers' needs. Product and service providers are primarily responding to the consumers' needs and the onus is on the consumers to define and demand sustainable products and production methods.

Apart from the perception of climate change as a damaging phenomenon, that of its control is also important. Bulkeley, (2000), Grant (2011) noted that for consumers to be motivated to deal with the issues of climate change, they must believe that their actions are relevant to the solution to the problem. Consumer perception about their ability to help solve environmental problems vary widely. Klein (2013) found that many people feel passive or show apathy towards climate change and are helpless or do not want to do anything about it. However, when consumers perceive themselves as contributing to climate change; are more

likely to be motivated to change behaviour more so where they believe that it is their obligation to do so and that their new behaviour will make a reverse to climate change (Nordlund and Garville 2003; Baumberg 2003).

Methodology

The study area is Nigeria. It lies between latitude $4^{\circ}16^1$ and $13^{\circ}15^1$ North and longitude $2^{\circ}40^1$ and $14^{\circ}41^1$ east of the Greenwich meridian. Nigeria with an estimated population of 170 million people and a land mass of 923,768km/square is bounded in the south by the Atlantic Ocean, in the east by Cameroun republic, in the west by Benin republic and in the north by Chad and Niger republics. The temperature, rainfall and vegetation varied naturally because of climatic influence over the country. The rainfall ranges from 1000mm to 3500mm while temperature ranges from 22°C to 36°C in the country. The vegetation ranges from mangrove forest in the south to the guinea and the derived savannah in the north. The country experiences two seasons - the rainy and dry seasons. The rainy season commences from April to October and the dry season from November to March.

The data for this study was collected using multistage sampling method. The data was collected from respondents in five towns - Calabar, Enugu, Lagos, Abuja and Sokoto representing five Geopolitical zones of the country. The Stage 1 of the multistage sampling involved selecting 5 states from five geo political zones in the country. Survey could not be conducted in the sixth zone -North East for safety reasons due to the Boko Haram insurgency. The five (5) states sampled were Cross River State (South-South), Enugu state (South-East), Lagos State (South-West), Abuja (North-Central) and Sokoto State (North-West).

The Stage 2 involved random sampling of one local government area each from the states to obtain five local government areas (LGAs) The selected LGAs were Calabar Municipality (Cross River State), Enugu-East (Enugu State), Surulere (Lagos state), Sokoto South (Sokoto state) and Abuja municipal council. Following the selection of the LGAs, the Stage 3 involved random selection of a town/city in the LGAs. The towns/cities sampled were Calabar, Enugu, Lagos, Abuja, and Sokoto and the Stage 4 included a random sampling of the streets in the towns in which the respondent consumers lived. A random number table was used to generate house numbers for use to reach the head of households who make decisions on consumption activities. Where the numbers fell on shops, churches or non-residential areas, the shop owner or a church member was administered the questionnaire.

The survey was carried out between June 15 and August 15, 2015. A well-structured questionnaire was used for the survey. The questions asked were related to consumers' knowledge, their perception of climate change and their consumption activities. The scale items used for this study were obtained from previous studies including Patchen (2006), Swim et al. (2010), Consumers International (2007), Pew Research Centre (2013), Nzeadibe et al. (2011), Ochieng and Koske (2013) and Leiserowitz (2006). Some of the items were used wholesale while others were adapted. To determine the consumer perception of climate change, the mean of the observations relative to the level of agreement to each item on the 7 – point scale was computed. Score above 4 point showed a level of agreement and below 4 point showed a level of disagreement. In determining the relationship between the consumers' perception of climate change and application of adaptation measures, the ordered probit regression model was used. The model was sensitive to redundancy in estimation leading to incomplete result due to many Likert scale items used. To overcome this problem, the scores of all the scale items used to

measure consumer perception of climate change were aggregated into composite score by addition method. The approach was consistent with Xu and Stone (2012) and Ogbeide (2013).

Result and discussion

The result presented here reflects the descriptive statistics of the respondents and variables used for the study. It also shows the relationships between the dependent and the independent variables.

Descriptive analysis of respondents

The result in Table 1 indicates more women in the study. However, age grouping and educational qualification suggested the sample represented an active labour and consumer population. Creating and increasing awareness and knowledge of climate change will be easier as the respondents were reasonably educated. Despite the rigour involved in determining the sample, the result may not reflect the average socio-demographic characteristics of the country as the study derived its sample from mainly the urban population which mainly contrast the rural population. Therefore there will be no one-fix-all approach to creating awareness across the country, the level of development in the various parts of the country will influence the materials and methods to be used for awareness and enlightenment about climate change.

Table 1. Descriptive analysis of respondents. Sample size = 500

Variable	Variable characteristics	Frequency	% of respondents
Gender	Male	204	49.00
	Female	296	51.00
Age Group	18 - 29 years	188	37.6
	30 - 39 years	179	35.8
	40 - 49 years	63	12.6
	50 - 59 years	61	12.2
	60 years and over	9	1.8
Educational qualification	First School leaving certificate	49	9.8
	Secondary School certificate	71	14.2
	OND/NCE	97	19.4
	Bachelor's degree/HND	212	42.4
	Higher degrees	71	14.2
	Others (Please specify)	0	0.0
Marital Status	Single	248	49.6
	Married	252	50.4

Note: OND/NCE = Ordinary National Diploma/National Certificate of Education; HND = Higher National Diploma

For consumers to be able to respond to global warming and climate change, it was important to know their level of awareness of the problem. This was necessary because if the knowledge of an existing problem is lacking, adaptive and mitigation solutions will not be productive.

Table 2 presents the result of awareness of the consumers about global warming and climate change. While more than 90% of the respondents surveyed indicated that they have heard of global warming and climate change, more than 80% of the consumer respondents

knew something about these phenomena and have heard of their impacts. Despite the high level of awareness amongst the respondents, very few respondents knew how their actions and inactions contribute to the global warming and climate change.

The respondents were asked if they know that their consumption behaviours affect global warming and climate change; the response indicated that less than 50% of them claimed to know that it can have effects on global climate. The awareness survey also sought to find out if consumers know what to do to adapt/mitigate these phenomena, less than 40% of the respondents claimed to be aware of adaptive/mitigation strategies consumers could adopt to control global warming and climate change.

Table 2. Consumers' awareness of global warming and climate change

Consumers' awareness of global warming	Yes (%)	No (%)	Total (%)
Have you heard of global warming?	90.4	9.6	100
Do you know anything about global warming?	89.8	10.2	100
Have you heard of the impact of global warming?	86	14	100
Do you know that your consumption pattern can cause global warming?	42.6	57.4	100
Are you aware of what a consumer can do to reduce global warming?	30.8	69.2	100
Consumer awareness of climate change	Yes (%)	No (%)	Total (%)
Have you heard of climate change?	90.2	9.8	100
Do you know anything about climate change?	88	12	100
Have you heard of the impact of climate change?	82	18	100
Do you know that your consumption pattern can affect our climate?	40	60	100
Are you aware of what a consumer can do to mitigate climate change?	32	68	100

The outcome of the awareness survey was informative; the respondents have heard of global warming and climate change, knew some things about it and have heard of the impacts. It is inconceivable that despite the level of awareness, such a small proportion of the sample knew that their consumption pattern can have effect on the climate and what to do or expected to be done to combat this environmental problem. This study could not lay blame, nevertheless it appeared the information about global warming and climate change at the disposal of the consumers is not balance. This study suspects more emphasis is placed on the phenomena, the causes and the effects in the general sense without recourse to the fact that whatever actions that cause the globe to warm up result from meeting the consumption needs of the individuals. For majority of the respondents not to be aware of how their actions affect the climate make hard the mitigation at consumer level.

Having assessed the level of awareness, it was of interest to know the sources by which the respondents became aware of global warming and climate change. The result of the analysis is contained in Table 3 and it indicates that almost 60% of the respondents became aware of global warming and climate change through the television and by word-of-mouth. Respondents that became aware of the phenomena through radio were less than 50% and less than 21% became aware via newspapers and internet.

As word-of-mouth was the most popular method of creating global warming and climate change awareness more than the electronic and print media, it was deduced that there

is an active discussion about these environmental issues and some individuals or groups are in the forefront physically creating awareness. Although the study did not investigate if word-of-mouth means of disseminating global warming and climate change information was skewed to the rural or urban respondents in the sample, the study assumed that it will be a slow and more painstaking approach to reach a large population of about 170 million.

The poor utilisation of newspaper and internet as a channel of obtaining environmental information such as related to climate change was not a surprise due to the low access to internet service and cost involved in purchasing newspapers. The seemingly low percentage of respondents (46.4%) that gained awareness from radio was a concern considering that it is the most popular media for disseminating information at government and community level. It can be used irrespective of whether there is electricity in the location of owners' residence or not. For the low level use of radio for climate change information, the study inferred that global warming and climate change issues and discussion do not feature prominently on radio broadcast particularly in the rural or suburban communities.

Table 3: Sources of information about climate change

How did you first become aware of climate change issues?	Yes (%)	No (%)	Total (%)
Through radio	46.4	53.6	100
Through Television	58.2	41.8	100
Through word-of-mouth	57.8	42.2	100
Through Newspaper	28	72	100
Through the internet	28.6	71.4	100

Awareness will be better created using the mass media. In this regard, concerted efforts must be directed to ensure that global warming and climate change discussions feature prominently in the mass media. Television and radio communication must play lead role in providing the necessary information to consumers. The word-of-mouth campaigners should use more of the electronic and print means to reach wider consumer audience quickly and more effectively. The use of community radio and television networks will be vital in this regard for packaging and delivery of climate change messages as part of the community enlightenment program.

The result shown in Table 4 indicated the consumer perception of climate change.

Table 4. Consumer perception of climate change

Consumer perception of climate change	Sample	Mean	Std Dev	Min	Max
Climate change is real.	500	6.048	1.476	2	7
Climate change is caused by higher than normal rise in atmospheric temperature.	500	5.12	1.980	1	7
Climate change is caused by human activities.	500	5.308	1.893	1	7
Climate change increases the risk of flood damage to your properties.	500	5.498	1.418	2	7
Climate will change affect my future generations.	500	4.712	1.857	1	7
Too hot weather can cause heat stress.	500	5.544	1.462	1	7
Climate change can affect your electricity bill.	500	4.728	1.701	1	7
Climate change can cause loss of disposable income.	500	5.214	1.430	2	7
Climate change can affect my choice of product.	500	4.888	1.567	2	7
Climate change increases the risk of fire damage to your household properties.	500	5.094	1.904	1	7

Further to determining the level of awareness of consumers, their perception of climate change was investigated using 10 Likert scale items on a range of 1-7 where 1 represented strongly disagreed and 7 strongly agreed. The result was presented using the mean score to assess the perception of the respondents. A mean score of 4 indicated that respondents have no opinion regarding the scale items. A mean score of more than 4 implied that the respondents have a level of agreement with the scale items while a mean score of less than 4 suggested a level of disagreement with the scale items. Table 4 shows the result of consumer perception of climate change.

The respondent consumers indicated generally a varied level of positive agreement to all the scale items used to measure their perception of climate change. There was a strong perception that climate change is real and is caused by human activities. However, the perception of the effect varied according to how much the respondents rationalised the now and future effects. The more the consumers were able to perceive the effects of climate change on them physically the more they were keen to take actions. The items such as “Climate change will affect my future generations; Climate change can affect your electricity bill; Climate change can affect my choice of product” whose effects are in the future or which respondents were unable to rationalise immediate impacts, received a comparative lower level agreements. The result was consistent with Patchen (2006), Nordlund and Garville (2003) and Baumberg (2003). The study inferred that as important as it is to advise consumers of the danger posed in the future if climate change issues are not addressed now, relating the effects to “now” will be a more productive way to make consumers to act.

Table 5 Relationship between perception of climate change and adaptation actions

Dependent variables	Coefficient	Standard Error	P>Z
Turn off all electrical appliances when not in use.	0.014	0.057	0.808
Buy energy efficient light bulbs.	-0.254***	0.061	0.001
Involve in tree planting program.	0.152**	0.054	0.005
Buy a locally made product rather than one imported from far away.	0.033	0.049	0.501
Use more of public transport to reduce my contribution to global warming.	-0.101*	0.048	0.035
Talk to friends or family about global warming.	-0.012	0.062	0.845
Turn off the standby mode when my appliances are not in use.	-0.234***	0.046	0.001
Plant trees and flowers around my house.	-0.349***	0.072	0.001
Buy energy efficient appliances.	0.267***	0.048	0.001
Purchase bio-friendly products.	0.282***	0.064	0.001

X² Log-L -845.94; Chi-square = 75.29, p-v. 0.001 (n = 500). ***, **, * Indicates estimated coefficient is significant at the .01 level, 0.05 level, 0.10 level'

The outcome of the relationship between consumer perception of climate change and application of adaptation measures was determined and presented in Table 5. The Ordered probit regression model had a Chi-square of 75.29 with a p-value of 0.001. The result indicates the model for the application of climate change adaptation measures is statistically significant at 1% or above. The Chi-square test of the null hypothesis revealed that the model did not have greater explanatory power than an “intercept only” model. This implies that the relationships

that exist between the explanatory variables and the outcome variable is not a chance effect. A z-test was used to test the null hypothesis such that the associated coefficient is zero.

Ten coefficients were estimated; seven were significant. Coefficient for “Buy energy efficient light bulbs; Turn off the standby mode when my appliances are not in use and; Plant trees and flowers around my house.” were significant negatively at 0.001 level. Similarly the coefficient estimated for “Use more of public transport to reduce my contribution to global warming” was significant negatively at 0.10 level. The negative coefficients estimated for these variables suggest that consumers with negative perception of climate change will not be attracted to purchase product or involve in activities directly targeting climate change adaptation. Negative perception of climate change breed unfriendly attitude towards its adaptation and mitigation measures. Negative perception is inimical to committing the initial fund towards close-to-home measures such as planting trees and flower/lawn and replacing cheaper incandescent bulbs with energy-saving alternatives as doing so can be an expensive proposition. Furthermore consumers’ with negative perception of climate change emphasise the shortfalls in adaptation strategies thus for example bring to prominence the immaterial hazardous content of the fluorescent energy saving light bulb that has a slim or no chance of causing problems for the users. Consumers that are climate change denials will capitalise on the hazardous mercury content to campaign against such mitigation measure.

The survey area is not generally renowned for aesthetic beautification and landscaping with tree and flower plants. The planting and maintenance of trees and flowers involve financial cost and labour use, therefore can be impacting socio-economically on the consumers. Consumers that are climate change denials or have negative perception of climate change are not likely to plant trees and flowers as a mitigation measure. In a similar manner, the study shows that there is negative correlation between consumer perception of climate change and more use of public transport. As consumers with negative perception of climate change do not feel that human activities such as burning of fossil fuel cause more than expected increase in the atmospheric temperature, they are unable to make car sharing or use public transport to events or work an important part of their commuting.

While the coefficient for “Buy energy efficient appliances and Purchase bio-friendly products” were significant positively at 0.001 level, the one for “Involve in tree planting program” was significant positively at 0.05. This result is very interesting; energy efficient appliances and bio-friendly products are expensive to purchase. Consumers with positive perception of climate change are more likely to purchase energy efficient appliances and bio-friendly products to mitigate climate change. However, this study also inferred that apart from having positive perception, the Nigerian society is ego dominated and consumers tend to enjoy and display high social status in relation to product acquisition. So it is not unlikely that some consumers that purchased energy efficient appliances and bio-friendly products may have done so to enhance their social status.

Tree planting is an important mitigating measure for climate change Trees trap and absorb greenhouse gases that would otherwise contribute to global warming. The more trees planted the more the measure become more effective. Consumers with positive perception of climate change will be interested in tree planting program and will likely be involved in tree planting.

Conclusion

The study outcomes are assorted; they do not suggest a single direction of how the consumers perceive climate change and what they will do to mitigate it. The general awareness about the climate change as a threat phenomenon has been created but the basic understanding of consumers about the causes of the change in climate is lacking. Even so the knowledge of what the consumer roles are in mitigating climate change needs to be enhanced.

A country with a large population as Nigeria cannot depend on word-of-mouth to disseminate the complex information about climate change. Radio broadcast should be the primary mass media for communicating climate change information preferably in local languages to the populace particularly the rural and suburban dwellers with very limited or no access to electricity and television, newspaper and internet. Radio and television media must be used to convey the relevant climate change messages on awareness, warnings or adaptation measures.

The roles of Government and the Media in climate change discussions are important to bringing clarity to the issue. Currently, the perception of the consumers on climate change is poor and many consumers will not be keen to adopt mitigation measures particularly when the measures come at an additional cost to existing ones. Climate change discussions will afford consumers opportunities to acquire knowledge about climate change, clear the held misconceptions, ease positive perception formation about the phenomenon and aid in changing to sustainable consumption behaviours in product and service acquisitions. This is an area where the government and the media can and must partner to ensure that the consumers are well positioned with knowledge of the problems and what actions are required of them.

When knowledge and perception are widely gained and are positive, it become easier for the consumers to form advocacy groups for climate change such that as engaged groups within the communities are able to demand products and production systems that support sustainable living.

As a study limitation, the sample size used for the study is relatively small but randomly and strategically defined to reflect the characteristics of the entire country. However, generalisation of the outcome may be difficult such that a confirmatory study with a larger sample size is desired as it will guarantee wider variability in the data.

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