

Climate Change Mitigation Practices: Implication to Public Health, Financial Management and Insurance

Ndubuisi Friday Ugwu*¹, Grace Oluwafunmilayo Odigun², Barnabas Chinonso Nwokeke³ & Taiwo Omolade Owoeye⁴

¹Department of Human Kinetics and Health Education, University of Nigeria, Nsukka.

²Joseph Ayo Babalola University, Ikeji-Arakeji, Osun State.

³Department of Actuarial Science and Insurance, University of Lagos, Lagos State

⁴Department of Accounting, Afe Babalola University, Ado-Ekiti, Ekiti State

* Corresponding Author

Abstract

Despite widespread concern about CC, studies indicate that many people including the teachers fail to engage properly in practices necessary to mitigate its effects. This study investigated climate change mitigation practices among secondary school teachers in Enugu State. The study adopted cross-sectional survey research design. The population for the study comprised of 8, 909 secondary school teachers in Enugu State. Multistage sampling procedure was utilized to select the sample size of 384 secondary school teachers for the study. The instruments used for data collection were Teachers' Climate Change Mitigation Practices Questionnaire (TCCMPQ) structured by the researchers with cues from literature. The TCCMPQ yielded a reliability index of .74 using Cronbach Alpha. Research questions were answered using percentages, frequencies, means and standard deviations while the null hypothesis was tested using t-test at .05 level of significance. The study found that the extent of climate change mitigation practices by teachers was moderate ($\bar{x}=2.26$, $SD=1.02$), and that the extent of climate change mitigation practices by male teachers were low ($\bar{x}=2.16$, $SD=0.84$) whereas the practices were moderate ($\bar{x}=2.33$, $SD=1.06$) among their female counterparts. The null hypotheses tested revealed that there was a significant difference in the mean scores for male teachers ($\bar{x}=32.44$, $SD=4.09$) and female teachers ($\bar{x}=34.95$, $SD=4.37$) at $p<.05$ ($t=-3.963$; $p=.000$). the study recommended among other things that Ministry of Education, international agencies and NGOs should always embark on creating climate change awareness to help in promoting climate actions among the teachers and the general public.

Key words: Climate Change, Mitigation, Public Health, Accounting, Insurance.

Introduction

Humans tend to depend so much on burning fossil fuels for their various activities including: heating, driving, cooling among others. All of these generate greenhouse gases (emissions) that accumulate in the Earth's atmosphere causing global temperature to continuously rise. This dependence on fossil fuels combustion has increased since industrial revolution. For instance, there are more new cars on the road everyday with corresponding rise in vehicular emissions. The use of fume-producing machines like motorcycles, generators, tricycle among others has also risen. In addition, various industrial and agricultural activities which have grown in capacities also release copious emissions into the atmosphere (Intergovernmental Panel on Climate Change

[IPCC], 2013). These are more so in the context of the current population explosion and urbanization. These anthropogenic activities are implicated as the drivers of global climate change.

Climate change (CC) refers to a long-term change in global climate due to accumulation of greenhouse gases leading rise in global temperature. In the usage of United Nations Framework Convention on Climate Change (UNFCCC) (2010), CC means a change attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods. It refers to the increase above the average temperature of the earth leading to disasters like hurricanes, droughts and floods (Lindinger & Kunzemann, 2010). Climate Change projections indicate that the world temperature is increasing continuously and this distorts the harmony of ecosystem. Climate change is linked to the recent rise in the occurrences of natural disasters with accompanying injuries, displacements, communicable diseases and deaths (IPCC, 2007). The change is also associated with unusual downpours, erosion challenges, droughts and desertification (Biello, 2008).

All of the foregoing presents a great risk to the natural world on which human health and prosperity depend. For instance, many of the major killer diseases are highly temperature-sensitive and may likely expand or worsen as the global temperature continues to rise. Consequently, it becomes easier for many infectious diseases like bird flu, cholera, Ebola, plague and tuberculosis to spread as parasites, fungi, viruses and bacteria find a more welcoming environment (Biello, 2008; Walsh, 2013). Therefore, as humans continue in their daily strives; they are increasingly exposed to infected foods, animals and/or environments (Fritz & Samenow, 2014). It is against this backdrop that the World Health Organization (WHO) (2014) described CC as emerging and significant threat to public health.

In addition to direct negative consequences on public health, CC as well has link to dwindling businesses with attending financial losses where more people tend to be pushed to poverty. Therefore, CC is not just a source of worry for only public health educators but also for financial and risk managers. This is because the effects of climate change are already responsible for a rapid global increase in commodity prices, social and political unrest, inflation, and economic slowdown (Majoroh, 2016). Extreme weather events such as droughts and severe storms may impact on the availability of resources or raw materials such as foods, cotton, paper or rubber; or result in damage to key infrastructure such as roads, rail, ports, pipelines, communication networks, roads or electricity supply which may affect the supply of key resources, manufacturing processes or transporting products to customers or for export or have significant impacts on the health and safety of employees and communities (Burnell, 2017). Suffice this to say that climate change will cause businesses to face challenges with accompanying financial losses like never before. These also tend to generate worries among insurance industries.

The insurance industries have been considering the impact of climate change for years. Nevius and Horkovich (2015) reported that the incidence of hurricanes, superstorms, mega-tornados, flooding incidents, more lightning strikes, habitat losses, famine, and an increase in diseases may put financial stress on insurance industries. As a result, previously insurable assets are becoming uninsurable, and those already underinsured are further compromised (Carrington, 2016). Climate change is happening on a global scale, but the ecological impacts tend to be local and vary from region to region.

No continent will be struck as severely by the impacts of climate change as Africa. Although Africa's contribution of greenhouse gas emissions to global warming is low, it carries the greatest burden of the impacts of climate change, mainly due to lack of ability to adapt to this phenomenon which worsen the existing levels of poverty and undermining all development efforts in this continent (Bambaige, 2008). Regrettably, Africa has the least intellectual, institutional and technological capability to address the consequences of CC (Ozor, 2010). This is more appalling especially in Nigeria situation where CC has been described as the beginning of worst thing to expect (Adebola, 2010). In order to prevent these health and economic consequences associated with CC, people should take action to mitigate it.

Mitigation refers to efforts aimed at limiting the trend at which CC occurs by consciously abstaining from or minimizing actions that generate greenhouse gases (GHGs). It generally involves reductions in human emissions of GHGs (IPCC, 2007). The British Broadcasting Cooperation (2013) defined climate change mitigation as efforts to cut or prevent the emission of GHGs thereby limiting the magnitude of future warming. Mitigation implies that people will have to check the emission-related activities such as the use of fume-producing machine (like automobile, generator, motorcycle, tricycle among others) and certain farming practices like bush burning, mechanization, use of agrochemicals, felling of trees and so many household practices generating emissions like incineration (Mastrandrea & Schneider, 2009).

The issue is that, more often than not, when people decide on how much and what to consume, they might not likely take into account how much emission they produce. Even when certain actions may damage the environment, they generally may not intend to damage the environment; at most, they are accepting the environmental impact as a side effect of some particular behaviour (Kaiser, Doka, Hofstetter, & Ranney, 2003). Therefore, it becomes necessary to call the attention of the general public on what they must do to avoid health and economic consequences associated with CC. One of the best persons to direct the attention of the society to the looming dangers of CC is through the revered public figures or opinion leaders like the teachers.

The roles of teachers in the society are significant and complex. From time immemorial, teachers have been highly revered in the society. Teachers are constantly being watched and viewed in the society as motivators, guides, heroes, surrogate parents, mentors, and leaders who thrive to make the world a better place (Hana, 2014). It then follows that if teachers engage properly in CC

mitigation practices, both the students and the members of wider society will likely emulate them. However, whether a teacher would or would not engage in mitigation practices depends on his/her gender. Gender is a socio-demographic factor that is consistently reported to influence CC mitigation practices (Owolabi, Gyimah & Amponsah 2012; Egbe, Yaro, Okon & Bison, 2014).

Gender plays a noteworthy role in general environmental behaviours. For instance, women have been shown to be significantly more likely than men to have higher environmentally conscious attitude than men (Raudsepp, 2001). The common reason advanced for gender differences regarding environmental consciousness by the author is the pattern of assignment of social responsibilities between boys and girls. The girls are assigned all the sweeping and cleaning activities and they gradually and unconsciously get so used to the welfare of the environment unlike their male counterparts. In addition, greater percentage of women than men know that CC is happening now and that it is primarily caused by human activities (Agwu & Okhimamhe, 2009). Therefore, the present study investigated the influence of gender on climate change mitigation practices among secondary school teachers in Enugu State.

Enugu state is one of the states in the eastern part of Nigeria. The state shares borders with Abia State and Imo State to the south, Ebonyi State to the east, Benue State to northeast, Kogi State to the northwest and Anambra State to the west. The geographical features of Enugu make the state less vulnerable to CC for now and because of that, people in the state may not be worried or concerned about CC. For instance, the state is not predominantly a riverine or coastal area where the rise in sea level triggering flooding and displacing people is possible. Even at the increased precipitation caused by CC, the soil is always well drained avoiding flooding and swamp. Williams (2008) noted that Enugu has good soil-land and climatic condition all year round, sitting about 2 metres above the sea level, and during rainy season. Also, the state is not a drought-prone area like the arid northern Nigeria. The temperature of the State is friendly (Williams, 2008). So, in the time being, the effects of CC are not be pronounced and people including the secondary school teachers may not fully understand what climate change is all about let alone getting concerned about it.

The problem is that much of the previous studies from across the globe reveal that teachers hold extensive gaps in climate change mitigation practices. The Global Education Monitoring (2015) lamented that teachers do not engage in responsible environmental behaviour not minding that most of them have completed higher education. Few studies that have also been carried out in Nigeria on the subject have produced similar findings as well. However, none of such studies has been conducted among secondary school teachers in Enugu State. This created a need to carry out similar studies with sample from secondary school teachers in Enugu State.

Purpose of the Study

The purpose of this study was to identify the CC mitigation practices among secondary school teachers in Enugu state. Explicitly, the study sought to determine the extent to which the:

1. secondary school teachers engage CC mitigation practices; and
2. secondary school teachers engage CC mitigation practices based on gender.

Research Questions

The following research questions guided the study:

1. What is the extent to which the secondary school teachers engage in CC mitigation practices?
2. What is the extent to which the secondary school teachers engage in CC mitigation practices based on gender?

Hypothesis

1. There is no significant difference in the extent to which the secondary school teachers engage in CC mitigation practices based on gender.

Method

In order to achieve the purpose of this study, cross-sectional survey research design was employed. The population for the study consisted of all the 8, 909 secondary school teachers in Enugu State. The sample for this study consisted of 384 teachers selected from the six education zones in the State through multistage sampling procedure.

The instrument used for data collection was Climate Change Mitigation Practices Questionnaire (CCMPQ). The instrument has section A which was used for eliciting responses on the demographic variable of gender from the respondents, and section B which has 15 items meant for finding out the extent to which the teachers engage in CC mitigation practices. The respondents were to tick "Never", "Rarely", "Sometimes", or "Always" to indicate the extent to which they engaged in the outlined mitigation practices. The face validity of the CCMPQ was established through the judgments of five experts from the Departments of Human Kinetics and Health Education, Geology, Statistics, Geography, and an expert in Science Education (Measurement and Evaluation Unit) of the University of Nigeria, Nsukka. Cronbach Alpha was used to determine the reliability of the instrument and a reliability index of .74 was obtained. The administration and retrieval of the CCMPQ to and from the respondents were done on the spot by the researchers.

Nine copies were not returned at all and the properly completed returned copies were 335 (91.3% return rate). In determining whether teachers' climate change mitigation practices were "Very Low", "Low", "Moderate", "High" or "Very High" depended on the resultant mean scores judged according to their position within the spectrum of limit of numbers. Specifically, mean scores between 1.00 to 1.60 was adjudged to imply that teachers' mitigation practice was "Very Low",

1.61 to 2.20 was interpreted as "Low", mean scores between 2.21 to 2.80 was interpreted as "Moderate", 2.81 to 3.40 was interpreted as "High", while 3.41 to 4.00 was interpreted as "Very High". Frequencies, percentages, mean and standard deviation were used in answering research questions while the null hypothesis was tested using *t*-test statistics at 0.05 level of significance.

Results

Table 1.
Mean Analysis of the Extent to which Teachers Engage Climate Change Mitigation Practices (n=335)

| S/N | Item | \bar{x} SD | Decision |
|-----------------------------------|---|--------------------|-----------------|
| 1. | I use energy-saving bulb. | 2.66 ± 1.03 | Moderate |
| 2. | I depend on solar for my various energy use. | 2.05 ± 1.10 | Low |
| 3 | I turn electrical appliances off when they are not in use. | 2.61 ± 1.02 | Moderate |
| 4 | I wash my cloths and dishes without using washing machine. | 2.68 ± 1.04 | Moderate |
| 5 | I sun-dry my cloths after washing them and do not use electric drier. | 2.80 ± 1.03 | Moderate |
| 6. | I cook with biogas to avoid carbon emission. | 2.23 ± 1.05 | Moderate |
| 7. | I do not use electric grinder and blender for grinding and blending respectively, instead, I use grinding stone and mortar. | 2.30 ± 0.99 | Moderate |
| 8. | I walk/cycle/use commercial bus for my various transports | 2.78 ± 1.01 | Moderate |
| 9. | I re-use/give out my old cloths instead of burning them. | 2.26 ± 0.90 | Moderate |
| 10. | I re-use my shopping bag to reduce waste instead of buying new ones. | 2.18 ± 0.90 | Low |
| 11. | I own compost bin. | 1.77 ± 0.98 | Low |
| 12. | I plan my shopping to reduce waste. | 1.87 ± 1.08 | Low |
| 13. | I plant trees. | 1.91 ± 1.10 | Low |
| 14. | I voluntarily contribute money to support pro-environmental group(s). | 1.96 ± 1.10 | Low |
| 15. | I belong to environmental welfare organization. | 1.79 ± 0.99 | Low |
| Grand \bar{x} | | 2.26 ± 1.02 | Moderate |

Data in Table 1 showed that summarily, the extent of climate change mitigation practices by secondary school teachers in Enugu State was moderate (\bar{x} = 2.26, SD = 1.02). Specifically, teachers' climate change mitigation practices were moderate as regards: sun-drying cloths after washing them (\bar{x} = 2.8, SD = 1.03); walking/cycling/using commercial bus for various transportation needs (\bar{x} = 2.78, SD = 1.01); washing cloths and dishes without using washing machine (\bar{x} = 2.68, SD = 1.04); the use of energy-saving bulb (\bar{x} = 2.66, SD = 1.03); and turning electrical appliances off when they are not in use (\bar{x} = 2.61, SD = 1.02). The teachers' mitigation practices were also moderate as it concerns: the use of electric grinder and blender for grinding and blending respectively (\bar{x} = 2.30, SD = 0.99); re-using or giving out old cloths instead of burning them (\bar{x} = 2.26,

SD= .90); cooking with biogas to avoid carbon emission (\bar{x} =2.23, SD=); and depend on solar for my various energy use (\bar{x} =2.05, SD= 1.10).

Table 2
Mean Analysis of Extent to which the Teachers Engage Climate Change Mitigation Practices based on Gender (n=335)

| S/N | Items | Gender | | | | | |
|-----------------------------------|---|--------------------|----|------------|-------------------|----|-----------------|
| | | Males (n=146) | | | Females (n=189) | | |
| | | \bar{x} | SD | Dec. | \bar{x} | SD | Dec. |
| 40. | I use energy-saving bulb. | 3.03 ± .80 | | High | 2.37 ± 1.10 | | Moderate |
| 41. | I depend on solar for my various energy use. | 2.11 ±1.12 | | Low | 2.00 ± 1.10 | | Low |
| 42. | I turn electrical appliances off when they are not in use. | 2.86 ± .97 | | High | 2.43 ± 1.03 | | Moderate |
| 43. | I wash my cloths and dishes without using washing machine. | 3.12 ± .81 | | High | 2.34 ± 1.09 | | Moderate |
| 44. | I sun-dry my cloths after washing them and do not use electric drier. | 3.03 ± .98 | | High | 2.62 ± 1.04 | | Moderate |
| 45. | I cook with biogas to avoid carbon emission | 1.98 ± 1.03 | | Low | 2.42 ± 1.03 | | Moderate |
| 46. | I do not use electric grinder and blender for grinding and blending respectively, instead, I use grinding stone and mortar. | 2.38 ± .98 | | Moderate | 2.25 ± 1.00 | | Moderate |
| 47. | I walk/cycle/use commercial bus for my various transports | 3.03 ± .94 | | High | 2.59 ± 1.02 | | Moderate |
| 48. | I re-use/give out my old cloths instead of burning them. | 2.06 ± .78 | | Low | 2.42 ± .95 | | Moderate |
| 49. | I re-use my shopping bag to reduce waste instead of buying new ones. | 1.88 ± .77 | | Low | 2.41 ± .93 | | Moderate |
| 50. | I own compost bin. | 1.43 ± .69 | | Very low | 2.03 ± 1.09 | | Low |
| 51. | I plan my shopping to reduce waste. | 1.45 ± .75 | | Very low | 2.21 ± 1.17 | | Moderate |
| 52. | I plant trees. | 1.38 ± .72 | | Very low | 2.32 ± 1.17 | | Moderate |
| 53. | I voluntarily contribute money to support pro-environmental group(s). | 1.45 ± .75 | | Very low | 2.35 ± 1.17 | | Moderate |
| 54. | I belong to environmental welfare organization. | 1.27 ± .57 | | Very low | 2.20 ± 1.05 | | Low |
| Grand \bar{x} | | 2.16 ± 0.84 | | Low | 2.33 ±1.06 | | Moderate |

Response Options: Never (N), Rarely (R), Sometimes (S), and Always (A)

Results in Table 2 showed that summarily, the extent of climate change mitigation practices by male teachers were low (\bar{x} =2.16, SD= 0.84) whereas the practices were moderate (\bar{x} =2.33, SD= 1.06) among their female counterparts. Specifically, while the female teachers' mitigation practices were moderate with respect to: planting a tree (\bar{x} = 2.32, SD=1.17); voluntarily contributing money to support pro-environmental group (\bar{x} = 2.35, SD= 1.17); planning shopping to reduce waste (\bar{x} =2.21, SD= 1.17); and belonging to

environmental welfare organization (\bar{x} = 2.20, SD = 1.05), the male teachers' mitigation practices were very low (\bar{x} = 1.38, SD = 1.38; \bar{x} = 1.45, SD = .75; \bar{x} = 1.45, SD = .75; and \bar{x} = 1.27, SD = .57 respectively) in those activities. More so, the female teachers' mitigation practices were moderate in: re-using or giving out old cloths instead of burning them (\bar{x} = 2.42, SD = .95); re-using shopping bags to reduce waste (\bar{x} = 2.41, SD = .93); and cooking with biogas to avoid carbon emission (\bar{x} = 2.42, SD = 1.03), whereas the male teachers' mitigation practices were low (\bar{x} = 2.06, SD = .78; \bar{x} = 1.88, SD = .77; and \bar{x} = 1.98, SD = 1.03 respectively) in those activities.

Table 3.
Summary of *t*-test Analysis of Extent to which Teachers Engage CC Mitigation Practices based on Gender (n=335)

| Variable | N | \bar{x} | SD | Standard Error Mean | t | df | 95% CI | p-value |
|---------------|-----|-----------|------|---------------------|--------|---------|---------------|---------|
| Gender | | | | | | | | |
| Male | 146 | 32.44 | 4.09 | .334 | -3.963 | 302.446 | -3.745 -1.260 | .000 |
| Female | 189 | 34.95 | 7.37 | .536 | | | | |

p < .05

Results in table 19 showed the result of *t*-test analysis of extent of climate change mitigation practices by teachers based on gender. The table indicated that there was a significant difference in the mean scores for male teachers (\bar{x} = 32.44, SD = 4.09) and female teachers (\bar{x} = 34.95, SD = 4.37) at $p < .05$ ($t = -3.963$; $p = .000$). This implies that extent of climate change mitigation practices significantly differed among male and female teachers.

Discussion

Table 1 presented data on the extent of mitigation practices among secondary school teachers in Enugu State. The table revealed that the extent of climate change mitigation practices by teachers was moderate (\bar{x} = 2.26, SD = 1.02). The finding is expected in that teachers as informed people should always engage in practices that will not harm the environment. This finding is contrary to Shepardson, Niyogi, Choi and Charusombat (2013) who found that 43 per cent of student teachers have but low-level environmental behaviours. The difference in the two findings might be because the former was practicing teachers whereas the later were student teachers.

Table 2 presented data on the extent of CC mitigation practices among secondary school teachers in Enugu State according to gender. The table showed that the extent of climate change mitigation practices among male teachers was low (\bar{x} = 2.16, SD = 0.84) whereas the practices were moderate (\bar{x} = 2.33, SD = 1.06) among their female counterparts. This implies that female teachers engaged more in climate change mitigation practices compared to their counterparts. This finding is in line with the work of Lambrou and Piana (2006)

which reported that women generally live in a more sustainable way and leave a smaller ecological footprint than most men. The study further fielded that men account for the bulk of energy use, carbon-dioxide emissions, air pollution and climate change. It particularly emphasized gender differentiations in transport use. For example, evidence suggests that women in industrialized countries use much less emissions-intensive modes of transport than men; their level of car-ownership was lower and their share of public transport use is higher (Hamilton & Jenkins, 2005; Lambrou&Piana, 2006). In Sweden, for instance, men account for 75 per cent of car owners (Hamilton & Jenkins, 2005), partly because they commute more widely than women. They also travel by air more than women. By contrast, women use public transport, such as bus and rail travel, to a greater extent (Hamilton & Jenkins, 2005). Evidence from the UK's Equal Opportunities Commission supports this, showing that women and men travel for different purposes. Men are more likely to do so for commuting and business reasons, whereas women are more likely to use transport for shopping or taking children to school (Hamilton & Jenkins, 2005).

Table 3 presented a summary of *t*-test which verified the null hypothesis of no significant difference in the extent of CC mitigation practices among secondary school teachers in Enugu State according to gender. The table shows that there was significant difference in the mean scores for male teachers (\bar{x} =32.44, SD= 4.01) and female teachers (\bar{x} =34.95, SD= 4.37) at $P < .05$ ($t = -3.963$; $P = .000$). Therefore, the null hypothesis of no significant difference in the extent of CC mitigation practices among secondary school teachers in Enugu State according to gender was rejected. This finding is supported by that of Lambrou and Piana (2006) which also reported a significant difference in environmental behaviours between American men and women.

Implications to Public Health, Financial Management and Insurance

In this study, it was found that: (i) teachers engaged moderately in climate change mitigation practices; (ii) climate change mitigation practices by male teachers were low whereas the practices were moderate among their female counterparts; and (iii) the hypothesis that tested the link between gender and mitigation practices revealed that the difference is significant. These findings have immense implications to public health, financial management and insurance.

First, these findings have some salient implications to public health. If the teachers who are educated and are seen as models of social norm are moderate in their mitigation practices, one might not be wrong to infer that there should be very low mitigation among average members of public. This has heavy consequences on public health. Studies like Walsh (2013) and Majoroh (2016) have shown that if humans fail to engage in climate change mitigation practices, CC will continue to increase in its intensity and there is a great risk to public health. This finding is a call to duty to public health educators to strengthen their public enlightenment on the need to embrace mitigation practices. This is especially among the males whose mitigation practices were found low.

Secondly, the findings also have implications to financial management. As noted earlier, since the teachers' mitigation practices are moderate as enlightened members of the public, it then implies that the average person in the street may likely have low CC mitigation practices. Therefore, if people are lukewarm in embracing CC mitigation practices, there is going to be great risk to the natural world on which human prosperity depends. Many businesses will fail and there will be a great financial loss and many people are going to be moved below poverty line. Therefore, the roles of the financial managers like accounting profession should move beyond traditional arenas of accounting, tax and finance services to effecting a change of attitude among the public to clinch on less emission-based business alternatives that fully captures the return on investment through combining sustainable practices and translating them into financial gains. Furthermore, using their expertise in financial metrics, accountants should provide valuable advice to the public on need to embrace a technology upgrade which helps reduce emissions, save on energy costs as well as delivering enhanced profits. For instance: a more energy efficient computer system that runs applications twice as fast; LED replacement lighting; lab equipment that uses half the energy but also reduces harmful emissions; energy-efficient manufacturing plants among others.

Finally, these findings have important implications to Insurance Institutions. Insurance provides very important roles in providing support for people in their time of need. However, as climate change-related risks occur more often, there is corresponding rise in property and casualty claims, thereby putting financial stress on insurance industries. Since this study finds that teachers are yet to fully embrace climate actions, climate change will continue to rise in its intensity. The only way out of this is finding viable ways to help society adapt and become more resilient to the inevitable changes related to ongoing climate change is vital. Therefore, the insurance industry must use its risk management expertise to convince the public and the policymakers in different sectors of the urgent need to engage in climate change mitigation practices.

Conclusion

This study found that the extent to which the teachers engaged in CC mitigation practices was moderate. Mitigation practices were found to be more with female teachers compared to their male counterparts. There was a significant difference in the extent to which teachers engage CC mitigation practices based on gender.

Recommendations

1. Ministry of Education, international agencies and NGOs should always embark on creating climate change awareness to help in promoting climate change mitigation among the teachers and the general public.
2. The financial professionals should employ their expertise in providing valuable advice to the general public on the need to embrace a technology upgrade which helps reduce emissions, save on energy costs as well as

delivering enhanced profits. This will go a long way in reducing per capita emissions.

3. The insurance Industries should rise beyond intervention to being proactive by convincing their clients, the policy makers and the general public to embrace climate change mitigation practices in order to reduce climate change related risks and losses requiring insurance.

References

- Adebola, S. (2010). *Climate Change Effects in Nigeria*. Retrieved from <http://iinitiative.wordpress.com/2010/03/30/climate-change-effects-in-nigeria/>.
- Agwu, J., & Okhimamhe, A. A. (2009). *Gender and climate change in Nigeria: A study of four communities in North-Central and South-Eastern Nigeria*. Lagos: Heinrich Böll Stiftung.
- Bambaige, A. (2008). *National adaptation strategies to climate change impacts: A case study of Mozambique*. Retrieved from <http://hdr.undp.org/en/content/national-adaptation-strategies-climate-change-impacts>
- Biello, D. (2008). *Deadly by the dozen: 12 diseases climate change may worsen*. Retrieved from <http://www.scientificamerican.com/article/twelve-diseases-climate-change-may-make-worse/>
- British Broadcasting Cooperation-BBC (2013). *What is climate change mitigation?* Retrieved from m.bbc.com/news/science-environment-26980837
- Burnell, M. (2017). *Climate change is definitely affecting SA businesses*. Retrieved from <https://www.iol.co.za/business-report/companies/opinion-climate-change-is-definitely-affecting-sa-businesses-10888897>
- Carrington, D. (2016). *Climate change threatens ability of insurers to manage risk*. Retrieved from <https://www.theguardian.com/environment/2016/dec/07/climate-change-threatens-ability-insurers-manage-risk>
- Egbe, C. A., Yaro, M. A., Okon, E. A., & Bisong, F. E. (2014). *Rural Peoples' Perception to Climate Variability/Change in Cross River State, Nigeria*. Retrieved from <http://www.ccsenet.org/journal/index.php/jsd/article/viewFile/34484/19647>
- Fritz, A., & Samenow, J. (2014). *Will climate change worsen Ebola outbreaks?* Retrieved from <http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2014/08/05/will-climate-change-worsen-ebola-outbreaks/>
- Hamilton, K., & Jenkins, L. (2005). Promoting gender equality in transport. *Working Paper Series, No. 34*, UK: Equal Opportunities Commission.
- Hana, K. (2014). *Teachers have to be role models*. Retrieved from <https://www.linkedin.com/pulse/20140426050345-53904040-teachers-have-to-be-role-models>
- Intergovernmental Panel on Climate Change (IPCC) (2013). *The fifth assessment report (AR5)*. Retrieved from <http://www.ipcc.ch/>

- IPCC (2007b). *Climate change: The Physical Science basis – contribution of the Working Group 1 of the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change*. Cambridge and New York: Cambridge University Press.
- Kaiser, F. G., Doka, G., Hofstetter, P., & Ranney, M. A. (2003). Ecological behavior and its environmental consequences: A life cycle assessment of a self-report measure. *Journal of Environmental Psychology, 23*, 11–20.
- Lambrou, Y., & Piana, G. (2006). *Gender: The Missing Component of the Response to Climate Change*, USA: Food and Agriculture Organization (FAO) retrieved October 4, 2011 from http://www.fao.org/sd/dim_pe1/docs/pe1_051001d1_en.pdf
- Lindinger, k., & Kunzeman, T. (2010). *What is global warming?* Retrieved from <http://knowledge.allianz.com/?119/global-warming-definition>
- Majoroh, E. (2016). *African climate: The potential impact of climate change on business operations*. Retrieved from <https://www.linkedin.com/pulse/african-climate-potential-impact-change-business-efemena-majoroh>
- Mastrandrea, M., & Schneider, S. H. (2008). *Global warming*. Redmond, WA: Microsoft Corporation.
- Nyerere, J. K. (1968). *Freedom and socialism: A selection from writings and speeches, 1965-1967*. Dar es Salem: Oxford University Press.
- Owolabi, H. O., Gyimah, E. K., & Amponsah, M. O. (2012). Assessment of junior high school students' awareness of climate change and sustainable development in central region, Ghana. *Educational Research Journal, 2*(9), 308-317.
- Ozor, N. (2010). *Influencing curriculum development and knowledge of climate change issues at the University of Nigeria, Nsukka and environs*. Retrieved October 28, from <http://start.org/download/accfp/ozor-final.pdf>
- Raudsepp, M. (2001). Some socio-demographic and socio-psychological predictors of environmentalism. *TRAME, 5* (4), 355-367
- Shepardson, D. P., Niyogi, D., Choi, S., & Charusombat, U. (2013). *Student Conceptions about Global Warming and Climate Change*. Retrieved from <http://iclimate.org/ccc/Files/A1.pdf>
- United Nation Framework Convention on Climate Change (UNFCCC) (2010). *Glossary of climate change acronyms*. Retrieved from unfccc.int/essential_background/glossary/items/3666.php
- Walsh, B. (2013). *Infectious disease could become more common in a warmer world - especially for plants and animals*. Retrieved from <http://science.time.com/2013/08/02/infectious-disease-could-be-more-common-in-a-warmer-world-especially-for-plants-and-animals/>
- World Health Organisation (2014). *Climate change and human health*. Retrieved from http://www.who.int/global_change/en/
- Williams, J. T. (2008). *The topography of Enugu State*. Retrieved from <http://topograaphy-enugu-33021.?yst/>