CLIMATE CHANGE IMPACT ON BUSINESS OPPORTUNITIES IN SOUTH EAST NIGERIA

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Abstract

Within the framework of natural and the man-made theories, an eclectic approach, the study examines the business opportunities inherent in climate change in South-east, Nigeria. Climate change is a global phenomenon that refers to variability in climate parameters over a long period of time evidenced by environmental devastations ranging from global warming or rising temperatures, extreme precipitations or frequent and heavy rainfall or snow fall, flooding, wind storm, earthquake, tsunami etc. This study adopted the descriptive research design in which 500 respondents were interviewed using online approach. The findings reveal that, climate change impact response influenced the creation of new businesses especially in the small and medium scale enterprises (SMEs) subsector with over 90% of respondents in agreement that businesses have been created in the renewable energy subsector in the form of solar energy sources as alternative to the use of hydrocarbons, repair works, tree planting projects, embankment projects to guard against overflow of river banks and other water bodies that cause flooding, fumigation services to disinfect environments flooded or contaminated and against spread of diseases as currently is the case in this fight against COVID 19 pandemic. It therefore concludes, that mitigation and adaptation activities to climate change impact are the chief drivers in this process of new business creation and opportunities. It recommends that, the pursuit of mitigation and adaptation activities should be intensified in order to reduce the degree of devastations to life and livelihoods since they are capable of dragging the Carbon dioxide ($CO_{2)}$ emissions and the frequency of occurrence of the climate

change events down thereby improving the viability and growth of the economy through creative powers of the process.

Keywords: Adaptation, climate, business, mitigation, opportunities.

Introduction

Climate change is an emerging global concept or phenomenon today and has recently attracted international attention so much so that there is hardly any public discourse either at domestic or international sphere that climate change is not mentioned. As a result of this widespread awareness of the phenomenon among the elite class around the world, it has been described and understood in various ways. It is environmental and atmospheric upheavals such as ecological disasters like gulley erosion and landslides, wild fires, strong wind storms and thunder storms, various earth movements like earthquakes, tsunamis and volcanic eruptions (Leichencho, O'Brien & Solecki, 2009). It is also described as increases in atmospheric chemistry of some greenhouse gases chiefly Carbon dioxide (CO_2), chlorine, halogen etc. which are widely known to cause ozone layer depletion believed widely to cause global warming. Ozone layer is a protective shield of compound up the atmosphere that protects the earth's biomass in flora and fauna against the harmful or dangerous ultra violet rays of the sun, thereby insulating humans and plants against the harmful effects of the sun. Indeed, climate change is described as long lasting variations in the statistical properties or parameters of the weather considered over few decades to millions of years (Norrington & Underwood, 2008).

These researchers therefore, conceived climate change as significant change in the climate variables such as temperature, pressure, relative humidity, wind storm, precipitation (rainfall, snow fall etc) which cause the current global warming, extremities of temperatures, rainfall, snowfall, desertification, drought in some parts of the world, changed ocean currents, strong wind storms, and thunder storms leading to global environmental disasters and degradations as well as emergence of new diseases to both humans and plant species which in part, are responsible for the poor or low agricultural yields in parts of the world, thick dust haze, fog and midst etc. However, experts in climate and environmental studies say that climate variability is considered a "normal" risk since it is said to be an age long phenomenon spanning through the prehistoric to modern times. For example, the period of extraordinary few sunspots in the mid-16th to early 17th centuries (1645-1715) known as the "Maunder Minimum" has marked relative cooling and greater glacier extent than the centuries before and afterwards (NASA/Wikipedia, 2013). Tens of million years ago, continental plate movement formed a land free gap around the Antarctica which helped warm waters form due to thermohaline circulation from Antarctica and pacific decadal added to Atlantic oscillation, all presenting climate variability on a longer time scale, plus alterations to the ocean processes and all these play key role in the redistribution of heat by carrying out a very slow and extreme deep water and long term redistribution of heat in the world oceans (NASA/Wikipedia, 2013). Again, over the course of millions of years ago, the motion of tectonic plates reconfigured global land and ocean areas and generated new topography. These age long climate variabilities have not changed with their today's climate events except in the frequency, magnitude/intensity and the related devastations which present a case for worry today.

The present state of the Nigerian economy is worrisome not only to Nigerians and Nigerian government at all levels but also to concerned foreign governments and donor agencies. The Human Development Index (HDI) (2019) report indicates that Nigeria is one of the 48 least developed countries of the world whose combined Gross Domestic Product (GDP) is far less than the assets of the three richest people of the world. The report further states that Nigeria which was in the early 1970s assessed as one of the richest fifty countries in the world, has retrogressed sharply to become one of the 25 poorest countries at the threshold of the twenty first century to the extent it has now been world capital of poverty (HDI, 2019). It is indeed ironical that Nigeria is the sixth producer and exporter of crude oil, "the black gold", and at the same time classified as one of the poorest nations of the world, hosting the third largest number of people and in fact the most populous nation in Africa (UNDP, 2000). Statistics further show that the incidence of poverty using the rate of one US dollar (USD1) per day presents an undulating formation between 1980 and 1996. This statistical figure is now an outright exaggeration when today, it is reported that Nigeria and indeed larger proportions of Nigerians no longer live on USD1 benchmark but are rated living well below USD1 per day (World Bank and DFID, 2005:8). This development shows that the matter is becoming worse by the day. Available records at the National Bureau of Statistics (NBS) and other international economic data repositories indicate that Nigeria as a nation fares very poorly in all developmental indices except population growth rate which is estimated to increase at an unprecedented exponential dimension to translate into a frightening figure of 300 million by the end of this century. To explain the bad economic situation further, the annual percentage growth of GDP for example, from 1990 to 2000 was 2.4. In 2018, it was 1.9 indicating a sharp downward trend. These figures are actually considered very poor when compared and benchmarked against neighbouring countries like Ghana with 4.3 and Egypt 4.6.

Again, the gini index of Nigeria is on the high trend of 50.6, comparable with or matched against other countries such as India with 37.8, Jamaica 37.9, Mauritania 37.3 and Rwanda 28.9 (Human Development Report, 2007). Perhaps, this figure has improved recently, on the "paper", to the point of being rated the largest economy in Africa but unfortunately, this claim has never reflected in the living standard of the average Nigerian who still cannot afford three square meals a day and still being rated the world poverty headquarters (NBS, 2019). The gini index measures the extent to which the distribution of income or in some cases, the consumption expenditure among individuals or households within the economy deviates from a perfectly equal distribution. A gini index of zero represents perfect equality while a gini index of 100 implies perfect inequality. Nigeria has one of the highest gini index in the world. Similarly, Nigeria is reported to have a high mortality rate of SMEs and this is posing a big challenge to all players and stakeholders in the economy (Akuwudike, Igbokwe-Ibeto & Achilike, 2018). Unfortunately, this situation is accentuated and indeed exacerbated by the massive flooding of the coastal frontlines and inland river basins in 2012 which was directly linked to climate change with the attendant devastations to Nigerians, businesses especially SMEs and the Nigerian economy in general. Therefore, this paper emphasizes the seriousness and urgency for countries to develop policies and programmes to combat the scourge and mitigate its effect on the environment and human development.

Also, Nigeria is reported to have a high mortality rate of SMEs and this is posing a big challenge to all players and stakeholders in the economy (Akuwudike et al., 2018). Unfortunately, this situation is accentuated and indeed exacerbated by the massive flooding of the coastal frontlines and inland river basins in 2012 which was directly linked to climate change with the attendant devastations to Nigerians, businesses especially SMEs and the Nigerian economy in general. Therefore, climate change emphasizes the seriousness and urgency for countries to develop policies and programmes to combat the scourge and mitigate its effect on the environment and human development (Igbokwe-Ibeto, 2019).

The foregoing economic analysis indicates that there is poverty in the land in the midst of plenty posting the widest gap between the rich and the poor (World Bank, 2007). Therefore, this poor state of the Nigerian economy, underscores the need for a lead work to be carried out targeted at reversing the trend, and very quickly too to bring back the economy on the part of growth and development. While a number of studies have been conducted on climate change, it would appear not much has been written on harnessing the inherent possible business opportunities that climate change can in revamping the Nigerian economy. Therefore, this article seeks to examine the climate change impact on business opportunities with specific reference to South-east Nigeria.

Conceptual and Theoretical Underpinning

Understanding the conceptual meaning of climate change will ordinarily begin by appreciating the meaning of the word climate. The term climate originates from the Greek word "klinein" which means "slope", describing how the angle that the sun hits the earth varies in different places and regions (Emielu, 2008). Hence, each area of the world has its own climate. Another key word in understanding climate is "weather". Both weather and climate are similar in the concept of the angle the sun hits the earth but differ only in the space and time which describes the atmospheric conditions as caused and affected by the angle the sun rays sustained on the earth such as temperature, pressure, air motion (wind), precipitation (rainfall, snowfall etc.), humidity and sunshine (Blast, 2010). When these conditions are measured in hours, days or weeks for example, it is called weather but when measured over a longer period of time say years, and millions of years, it is called climate (Blast, 2010; Emielu, 2008).

Climate change implies variability in these weather parameters which is known to occur over time and from place to place around the globe. Therefore, climate change is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years, relating to such weather parameters as temperature, pressure, humidity and precipitation. In simple terms, climate change means long lasting change in temperature, pressure, wind, precipitation and humidity measurements over places and or the entire globe, which may manifest in extreme temperatures as global warming or cooling, heavy or slight or no rainfall at all (drought), very strong wind storm and thunder storm, and earth movements of various magnitudes (Blast, 2010).

The climate variability so stated are the leading cause of the biospheric or atmospheric catastrophes being experienced today, globally. The catastrophes include the lethal heat waves and wild fires experienced in some parts of the world today, the increased glaciation in some parts, the heavy rainfall, snowfall and flooding ravaging some places,

drought and desertification, landslides and gulley erosion, earthquakes, volcanic eruptions and tsunamis as well as such other catastrophes. Table 1 below shows some of these catastrophes and the relative causative agents. Figure 1 also shows the prevalence and frequency of the catastrophes as they occurred in South East Nigeria. Climate change in summary, is a change in the statistical properties of the climate system when considered over long period of time adding that fluctuations over period shorter than a few decades do not represent climate change (Blast, 2010).

Table 1: Disaster Groups and Description

S/N	Disaster group (causes)	Description	Nature
1.	Hydro climatological	Disaster caused by weather elements such as rainfall, wind storms, temperature fluctuations etc.	Flood, flooding, wind storms, thunderstorm
2	Geophysical	Disasters originating from changes in the earth structure arising from climate change and others	Ocean surge, drought, desertification, famine, erosion, earthquake, tsunami, landslides
3	Technological	Disasters that originate from technological and industrial accidents, dangerous procedures, infrastructural failures or specific human activities	Depletion of ozone layers, global warming, extreme weather events
4	Biological	Disasters caused by the exposure of living organisms to germs, toxic substances and mutation agents.	New diseases and new global Health challenges, Ebola virus, resistant malaria, Lassa fever HIV/AIDS, Cholera, tuberculosis etc

Source: Akuwudike et al. (2018)

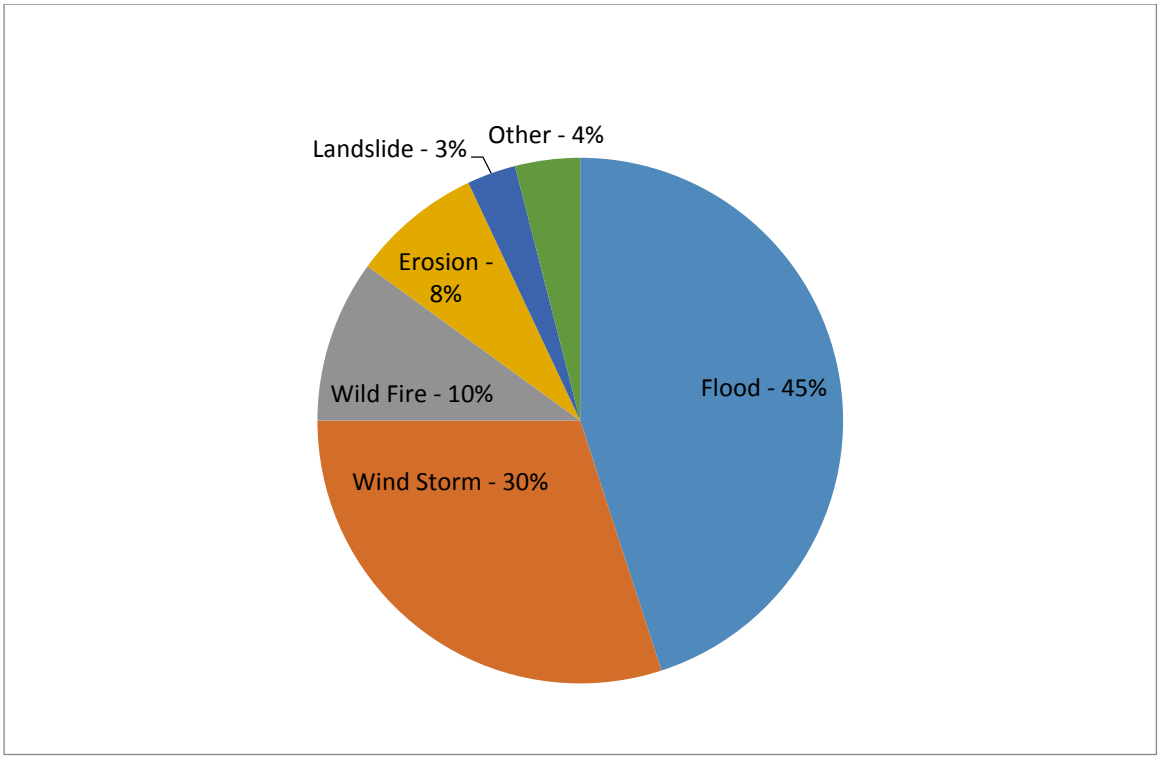

Figure 1: Prevalence and Frequency of Climate Change Catastrophes in South East, Nigeria
Source: Akuwudike, et al (2018)

Climate change, though a new weather phenomenon, has attracted growing and unprecedented global interests' studies among climate experts in order to fully understand the science behind the scourge, described by the then UN Secretary General Mr. Ban Ki Moon as a phenomenon that presents the world with its most complex and serious challenges of our time, impacting tremendously mostly negatively on life and livelihood (UN, 2014). As at the last count, no less than seven subsisting theories have been propounded all in an attempt to fully explain the science of climate change and global warming. Presently, Joseph Blast of the Heartland Institute under the auspices of the Science and Public Policy Institute (SPPI) is galvanizing the facts inherent in these seven theories and has therefore, classified them into two major theories namely the natural and the man-made theories. The natural theories are led by the cosmoclimatology propounded by Henri Svensmark which states that the sun naturally varies in its activity; when it is inactive, it releases low sunspots and higher cosmic rays and higher cloud cover causing cooling effect on the earth and conversely when the sun is active, higher sunspots and electromagnetic fields are released resulting into lower cosmic rays and cloud cover causing global warming and he informs that this is what is operating nowadays and what happened during the ice age (Maunder Minimum). This means that higher cloud cover and lower sunspots give rise to colder earth and that lower cloud cover and higher sunspots result into global warming. Figure 2 explains this position. Another popular natural theory is the astronomical theory otherwise called Milankovitch hypothesis named after Milankovitch who propounded the theory. The theory states that the angle of tilt and the eccentricity of orbit cause insolation variability and ocean circulation which in turn

causes climate variability (Vardiman, 2008). The major man-made theory is the Anthropogenic Global Warming (AGW) theory propounded by modern climatologists.

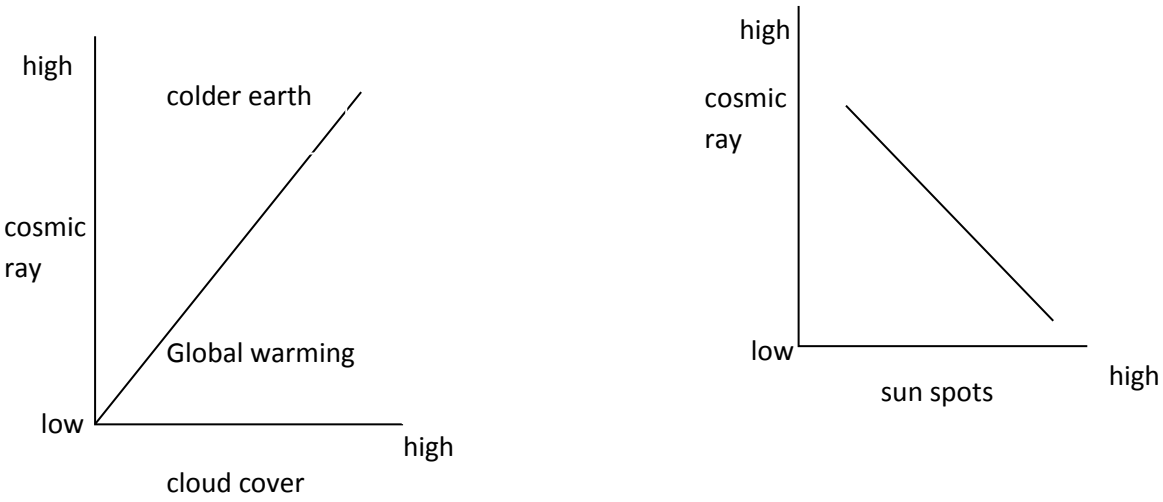

Figure 2: Relationship between Cloud Cover and Sun Spots
Source: Akuwudike (2016) Adapted from Cosmoclimatology Theory

The present day understanding of climate change is one that attributes the climate variability to anthropogenic activities such as voracious consumption of fossil fuels or hydrocarbon leading to massive emission of greenhouse gases like CO_2 and halogen into the atmosphere in the course of powering global industrialization and other economic activities through, for instance, the release of exhaust fumes and smokes, industrial wastes and sewages, effluents and the attendant air and water pollution properties. Other anthropogenic activities are indiscriminate bush burning, tree felling or deforestation leading to oxygen O_2, CO_2 coefficient disequilibrium implicated for the ozone layer depletion, desert encroachment (desertification), drought and other forms of climatic and atmospheric upheavals and catastrophes. The term climate change, sometimes is used to refer specifically to changes in the climate parameters caused by human or anthropogenic activities as opposed to changes in the climate that may have resulted as part of the earth's natural processes of rotation, revolution, aging over time, denudation and other forces influencing the earth including divine and cosmic developments and interactions.

O'Brien (2008), reports that climate change has very strong nexus with the recent financial crisis and businesses, manifesting in the form of new business opportunities among others. For example, manifestation may occur as changes in the insurance businesses. Insurers may face high premiums or a complete elimination of private coverage options. It may also occur in manufacturing and services subsectors in many other ways. This development may in general call for new ways of doing business, new legislation on the part of government, new policy framework, new business process redesign, new business challenges and new methods of adaptation for sustainability.

There are several theoretical windows through which the subject of climate change can be analyzed. However, this article is anchored on the AGW theory because of its popularity, greater acceptability by contemporary climatologists and is relevant in addressing

the issues raised. The AGW theory argues that man's industrial and economic activities which relied heavily on voracious consumption of fossil fuels (rich in hydrocarbon) to power automobiles and industrial equipment and the subsequent release or emission of greenhouse gases chiefly CO_2 into the atmosphere is responsible for the ozone layer depletion and the concomitant global warming. The global warming is directly linked with the global environmental upheavals, devastations and disasters that the various parts of the world are experiencing nowadays. There are reported cases of devastations such as low crop yields and famine, drought and desertification, destructive wind storms and thunder storms, lethal heat waves, wild fires, rising global temperatures, rising ocean, sea and other water body levels, excessive rainfall and snow falls, flooding, earthquakes and tsunamis, gulley erosion and landslides, emergence of new diseases and resistance of old diseases to known medications and many more (UN-ISDR, 2014). The UN concerns are anchored on these devastations representing negative impact of climate change affecting lives and livelihoods globally. The world has swiftly responded as appropriate through the UN umbrella and structures to fight and mitigate climate change scourge. Other aspects of man's activities or anthropogenic activities besides greenhouse gas emissions under the AGW theory include tree felling or deforestation, indiscriminate bush burning, gas flaring, effluent discharges, land reclamations and sand fillings, construction works or building on flood plains and water channels or drainages, improper disposal of solid wastes and sewages (UN, 2015, Norrington & Underwood, 2008). These publications and exposé jointly and strongly suggest that anthropogenic activities are indeed the leading cause of atmospheric CO_2 disequilibrium actually observed and noticed in recent times, which contemporary experts in the field agree are responsible for global warming and climate change as well as the devastations to lives and livelihoods that come with them. The theoretical analysis as in this paper clearly exposes the deep disagreement of opinions as it concerns the natural and anthropogenic theories of climate change. This is an issue for further examination in the future however, what makes more immediate sense is the consensus reached by all that the frequency at which the weather upheavals are occurring today has changed worrisomely and therefore requires and indeed calls for concerted urgent global attention.

Global Response to Climate Change Impact

The anxiety and concerns the world leaders have had over the last twenty years about global warming and climate change have indeed culminated into several UN led world conferences and climate summits called Conference of the Parties (COP) particularly spearheaded by the Intergovernmental Panel on Climate Change (IPCC). These high-level international conferences were aimed at galvanizing political consensus and support of world leaders to concerted action on climate change. The world leaders quickly agreed that the UN provides the appropriate multilateral framework for action and that the United Nations Framework Convention on Climate Change (UNFCCC) is the only forum in which agreement can be crafted on the objectives and scope of international action. The UN system Chief Executives Board (CEB) for coordination initiated a process of aligning its strengths to achieve a coordinated action-oriented approach to fight the global challenges posed by climate change. The five areas of focus of CEB under the COP in the 2008 convention at Poznan, Poland tagged COP14 includes technology transfer, reduction of greenhouse gas emissions from

deforestation and fossil fuels use and degradation, financing of mitigation and adaptation actions and capacity building through High Level Committee on Programme (HLCP) made up of UNIDO-FAO-UNEP, UNDP, World Bank Group (WBG). Other areas of focus of CEP are climate change public awareness creation and climate change studies or knowledge science, assessment, monitoring and early warning (UN, 2014).

The mitigation measures or actions are intended to focus on redressing the natural causes and some artificial causes of climate change involving anything that will reduce emission of greenhouse gases whereas adaptation measures or actions are intended to focus on anything that reduces the negative impact or devastation on lives and livelihoods due to climate change. Mitigation measures take longer time to impact by definition while adaptation measures take shorter time to impact (Norrington & Underwood, 2008).

Climate change presents an unprecedented challenge for the international community and as well an opportunity; an opportunity to create a new development paradigm that links policy setting with investment as well as opportunity for development practitioners, donor agencies and developing countries to do development differently so that climate change considerations are built right into the foundation of plans to reach SME development and other development goals such as the global Sustainable Development Goals (SDGs). Combating climate change presents possibilities for new investment, enterprise development, creation of opportunities for businesses (SMEs), decent job creation and higher incomes (UNDP, 2014). Ambitious climate policy could address the underlying causes of climate change but can also provide the basis for future sustainable growth in livelihoods.

As a unique international mechanism, the UN system has embarked on an action-oriented coordinated effort to support the international community to rise to the climate change challenges with the objective of maximizing existing synergies, eliminating duplication and overlap and optimize the impact of collective efforts of the UNFCCC secretariat. The then UN Secretary General Mr. Ban Ki Moon made the following remarks. "Since the Bali (Indonesia) conference, we have seen even more compelling evidences why we must act now, and very swiftly too. Devastating climate events recently, like the tropical cyclones in Myanmar and the Caribbean, the wide spread flooding in India, China, and several cities in Nigeria like Lagos, Benin, Ibadan, Aba and Onitsha added to drought in the horns of Africa have all highlighted the vulnerability that the people all over the world face. It is clear that those who suffer the most from increasing signs of climate change are the poor; those that have contributed the least to the planetary problem continue to be disproportionately at risk. As we meet in Poznan Poland, we are witnessing the confluence of a series of events that threaten the very fabric of the international systems and humans as well as ecological security of individuals everywhere. The high and volatile food and energy prices have thrown at least 100 million people back into poverty and with the recent global financial crisis and the economic recession that follows it, these numbers are likely to rise. We risk all the efforts that have been made by countries to meet the Millennium Development Goals (MDGs) and alleviate poverty, hunger and ill-health for example, the Roll Back Malaria Programme in Nigeria and elsewhere, the Peer Review Mechanism successes all will be lost. As we look forward to Copenhagen, Denmark conference, we must seize the opportunities presented at a time like this, to vision a low carbon (green) global

economy, one which not only ensures a secure climate but also spurs sustained economic growth and businesses".

Flowing from the Copenhagen, Denmark conferences, we should 'seize the opportunities presented at a time like this, to vision a low carbon (green) global economy, one which not only ensures a secure climate but also spurs sustained economic growth and businesses.' In this direction, greatly enhanced investments in renewable energy and energy efficient technologies are eloquent mitigation actions and cannot only put the earth back onto sustainable track but can generate employment, create new business growth on an impressive scale. Also, massively increased investments in forest conservation and management and afforestation interventions represent added impetus to mitigation measures and can have climate, biodiversity and economic or new business benefits that are mutually supportive and strengthening our ability to reduce disaster risk. Again, building up the individual and collective capacity of countries to monitor climate variability, enhanced climate science and services (climate knowledge) and the utilization of climate predictions are truly critical and crucial for effective mitigation and adaptation strategies.

The transfer of technologies to developing countries is central to pursuing meaningful mitigation and adaptation activities as well as more broadly, advancing the extant global Sustainable Development Goals (SDGs) programme. Developing countries require substantial financial support for mitigation, adaptation and technology transfer cooperation through assisting the efforts to reduce greenhouse gas emissions. The UN system activities therefore, should be geared towards the need for climate knowledge, technology transfer and indeed to recognize the need for capacity building and works to strengthen national institutions and human capacity especially, developing countries to better analyze the impact of climate change, develop course of action for better resilience and implement relevant mitigation and adaptation activities (Igbokwe-Ibeto, 2019).

Adaptation activities include such actions as constructing or building embankments to prevent flooding specifically against submergence of businesses, proper disposal of wastes, clearing water ways of debris, avoidance of building or construction works on flood plains. Others are wearing of summer or winter clothing depending on the prevailing weather condition either warmer or colder weather in response to the ambient temperature, regular fumigation services for disinfecting contaminated sites either because of flooding or outbreak of infectious diseases such as we have now the burden of COVID19 pandemic, repair or reconstruction works in response to blown off roofs of residential houses or factory buildings, use of suction machine pumps to suck out water from flooded rooms, apartments and factory floors (Norrington & Underwood, 2008). Understanding these mitigation and adaptation activities for new business opportunities and job creation is what this article seeks to unravel.

Methodology

The paper adopts the descriptive survey design whereby the interview method was used to elicit responses. 500 sample respondents were contacted using the online platform for response collection across the five states that make up the study area (the south east geopolitical zone of Nigeria namely; Imo, Abia, Anambra, Enugu and Ebonyi states). The respondents were categorized into three groups amongst Small and Medium Scale Enterprises (SME) operators, Small and Medium Enterprises Development Agency of Nigeria

(SMEDAN, the government agency for SMEs regulation) and National Emergency Management Agency (NEMA, government agency for disaster response and management). The distribution of respondents according to these categories are; 150 for SME operators, another 150 for SMEDAN and 200 for NEMA officials. Five questions were designed and administered on the three categories of respondents; questions one and two are intended to indicate the extent of practice of mitigation actions like using solar or biofuels as alternative sources of energy outside public EEDC supply and question three indicates the job creation capacity of mitigation actions. Question four indicates the extent of practice of adaptation actions like drying up flooded premises or repair works on blown off roofs and damaged roofs as well as supply of relief materials to the affected and the vulnerable groups (Internally Displaced Persons-IDPs) while question five indicates the job creation capacity of adaptation actions. The responses are presented on table two below.

Table 2: Responses of Respondents

	Mitigation Action				**Adaptation Action**		
Respondents' Category	**Question One Response**	**Question Two Response**	**Question Three Response**	**Total**	**Question Four Response**	**Question Five Response**	**Total**
SMEs	60	60	28	148	100	50	150
SMEDAN	40	70	35	145	65	80	145
NEMA	70	80	40	190	95	100	195
Total (500)				483			490

Source: Field Survey, 2020.

A total of 148 SME operators have either taken or carried out (on client basis) mitigation actions thus confirming its job creation capacity and the same information was generated for SMEDAN and NEMA officials, with 145 and 190 figures respectively. Again, a total of 150 SME operators either took adaptation actions or carried out such actions for their clients thus confirming the job creation capacity and the same information was generated for SMEDAN and NEMA officials with 145 and 195 values respectively.

Table 3: Analysis of Responses

Respondents:	**Mitigation Actions:** Use of alternative sources of energy like solar, wind, hydropower; enactment and enforcement of gas flaring prohibition act; tree planting projects etc.	**Adaptation Actions:** Fumigation services; erecting embankments; repair works; contract on demolition works for buildings around flood plains and water ways; supply of relief materials; etc	**Mixed Category Actions:** Actions for both mitigation and adaptation.
SME Operators	148	150	145
SMEDAN Officials	145	145	147
NEMA Officials	190	195	196
Total Samples: 500	483 (96.6%)	490 (98.0%)	488 (97.6%)

Source: Field Survey, 2020.

The data generated as tabulated above, were analyzed using simple percentages and validated by rational assessment.

Discussion of Findings

The results indicate that 483 or 96.6% of the 500 respondents agree that they have given out a number of mitigation actions-oriented contracts or befitted from such jobs as responses to fight climate change and thereby created business opportunities for SMEs while 490 or 98.0% of them affirm that they have benefited from or given out some adaptation actions-oriented contracts in order to reduce the impact or severity of devastations caused by climate change. Again, 488 or 97.6% of the respondents' state that they have taken or contracted a combination/mixture of mitigation and adaptation actions in fighting climate change impact. The analysis indicates that mitigation and adaptation measures have indeed created new business opportunities in south east Nigeria. These results therefore support the work of Norrington and Underwood (2008) which states that mitigation and adaptation actions have the capacity to create new job opportunities in Australia. It is also pertinent at this point to stress that the recent emergence of COVID19 across the world made it mandatory to introduce the lockdown of the economy as one effective measure to contain the spread of the disease and was reported recently as having drastically reduced the global greenhouse gas CO_2 emissions in the atmosphere thus giving credence to the efficacy of the AGW theory which this paper is anchored on.

Conclusion

This paper has examined the issue of climate change impact on business opportunities with specific reference to South-east Nigeria, with an attempt at clarifying the intellectual cobweb surrounding climate change and its inherent business opportunities. In addition, searchlight was also beamed on the theoretical underpinning for a better analysis of the issues raised. Thus, AGW theory has been analysed as postulated by scholars. The article concludes that,

various mitigation and adaptation actions conjointly, are actually creating new business opportunities which are indeed contributing significantly to the economic growth and sustainability and adds that such actions should be pursued more vigorously. Some of the mitigation responses in practice as the study reveals, include afforestation campaigns and afforestation works, campaign and advocacy against bush burning in communities as well as enactment of relevant legislations and enforcements by Federal and state governments (NEMA, 2012 Report). Again, some of the adaptation measures as revealed include government demolition of illegal structures to strengthen effective town planning adherence, construction of embankments and repair works by the affected. The results provide ample evidence about the activities of climate change in south east Nigeria and that it is a reality that the scourge is causing massive devastations to lives and livelihoods in the study areas. It also reports that there are cases of individuals as SMEs, corporate bodies and government as SMEDAN or NEMA engaging in minor to major reconstruction works occasioned by damage resulting from wind storm or flooding (NEMA, 2012 Report).

Recommendations

Having examined the issues of climate and the challenges it poses to mankind and environment, as huge as the challenges may appear, they are not insurmountable as there are business opportunities inherent in it. The paper therefore, recommends that the fight against climate change should be intensified in line with the UN protocol in order to harness the full potential to creating new business opportunities. This goal calls for proper monitoring to ensure judicious use of appropriated ecological funds being provided by the UN parties and concerned international donor agencies.

It also, recommends that more effective awareness should be created about climate mitigation and adaptation measures and more importantly to fully harness the creative potentials of the acts, and that the desire should be backed with adequate and robust legislations which would compel economy stakeholders implement the much needed remedial actions anchored on mitigation and adaptation. The creative potential of mitigation and adaptation actions as the paper reveals, can become the engine house for the creation of jobs and other business opportunities in the south east, Nigeria. The paper aligns itself with the recent reports which indicate that the government at all levels, have increased their capital expenditure budgetary allocations in the 2020 appropriation, in a deliberate effort of government to make money available especially the ecological funds and to all other relevant agencies like the National Emergency Management Agency (NEMA), to operate maximally and efficiently to fight deep gulley erosion sites ravaging communities, households and businesses and providing interventions to internally displaced persons (IDPs).

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