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#### **Abstract**

Climate change like pollution and biodiversity loss is among the most grievous global problems that affects the development of humankind and other organisms as a result of the alterations in the Earth planetary systems leading to uncertainty to global planetary events that could easily be predicted in time past. Owing to the fact the human activities contribute immensely to these alterations, this paper reveals that many adults are not yet aware of the incidence of climate change and even the politicians and policy-makers who are aware lack the will to take actions that would lead to its prevention. The paper establishes adult learning as a veritable tool for awareness creation and developing in adult (whose activities has been indicted of being a precursor for climate change) certain knowledge, attitudes and skills that are capable of engendering real environmentalism which constitutes a big step toward mitigating climate change and its associated problems. Various channels through which adult learning could be delivered to the adults were identified in this paper, including formal classes as in literacy centres, media chats, advocacy visits, outreaches, protests, demonstration and rallies, etc. The paper concludes that adult learning should be engaged to educate the adults of different status and backgrounds in the contents of various efforts necessary to avert climate change, as well as develop in them knowledge, attitudes and skills to engender real environmentalism that will bring to bear actions that will protect the Earth from unnecessary influence of man.

#### **Keywords**

Climate, Earth, Environment, Climate Change, Adult, Adult Learning

#### **Introduction**

The Earth is one of the nine planets of the universe and the only planet where life exists. Support for life on Earth is made possible due to the presence of the atmosphere. Earth is the only planet in the universe that has an atmosphere, hence support for life on the Earth. Atmosphere according to Kerry and Kerry (2007) is an envelop within which all other environmental conditions and processes operate, including precipitation, humidity, winds, ocean currents, sea levels and all of the biological and economic processes are affected by these. The atmosphere can be likened to a balloon in which the earth is inserted. The stream of air in the balloon (atmosphere) drives activities that create the

weather, climate events and seasons. Moreover, the atmosphere is made up of some gases which are composed in their appropriate proportions. The gases in their appropriate proportions enable the atmosphere to aid natural processes and events to occur unhindered. With the gases in their right proportions, the amount of heat that enters and leaves the Earth was properly regulated, seasons come in their times, habitats of species are maintained, different flora and fauna grew, developed and advanced in population in their right proportions, ecosystem services were made available without interferences. These events determine the course of activities of man on Earth. In fact, the Earth was able to revive itself and replenish

its resources whenever an alteration occurred because the earth's homeostatic ability was not tempered.

Man, who is in constant search for survival and comfort acquired knowledge which presented the Earth to him as an obstacle to be conquered if he must achieve comfort owing to abundance of resources therein. This knowledge instigated man to engage in fierce combat to overcome the obstacles that constantly seek to overwhelm him in his attempts towards living comfortably with resources of the Earth. Initially, it seemed as if man was winning the battle consequent upon the breakthroughs in inventions achieved by man during the 18<sup>th</sup> Century (1750) industrial revolution. This era marked the beginning of era where human muscles were replaced with machines and coals replaced woods as a source of power and energy. Mbalisi and Offor (2018) gave a summary of the breakthroughs thus:

1. invention of machines (from crude to modern) for mass production of goods for human consumption;
2. advancements in medical science leading to the discovering of drugs and gadgets for the treatment of ailments that initially seemed impossible to treat, hence reduction in death rate with its attendant population explosion;
3. invention of means of transportation and earth moving machines (from crude to modern such as airplanes, ships, vehicles) for construction and fast movement of people, goods and services from one point to another;
4. invention of technical and electronic gadgets (such as computers, air conditioners, mobile phones, refrigerators, cookers, fans, radio, televisions, etc) for human comfort and happiness;
5. innovations in agriculture through the introduction of machines and chemicals (mechanized agriculture) for mass production of foods.

These breakthroughs and many more that seemed to be a success toward the achievement of man's comfort have been linked to many of the woes the Earth is facing today including climate change.

### **Climate Change as a Consequence of Man's Endless Search for Comfort**

The zeal to satisfy human needs of food, clothing, shelter, transportation, recreation and other allied needs of human led to the exploration and subsequently exploitation and transformation of

environmental resources. This was followed with a lot of inventions to aid human muscles and brain including technologies in the manufacture and refining of different kinds of products, gadgets and services. Consequently, different means of transportation including cars, lorries, aeroplanes and ships were produced; earth moving equipment were produced for mechanized agriculture and construction works, different chemicals, hormones were also produced to improve agricultural yields; fossil fuels (coal, crude oil and natural gas) were discovered, explored and refined as a source of power to drive all technologies for various purposes. Orr (1959) asserts that man in an attempt to conquer environmental barriers in his striving for survival and comfort, has already reached outward toward space and he is learning to live in the upper regions of the atmosphere as well as to navigate it.

These were celebrated as great feats in human endeavour. These seemed breakthroughs are not without their attendant problems as Akinpelu (2002) observes a paradox with these feats. According to him, that paradox reflects in his observation that as man solves one problem with his newly refined intelligence, new and more intricate problems arise from the acclaimed solution. Akinpelu went further to illustrate his assertion thus:

The awe-inspiring and breath-taking scientific explorations into the huge vaults of the heavens have resulted in interference with the ionosphere, the piercing of the ozone layer, and the puncture of the “protective skin” of the earth that is today resulting in highly unpredictable weather and climatic conditions throughout the world, and the consequent threats of destruction, famine and starvation in some parts of it and floods in others.

This position of Akinpelu (2002) was corroborated by Jasanoff (2020) as she asserted that all the reports (first to fourth) reports of the Intergovernmental Panel on Climate Change (IPCC) indicted human activities of heating up the Earth. The heating of Earth results in climate change and its associated problems, which was buttressed by Orr (1959:166) as he concludes that “...there can be no doubt that man himself has had a hand in climate changes”.

Climate change is therefore a long-term change in the Earth's climate as a result of alterations in the amount of energy that comes from the sun (insolation) and changes in the properties of the earth (albedo and atmospheric gases) that determine how long that energy stays in the earth system.

**Insolation** is a measure of the amount of solar radiation falling on earth's surface. **Albedo** is a measure of how reflective a surface is. Perfectly white surfaces have an albedo of 1 (effective reflection), while black or dark surfaces have zero or poor albedo. **Composition of the atmosphere** - Any alteration in the composition of gases in the atmosphere affects the weather and by extension, the climate because the entrance and exit of solar radiation in its self-regulating pattern will be distorted (Theis & Tomkin, 2012). Many researches today have shown that the amount of solar radiation entering the Earth has increased while the amount of energy leaving the Earth on a daily basis has grossly decreased as a result of industrial activities of man. On one hand, industrial operations produce a number of gases such as the halogens (chlorine, fluorine, bromine and iodine), sulphate and others which move up to the ozone layer to react with and deplete it thereby allowing much radiations from the sun to directly enter the Earth. On the other hand, industrial operations (manufacturing, mining, oil exploration and refining, quarrying, processing, etc), agricultural activities (through slash and burn, use of tractors, etc), transportation, etc generate a lot of carbon dioxide and other green house gases (GHGs) which results in green house effect that prevents heat generated on Earth from escaping into space. This effect makes the retention of heat on Earth possible hence leading to increase in the average global atmospheric temperature (global warming) responsible for alterations in the global climate systems. Orr (1959:165) illustrates how carbon dioxide could work this change thus: Like the glass panes in a structure, carbon dioxide throughout the atmosphere imposes a one-way street on some of the sun's incoming energy. The gas is almost completely transparent to the radiations of a hot glowing body such as the sun but partially opaque to those of a cooler mass like the earth, and thus it hinders heat's escape from the earth.

Among the GHGs, carbon dioxide is the highest in concentration and it has progressively increased with increase in various human activities on Earth. Schneider (2020) accounts that atmospheric carbon dioxide (CO<sub>2</sub>) levels hovered around 270 ppm (part per million) for 10,000 years, it increased to 295 ppm with an increase in industrial operations in the 1800s. In 1970, its levels got to 320 ppm and has risen to 415 ppm which is 50% more than pre-industrial levels. These increases were possible through the burning of fossil fuels and changing land uses by humans (Theis & Tomkin, 2012). In

addition, fossil fuel burning takes carbon from coal, gas and oil reserves, where it would be otherwise stored on very long-time scales and introduces it into the active carbon cycle, while land use change releases carbon from soil and plant biomass pool into the atmosphere, particularly through the process of deforestation for wood extraction or conversion of land to agriculture. The overall effect of this scenario is climate change and its multiplier effects.

### **Effects of Climate Change**

There is no doubt about increases in average global atmospheric temperature with global environmental change as its attendant consequence. Among such notable changes especially in Nigeria is change in rainfall pattern. Rainfall heralds the arrival of farming season which usually starts early in the month of March every year. Farmers prepare for farming in the month of March believing that it would start to rain. Recently, the month of March does not witness enough rainfall that could sustain crops planted in this month, hence farmers are deceived into cultivating their farmlands and such crops planted usually dry up in the ground causing a huge loss to the farmers.

In Port Harcourt, Rivers State Nigeria, it rained heavily in mid January (from 10th), of 2021, making it look as if rainy season has arrived. This event could deceive farmers to start planting their crops and would definitely lose all they would plant because dryness continued afterwards. This leads to loss of yields to farmers, poverty, hunger and possibly famine. Similarly, harmattan (known in Igbo tribe of Nigeria as Uguru Nfekaoba) which usually occurs in late October or early November every year to herald the arrival of harvest season has not been experienced for a long time. These events constitute a natural calendar that enable farmers to sufficiently prepare for every stage in their farming life. Their absence makes adequate preparation for farming hectic and adjustment is difficult for the farmers. In the month of August in the year 2020, people expected to experience a break in rainfall (usually known as August break) which lasts for about one week. Instead, harmattan was experienced throughout the month of August. To the farmers in the rural areas who are predominantly illiterates, it is a bad omen. They attributed these occurrences to the anger of the gods of the land due to the people's disobedience to the traditional laws and norms of the land.

Other effects of climate change as experienced in Nigeria are highlighted as follows:

1. Overflow of river banks (rise in sea level). This is due to the melting of the glacier in the antarctica and arctic regions of the Earth. The melted ice flows into the oceans which overflow the seas and rivers. This phenomenon poses a great danger to the coastal communities as a rise in sea level of about 59 cm will plunge the coastal communities into the river. This rise is being triggered by the rise in average global atmospheric temperature which is a precursor to climate change (Okunolola in Mbalisi,& Ekwedigwe, 2008). Any further rise in global temperature by up to 2°C would not only aggravate rise in sea level but would get coastal countries like those in the Caribbean submerged into the ocean. It is to forestall this incident that Paris Agreement was drafted in 2015 and signed in 2016 to commit parties to limit the increase in average global atmospheric temperature to well below 2°C above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5°C. Nigeria is a signatory this agreement.
  2. Heat waves experienced in Nigeria is associated with rise in average global temperature. Heat waves lead to death and it also comes with some related diseases such as polio meningitis, skin rashes and burnt, suffocation, asthmatic attacks etc. It leads to death of crops in the farms as well as some animals with food scarcity as its resultant effect.
  3. Extreme weather events such as heavy and stormy rainfall with increased erosion and heavy flooding capable of destroying buildings and farm lands, thereby rendering a lot of people homeless and increasing hunger and poverty of the vulnerable people. This has contributed to increased number of Internally Displaced People (IDPs) in various camps in Nigeria. Nigeria started experiencing this event since the year 2012 when heavy flooding ravaged not less than twelve states with buildings and farm lands submerged and some records of deaths of some humans and animals to say the least. Flooding is becoming endemic in Nigeria with its associated threats.
  4. Other effects of climate change as experienced in other countries include wild fires which recently ravaged some states in the United States of America, Australia, Canada, etc; landslides, intense flooding, stormy rainfall and heat waves just like in Nigeria.
- The overall impacts of these effects include among others – loss of biodiversity; decrease in the harvest of crops, fishes and others sea foods; homelessness and internal displacement of people from their homes; poverty; increase in infectious diseases; hunger; increased erosion and desert encroachment, etc. Despite these impacts, some people according to Theis and Tomkin (2012) are either not aware or apathetic about what is happening and what will likely happen in the near future. This observation necessitates the need for the education of the general public on climate change and its impacts because education is the vehicle for the dissemination and application of knowledge developed through scientific researches. (Carter and Simmons, 2010). This assertion implies that without educating the public on the findings of scientific researches, all efforts and funds committed toward the researches would amount to a monumental waste. The general public according to the Belgrade Charter of 1975 is categorized into two groups as follows:
1. the formal education sector which includes pre-school, primary, secondary and higher education students as well as teachers and environmental professionals in training and retraining; and
  2. the non-formal education sector which includes youth and adults, individually and collectively from all segments of the population, such as the family, workers, managers and decision-makers in environmental as well as non-formal fields.

### **Global Efforts toward Addressing Global Environmental Problems (Including Climate Change)**

Since 1972, world leaders, scientists, activists and non-governmental organizations have been gathering with the intention of finding solutions to the growing environmental challenges bedeviling the planet Earth. Among the outcomes of the gatherings was the identification of climate change, pollution and biodiversity loss as worsening global environmental problems grievously impacting on humankind. Following this discovery, Declarations, Charters, Books and Protocols were made and developed whose contents are directed toward addressing the challenges. Among the Declaration and Charters are:

1. Stockholm Declaration of 1972 whose Principle One heralded the pronouncement of the environment as a fundamental human right as well as recognized education as a veritable tool for addressing global environmental problems, hence the birth of environmental education;
  2. Belgrade Charter of 1975 developed further the goal, objectives and principles of environmental education;
  3. Tbilisi Declaration of 1977 adopted the principles and objectives of environmental education as developed by the Belgrade Charter, but modified the goal;
  4. World Conservation Strategy provides for both an intellectual framework and practical guidance for conservation actions. It also gave currency to the concept of sustainable development;
  5. Our Common Future (Brundtland Report) of 1987 responded to an urgent call by the General Assembly of the United Nations to propose long-term environmental strategies for achieving sustainable development by the year 2000 and beyond. The Book provided a definition of sustainable development which changed the face of environmental regulations.
  6. Caring for the Earth of 1991 set out broad principles and an array of consequent actions upon which the future of our societies depends;
  7. Rio Declaration of 1992 contains 27 Principles to guide the transition to sustainable development in the 21<sup>st</sup> Century;
  8. Agenda 21 (The Earth Summit Action Plan) provides guidelines and strategies for achieving sustainable development in various sectors of national, regional and global development in the 21<sup>st</sup> Century. Agenda 21 in its chapter 36, assigns education a role of paramount significance in the movement toward a sustainable society;
  9. Kyoto Protocol of 1997 recommends that overall green house emissions would be capped at 5% below 1990 levels by the end of 2012;
  10. The Future We Want of 2012 provides a global framework to protect ecosystem integrity through holistic and integrated approaches ensuring effective balancing of the social, economic and environmental pillars of development, including poverty eradication, social inclusiveness and equity;
  11. Paris Agreement of 2015 which was signed in 2016 committed Parties to limit the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C.
  12. Agenda 2030 for Sustainable Development These are Sustainable Development Goals (SDGs) with 17 goals and 169 targets set to be completely achieved by the year 2030, hence “The 2030 Agenda for Sustainable Development. In a nutshell, the goals are set to achieve socially inclusive and environmentally sustainable economic growth. Goal 4.7 recognized education as fundamental tool for achieving and promoting sustainable development and as a result declares that by 2030, all learners must have acquired the knowledge and skills needed to promote sustainable development, through education for sustainable development.
  13. Berlin Declaration on Education for Sustainable Development This declaration in reference to SDG 4.7 recognises Education for Sustainable Development (ESD), as the foundation for the required transformation, which provides everyone with the knowledge, skills, values and attitudes to become change agents for sustainable development. ESD enables learners to develop their cognitive and non-cognitive skills, such as critical thinking and competences for collaboration, problem solving, coping with complexity and risk, building resilience, thinking systemically and creatively, and empowering them to take responsible action as citizens, fulfilling their right to quality education as defined in SDG 4 -Agenda 2030.
- These global efforts among others were geared toward addressing global environmental problems of which climate change is a major. One would expect that with these efforts since the 1970s, there would be no more environmental problems threatening the future of humanity, but the reverse is the case with three factors pointed at as being responsible:
1. Lack of knowledge and/or will by the political class to lead a national discussion on the imperative to take action (Lyster,

2020);

2. Lack of knowledge of the existence and content of such declarations, charters, protocols, books by the general public as well as respective actions embedded in such contents for addressing global environmental problems; and
3. Some people are either not aware of or apathetic about what is happening and what will likely happen in the near future.

In support of these assertions, Jasanoff (2020) observes that mere gains in scientific understanding will not translate into wise policies for the human future. He suggests that knowledge has to be actionable and persuasive if scientific knowledge would have to lead into the future we want. This indicates that all the scientific advancement toward the protection and improvement of the planet earth will end up in the hands of scientists and policy makers who do little or nothing about the implementation of actions recommended to protect the Earth, while the generality of the people keep suffering from the impacts of global environmental problems, especially climate change. These observations necessitate the need for the education of the general public on environmental issues and problems because education according to Carter and Simmons (2010) is a vehicle for the dissemination and application of knowledge developed through scientific researches. In this case, adult learning and education is our focus here since it targets the second category of audience for environmental education as earlier indicated.

### **Adult Learning**

Discourse in this section begins with the clarification of who an adult is. Ibe (2008) observes that “the concept of adulthood had been given various definitions and meanings due to cross-cultural differences in the perception of who an adult is”, and asserts that “there is no acceptable profile in defining the point at which adulthood begins.” This multi-dimensional conception of adulthood according to Mbalisi (2018) emerged as a result of conflicts, confusions and consequently debates generated from various parameters/criteria by which a person is viewed as an adult in various cultures and backgrounds. But UNESCO in 1976 and 2015 came with globally acceptable definitions to resolve the impasse associated with the definition of adulthood to give a clear identity to whom an adult is in the practice of adult education. According to UNESCO (1976), an adult is one regarded as so by the society

to which he belongs. Consequently, this definition was modified by UNESCO in 2015 thus “the term “adult” denotes all those who engage in adult learning and education, even if they have not reached the legal age of maturity”. With this definition by UNESCO, other parameters/criteria used by different experts and scholars in defining who an adult is including age, maturity, psychology, responsibility, etc, are put to a constant.

Adult learning therefore is a process through which adults acquire knowledge, skills and attitudes and applying them to his daily functioning (Oduaran, 2000). Adult learning according to Nzeneri (2008) is a process of re-organizing relationships in a given problem situation to enhance understanding. This understanding allows the learner to perceive new relationships, solve new problems and gain a basic understanding of a subject area (Bello in Nzeneri, 2008). Moreover, an adult is motivated to engage in learning to the extent he feels a need to learn and perceives a personal goal that learning will help to achieve (Knowles in Onyechi, 1987). For instance, an adult who feels the need to live in a healthy, clean and quality environment or feels the need to prevent climate change would participate in activities that will bring about the resolution of the needs. Today, adult learning is delivered from formal, non-formal and informal contexts.

In formal learning context, learning activities or programmes are organized and carefully structured through syllabi and timetable arrangements, lesson plans, teaching techniques and evaluation arrangements. This takes place within the formal school system. Evening classes built on the primary, secondary and post-secondary syllabuses and geared towards public examinations, come under formal adult education (Anyanwu, 1987). In this formal context according to Oduaran (2000), there is always a teacher who directs the learner's progress through the learning event, which is based on some formal syllabus or programme. In non-formal learning context, learning activities or programmes which are organized take place outside the formal school system with the intention of meeting specific learning needs of specific target groups (Aminigo in Ugwu & Mbalisi, 2016). Non-formal adult learning may be directed toward enhancing some competencies, the acquisition of entrepreneurial skills, some other specialized skills aimed at effective performance in some activities. In informal learning context, learning (ideas, facts, values, attitudes and skills) is acquired through an

individual's daily life experience. Learning takes place here in a multiplicity of settings such as work place, home, church, mosque, club meetings, malls, hospitals, banks, media houses, etc (Oduaran, 2000). According to Anyanwu (1987), a set of ideas, attitudes, skills or behaviours are unconsciously taught and learned through listening and observation.

In adult learning, two major groups of adult learners according to Nzeneri (2008) exist:

1. those who have had formal education no matter the level such as the literate, semi-literate, neo-literate, post-literate and/or those who may have dropped out of the formal school system, or those who need to remedy one form of certificate deficiency or the other; and
2. those who have not had any formal education and are probably referred to as the illiterates.

These explanations about who an adult is, adult learning and who an adult learner is are necessary to properly identify who should learn about climate change and its associated challenges.

### **Relevance of Adult Learning to Combating Climate Change**

Adult learning in this case is found very relevant in educating the general public on climate change, its associated problems and solutions toward achieving a sustainable future as contained in the global efforts. In response to this challenge, UNESCO during the Fifth International Conference on Adult Education (CONTINTEA) held from July 14-18, 1997 in Hamburg, Germany made adult learning in relation to environment as part of its agenda for the future and as a result moved for integrating environmental and development issues (of which climate change is part) into all sectors of adult learning and developing an ecological approach to lifelong learning. It is against this background that Sumner (2003) defines environmental education for adults as a hybrid outgrowth of the environmental movement and adult education, combining an ecological orientation with a learning paradigm to provide a vigorous educational approach to environmental concerns. Among the environmental concerns is climate change. Trusting the capacity of adult learning in charting a way forward toward a sustainable future, UNESCO insists that "adult environmental education can play an important role in sensitizing and mobilizing communities and decision-makers towards sustained environmental

action". According to UNESCO (1997), through adult learning, environmental activists and educators can become aware of the kinds of situation that create barriers to participatory action for the protection of the environment. Such barriers are identified as:

1. Situations where marginal communities face grave economic and social problems (poverty);
2. Where there is a lack of environmental awareness and of commitment to environmentally friendly policies among governments and industries (illiteracy, ignorance and apathy); and
3. Where initiatives do not achieve their aims because of lack of support from the institutional sector, and because of lack of co-ordination with other initiatives (denials).

To further advance the relevance of adult learning in the advancement of knowledge of climate change and its dynamics, UNESCO in its 2015 Recommendation on Adult Learning and Education recognizes adult learning as including education and learning opportunities for active citizenship in the context of environmental protection and climate. This recognition implies that the principles, contexts and methodologies of adult learning shall be explored and harnessed for educating adults of various status and backgrounds on climate change and its consequences for the future of humankind. This follows the fact that adults are the most productive and active citizens whose socio-economic activities such as farming, construction, use of fossil fuel, etc lead to climate change. This underscores the need to educate them both literate and illiterate on how best to engage in their daily activities within the framework of global best practices as contained in various books, charters protocols, conventions and declarations in a bid to forestall climate change and advance a new way toward a sustainable living.

### **Channels of Adult Learning for Combating Climate Change**

Adult learners could be helped to learn about climate change and its associated problems through the following channels:

#### **Formal Adult Education**

Climate change and other related concepts are integrated into the syllabus of literacy and post-literacy adult education curriculum. This enables

adult learners at the literacy education programme to have information and learn about climate change and be better equipped with skills that will empower him/her to take appropriate action toward preventing the incident of climate change.

### **Outreach Education Programme**

Outreach connotes meeting people where they are with the idea and information you intend to share with them. In this case, adult learning programme with climate change component can be designed to target adults in the streets, at homes and some other individuals for the purpose of getting aware of the incidence of climate change and its consequences on human beings.

### **Advocacy Visit**

A visit can be organized to political, economic and community leaders with the intention to secure their commitments toward advancing the course of preventing climate change as well as promoting actions that result in climate change mitigation and adaptation.

### **Media Programmes**

These include television panel discussions, jingles, documentaries and drama on radio and television as it relates to climate change and its associated problems.

### **Workshops/Seminars and Conferences**

These are platforms through which information, knowledge and ideas about new developments are shared among the participants. Through these media, climate change issues are raised, discussions held, questions asked, answers received and the dynamics of climate change are learned.

### **Protests, Demonstrations and Rallies**

Senator Gaylord Nelson of the United States of America proved that protests, demonstrations and rallies can be effective in generating a huge support from the people toward solving environmental problems when he mobilized 20 million Americans on April 22, 1970 to demonstrate against the deterioration of the environment. This single effort birthed modern environmentalism leading to the recognition of April 22 every year as Earth Day which is celebrated till date with billions of people participating. This effort also led to the establishment of US Environmental Protection Agency, Clean Air, Clean Water and Endangered

Species Acts. Such effort can be replicated toward mobilizing people for action targeted at combating climate change and its associated challenges.

The essence of using these channels is to ensure that all categories of adults are educated on climate change issues in efforts toward developing a climate literate citizenry. Through the channels, necessary knowledge, attitudes and skills require to engender action for climate change mitigation and adaptation will be developed in the adult which would be reflected in their daily activities with the intention of forestalling climate change and its impacts.

### **Conclusion**

Climate change and its attendant consequences is a reflection of wickedness of humans to nature. Humans in a quest to live comfortably tear nature in parts without empathy in search of resources required to lead a comfortable life. This in turn has turned the hands of nature against humans and humans began to look for solutions to the woes of climate change which has befalling them.

Since many adults whose actions result in the incidence of climate change are not aware of the impacts of their actions on the planetary climate and are not also aware of global efforts toward the mitigation of and adaptation to climate change, adult learning should be engaged to educate the adults of different status and backgrounds on various efforts necessary to avert climate change, as well as develop in them knowledge, attitudes and skills required to engender real environmentalism that will bring to bear actions that will protect the Earth from unnecessary influence of man.

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