

Climate Change: A Moral Challenge for Renewing the Earth, Reflections on various Churches' Responses on Environmental Crisis

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Abstract

This article explores the critical issue of Climate change, causes and consequences from a Christian stand point as contained in various Papal responses. It highlights the mission of the Church towards environmental issues, which reinforces the perception of the interconnectedness of man and nature. As a global crisis, various expositions by experts and reviews of progress reports on climate change summits were delved into, while insights into statements of Popes on this subject at different times form the theological framework of the study. Data obtained from secondary sources were deployed for comparative analysis focused on Africa continent. The study reveals some challenging evidences suggesting that increasing human activities generating greenhouse gases effects were paramount among other factors. More so, never a time have we felt the dire consequences of the wanton destruction and plundering of flora and fauna than now. Climate change remains the greatest humanity's threat faced especially by the West African region; aggravating poverty, famine and increased terrorism. The recommendations were targeted towards the sub-region, which is in dire need of changes in personal behavioural patterns, community and governmental synergy within a coherent and harmonized developmental polices on renewable energy and reduction in carbon emission, to enhance Nigeria's vision 20:2020 Economic Recovery and growth plan.

1. Introduction

There is a consensus to the fact that over the past 50 years, the earth's atmosphere has been warming up at an alarming rate, resulting to Climate change. On the issue of human dominion, which was harmonious with nature before the fall, as evidenced by Adam and Eve's submissiveness and obedience to the will of God; but after the fall, creation was subjugated to human use. The misconception of the designation of man in creation as "imago Dei" (God's image) has made man see himself as Lord and master of the Earth, thereby being over bearing.

Various pronouncements have been made on saving the planet. **Climate change** is the gradual rise in the average surface temperature of the earth to about five degrees Centigrade in a century, resulting to global warming. This happens because the heat that is absorbed from the sun cannot leave the atmosphere due to built-up of greenhouse gases. Based on the fresh realities of our times, and in support of a common cause, the World leaders gathered and made a unique pact in the 2015 Paris Agreement on Climate Change. The agreement represents the hope for reduction in carbon emission and investing in clean energy in order to save the planet from what appears like an inescapable catastrophe.

This agreement has suffered a draw back with United States President Trump's tactical withdrawal pronouncement, though ineffective until 2020. The Vatican has denounced it as a "huge slap in the face," while the European Union, through French President, Emmanuel Macron in rejection, intoned that the pact cannot be renegotiated. Many Americans have protested and some officials have resigned their membership of President Trump's advisory council based on his dissent. It is worthy to note that the issue of saving the earth is beyond politics! Nature of authority for proper functioning of the Society derives its binding force from the moral order, which has God as its origin and end. Hence, it behoves the Church, as her line of moral duty demands her, to exercise public life responsibility in order to protect and save the earth, water and air as gifts from God, the Creator.

2. Highpoints of 2015 Paris Agreement and Progress Reports

As a first step towards effective policy response, 196 nations at United Nations Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement aimed towards internationally co-ordinated effort to tackle Climate change. The key points of the accord include: global warming goal of below 2 degrees Centigrade, with efforts to limit warming to 1.5 degrees centigrade, coupled with profound changes in the economies. Individual country's voluntary mitigation measures to be expressed in Nationally Determined Contributions (NDCs) with the need for enhanced finance and other regulations. The United State of America's President was to sign the agreement as 'sole executive agreement' with revision of NDCs, at least, every five years in order to review progress.

During the 2017 "One Planet Summit" in Paris, France, with the theme "Climate Change Financing" jointly organized for world leaders by the United Nations, the World Bank Group and the French Government, in partnership with non-governmental organizations, resolved on measures of reversing the negative effects of Climate change. The summit recognized that,

although, “all countries were affected by the effects of climate Change under “One Planet,” some are more vulnerable” (Ishiaku, 2017). At the recently concluded 73rd United Nations General Assembly in New York, President Muhammadu Buhari emphatically revealed that Climate change remains one of the greatest challenges faced by the West African region, which has intensified poverty with shrinking of Lake Chad and increased terrorism in the region.

As a follow-up, the 2018 UN Climate Change Conference held at Argentina, Brazil considered the feedbacks from International Panel on Climate Change (IPCC) report on Carbon emissions, which was on the rise for the first time in four years due to economic growth, and showed concerns over the currently stalled progress. Many observers believe that the influence of US President Trump's decision to withdraw from the Paris agreement and general scepticism towards Climate change has soured the progress. In the same vein, the 24th Conference of the Parties (COP24) under the 2018 UN Framework Convention on Climate Change (UNFCCC) at Katowice, Poland, affirmed the need to push countries to greater levels of ambition by strengthening of emission reduction targets shifted to 2030. During the session, Ms Ahunna Eziakowa, Director of African Bureau, United Nations Development Programme (UNDP), called on international communities to evolve measures to prepare the African continent for ravages of Climate change as global warming increases.

3. Theological Framework of the Study

Echoing the reflections of numerous scientists, philosophers, civil groups and theologians, the Popes variously issued the Church's thinking as her body of Social teachings, as it affects the environment. The briefs on various Papal statements on Climate change, such as Pope John Paul II, Pope Benedict XVI and Pope Francis accept the reality of human-caused Climate change and recognized it as a moral issue. Some of their most relevant contributions include the following:

St John Paul II during a General Audience (2001) said that, “Man is no longer the Creator's “steward”, but an autonomous despot, who is finally beginning to understand that he must stop at the edge of the abyss.” He emphasized on the morality concern of establishing respected order in the face of human freedom of choice. In the same vein, Pope Benedict XVI in his World Day of Peace Message surmised that “If You Want to Cultivate Peace, Protect Creation” (2010), putting up a plea to save mankind from the danger of self-destruction while noting that “creation is the beginning and the foundation of all God's

works," man as a collaborator of God, needs to respect the earth. Furthermore, in his Encyclical, *Caritas in Veritate* (2009), he said that, "The environment is God's gift to everyone and in our use of it, we have a responsibility towards the poor, towards future generations and towards humanity as a whole." He reiterated that "the way humanity treats the environment influences the way it treats itself and vice versa,"

In line with the Catholic tradition of creation stewardship, Pope Francis opined on Climate change, saying that "there is a clear, definitive and electable ethical imperative to act;" while in his encyclical *Laudato Si*, he supported the view of his predecessors, on care of the environment as our common home, which encompasses all the ideas and theories that have developed over time. Consequently, in order to illicit answers to the human question, from the standpoint of Christian anthropology, the various observable approaches comparatively accentuate "the doctrine of creation and humanity as part of this creation" (Agba, 2016). These distinctive concerns form continual reference point for identifying causes and in determining the way we respond to the impact of Climate change.

It is commonly believed that climate is influenced through natural causes like volcanic eruptions, ocean currents, the earth's orbital changes and solar variations. Given that there are different components of global environmental change, Scientist are concerned that the natural fluctuation is being overtaken by a rapid human induced warming which has been ascribed to as its major driver. This has serious implications for the stability of the planet's climate, which often interacts in a complex way by changing the natural greenhouse. Though some schools of thought believing more on natural variations in climate change do cast doubt on the evidence of human activities, they are yet to be proven otherwise. However, Pope Benedict XVI's (2010) succinct description of the common problem of human destructive tendency revelation says:

Respect for creation is of immense consequence, not least because "creation is the beginning and the foundation of all God's work," and its preservation has now become essential for the pacific coexistence of mankind. Can we remain indifferent before the problems associated with such realities as climate change, desertification, the deterioration and loss of productivity in vast agricultural areas, the pollution of rivers and aquifers, the loss of biodiversity, the increase of natural catastrophes and the deforestation of equatorial and tropical

regions? Can we disregard the growing phenomenon of “environmental refugees”, people who are forced by the degradation of their natural habitat to forsake it – and often their possessions as well – in order to face the dangers and uncertainties of forced displacement?

In the same manner, Pope Francis, in his powerful message on human's moral responsibility to care for the environment, *Laudato Si*, emphasizes that the human body is made up of earth's elements of dust (*Gen 2:7*); breathes her air and receives life and refreshment from her waters. Earlier, he referred to Blessed Pope Paul VI's ecological concern in his encyclical, *Pacem in Terris*, (1971) as “a tragic consequence” of unchecked human activity: Due to an ill-considered exploitation of nature, humanity runs the risk of destroying it and becoming in turn a victim of its degradation.

Although, the human being is the complete agent in development because they have heart and soul, there is need for human value of God's mastery in His creation. Man, ever than before, seems to be under the threat of what he produces wilfully through the work of his hand and intellect, due to the disfigurement and destruction of creation. This is because despite the comfort, satisfaction and security derivable from the advancement in Science and Technology, man is living in fear of insecurity from the unpredictable reaction of the abused and alienated natural order (Agba, 2016). In furtherance to this, John Chryssavgis affirming in *Laudato Si*, on the Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew's human ethical and spiritual roots of environmental problems opined that:

For human beings... to destroy the biological diversity of God's creation; for human beings to degrade the integrity of the earth by causing changes in its climate, by stripping the earth of its natural forests or destroying its wetlands; for human beings to contaminate the earth's waters, its land, its air, and its life – these are sins”. For “to commit a crime against the natural world is a sin against ourselves and a sin against God (1997 n.15-16).

4. Causes of Climate Change

The challenges on Climate change are existential and continue to increase, due to physical, human and economic factors. These compounding influences, though interwoven, contribute to the modification in ecological impacts of the environment and include:

a. Deforestation and Land use system: Naturally, incoming solar energy is absorbed by the Earth system and reflected back into space, enabling the Earth to cool, but reduction of plant cover due to felling of trees have accounted for increased changes in the reflectivity of the Earth's atmosphere and surface, as there are linkages between forest build up and climate change. Since Rainforests absorb 20% of Carbon dioxide emissions by man, deforestation and degradation of Tropical forests, without fast replacement is a major contributor to Climate change, as such removes its cooling band around the Equator. Consequently, when forests are destroyed, overharvested or burned, greenhouse gases are created.

Pollution, waste, land use changes and throwaway culture have adversely changed the beautiful nature of the earth into an immense pile of filth, breeding health hazards, especially for poor and deprived people. Frequently no action is taken, until after peoples' health has been irreversibly affected or they have died. Organic decay of dumps and domestic wastes are worst for the climate due to methane emission. Lives are lost, especially of scavengers, during the collapse of such dumps. Pollution emanating from homes, businesses and industries, mostly are non-biodegradable toxins and radioactive. For instance, water creatures have been found to have ingested plastics which kill off large amount of the already endangered sea life. The off-the-cuff culture is seen as limiting progress in ensuring the reuse and recycling of by-products for industrialization.

b. The Use of Chlorofluorocarbons (CFCs): This is a synthetic compound used in a number of appliances, such as air conditioners and fridges, which destroys the ozone layer. Though progress has been made globally on eradicating CFCs by phasing them out, many appliances with it still find market in developing countries, where they are marketed as second hands.

c. Nitrogen Oxide and Methane Emissions: In addition to transportation and industrial fumes, nitrous oxide emissions from chemical fertilizers, biomass burning, increased use of insecticides, pesticides and herbicides, contribute to the acidification of soil ground water. This ends up causing irreversible health challenges to all creatures, including water based species and the climate, itself..

Methane, another important greenhouse gas in the atmosphere is released from animal dung, waste dumps and during the process of oil drilling, coal mining and leakages from gas pipelines. This affects the earth's ozone layer-which plays an essential part in protecting the earth from dangerous solar ultraviolet radiation.

As illustrated below, a layer of greenhouse gases – primarily water vapour, including much smaller amounts of carbon dioxide, methane and nitrous oxide – acts as a thermal blanket for the Earth, absorbing heat and warming the surface to a life-supporting average of 15 degrees Celsius (59 degrees Fahrenheit).

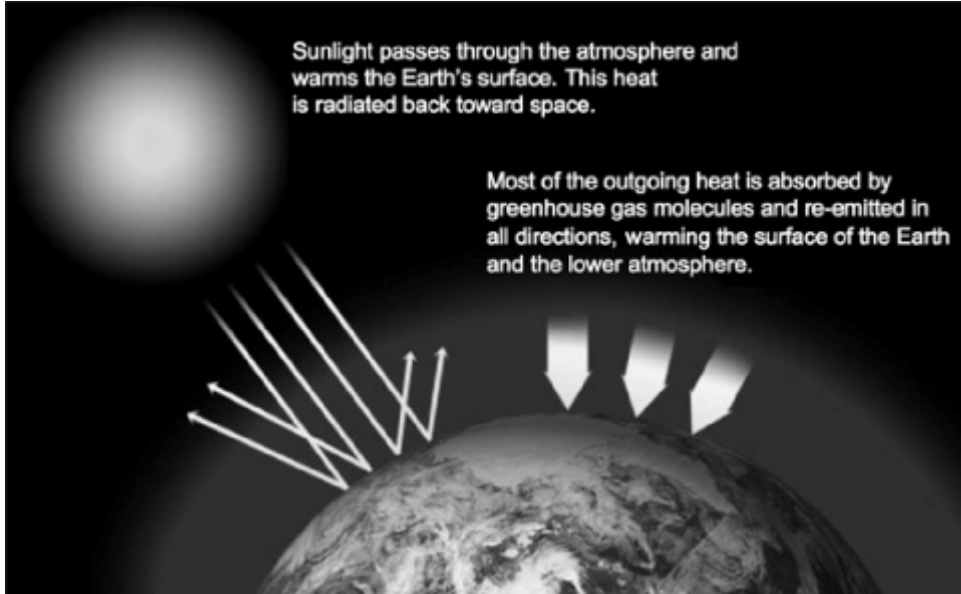


Fig 1: A blanket around the Earth

Source: IPCC Assessment Report

To sum it up, the above mentioned activities of man directly or indirectly have contributed immensely towards the gradual increase in global temperature as shown above. More so, all the activities have resulted to an unprecedented movement of the earth as in landslides that have destroyed and displaced families and communities, leading to decline in the quality of human life and the breakdown of society.

5. Consequences and Effects of Climate Change

Both everyday experience and scientific research evidently show that the devastating effects of attacks on the environment abound. Reading the signs of times, the "Earth file" a Channels Television programme, brandishes the advert of imagining the world where fish eats plastic, drought causes war and there is no elephant due to poaching, against the back drop that a little increase in temperature has far reaching and apparent consequences on the ecosystem, including man, in many ways as follows:

a. Increased Health Risks: The effect of changing weather patterns results in higher temperatures (as shown in fig. 2 below) leading to storms, heat waves,

floods, droughts. The changes make wet areas become wetter and dry areas drier. Drought and harsh conditions jeopardize access to clean portable water and fuel wild fires with accruing dust storms. Dirtier airs and atmospheric pollutants produce a broad spectrum health hazards and changing pattern of disease, causing millions of premature deaths, especially for asthmatics, heatstroke and cardiovascular diseases.

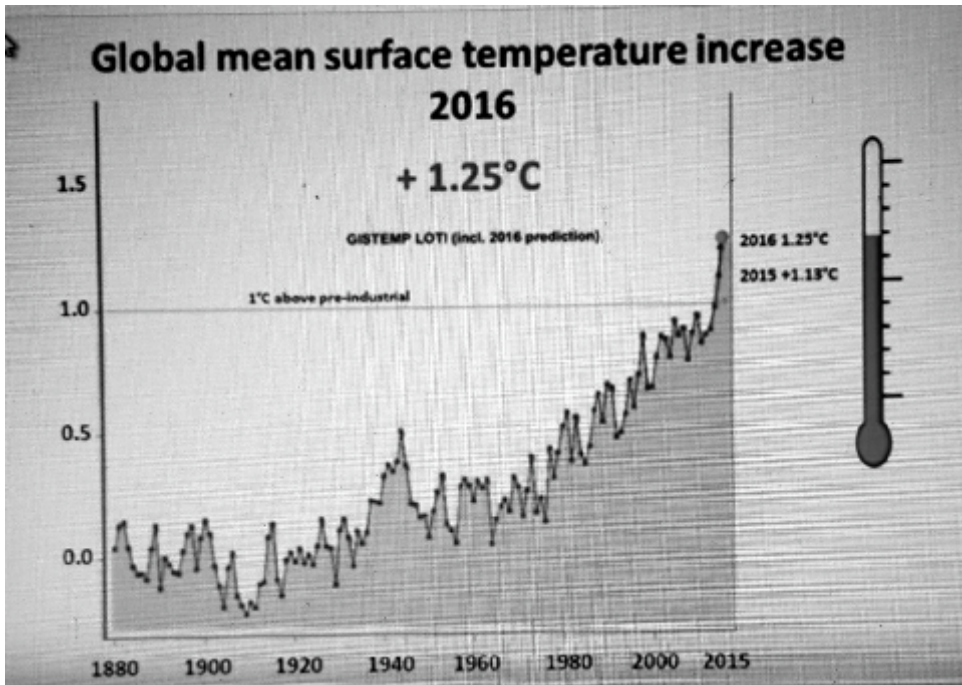


Fig 2: Severe Weather Causing Desertification and Migration *Source: IPCC Report*

Furthermore, inadequate or lack of water is a leading cause of increasing death rate through serious diseases like typhoid, guinea worm infestations, as well as the death of cattle. Also, a warmer, wetter world causes water borne illness and disease carrying insects, such as mosquitoes. Experts are of the opinion that in the next decade, effects of Climate change will be on increased health risk, which will affect most populations, especially increased skin cancer due to Ozone layer depletion and bleaching cream usage in tropical climates.

b. Famine and Migration: In Africa, this has contributed greatly to desert encroachment, as reduction in grazing land and grass appear to be the leading cause of the aggressiveness and violence between herdsmen and farmers

resulting to increased migration, as delineation of State boundaries are being abrogated by growth and development. Greater scarcity of water does not only lead to famine, but increased cost of food, which gives rise to a breakdown of society and decline in the quality of life. Through these happenings many have become “*environmental refugees*.” All over Africa, refugee crisis is on the increase with more internally displaced persons (IDP's) due to terrorism and herdsmen/farmers conflicts, armed banditry and worsening insecurity. Many are fleeing these areas and migrating to better climes.

c. Flooding and Changing Ecosystem: On the other hand, the shrinking of Arctic ice caps, melting of Antarctica shelf and heavier rains contribute to higher sea level, with overflows and unprecedented flooding which damage crops, life and property causing cholera epidemic due to infested drinking water. Recently, the United States National Weather Service warned that frostbite, an unusual side effect due to Climate change, occurs within ten minutes of being outside. For the first time in history, BBC World News reported that temperature of Chicago and environs plunged to extremely low temperature of -30 degrees and below due to North America Polar Vortex deep freeze, with some people reported killed. Equally, Australia was hit unexpectedly by once-in-a-century flood recently. Nigeria yearly do experience flooding in many parts of the country, needing aids from National Emergence Management Agency (NEMA).

d. Mass Extinction of Marine Air and Land Animals: According to the International Panel on Climate Change (IPCC) 2014 assessment, the fast disappearance of animals and sea species is due to rapid changes in land and sea temperatures. Increased depletion of Ozone layer make oceans become acidic due to the absorption of excess carbon emission and use of chemicals in fishing expeditions, which are impacting on marine lives, including crabs, corals and shellfishes, The sudden extinction of mammals and birds are also visible, while that of microorganism appears unseen with the reality that animal meat gets tougher.

e. Global Inequality: The Scripture reveals that due to selfishness, greed and hatred, “Man has dominated man to his harm” (Ecclesiastes 8:9). In line with this, Pope Francis averred that true ecological and social approach demands the need for integration in attending to human and social degradation, “so as to hear *both the cry of the earth and the poor*,” who are disenfranchised. To this end, he concludes that, “the depletion of fishing reserves especially hurts small fishing communities without the means to replace the resources; water pollution particularly affects the poor who cannot buy bottled water; and rises in the sea level mainly affect impoverished coastal populations, who have nowhere else to go,” resulting to premature deaths and conflicts. In all ramifications the poor

and the impoverished bear more of the brunt of Climate change due to increased poverty, water scarcity and food insecurity.

Regardless of earning independence politically, the foreign debt of poor nations has become a means of controlling them economically. Their agricultural produce, such as cocoa are bought cheaply, while the processed products from them, are sold back to them as chocolate at exorbitant prices. Even at that, some Ivoirians engaged in cocoa farming are yet to come in contact or taste the finished products of their sweat.

Finally, against the backdrop of these threatening catastrophes, some irreversible, Pope Francis decries inadequate response to these tragedies as a pointer to the loss of sense of responsibility for our fellow men and women, upon which all civil society is founded. He is of the view that there is great need to arrest further changes in the environment before it is too late to do so.

6. Recommendations for Mitigating the Effects of Changing Climate

The Implementation of IPCC report advocates that rapid sustainable and continuous improvement must take place in two key parts of the society through the creation of greater awareness, to unleash the capability of the masses towards changes in: energy generation and land use, as it affects cities and industries. This calls for radical overhaul of policies and lifestyles that place renewable energy at the centre stage. The solutions to ameliorate the effects of Climate change are tripartite responsibilities, with joint actions to be taken, by individuals, communities and governments through short and long term measures as follows:

Individually, each house hold can contribute towards combating Climate change through the reduction in the number of home appliances on standby; use of low energy saving bulbs and correct inflating of tyres, regular servicing, with low tuning of car to reduce emission.

Also, use of re-useable shopping bags; flying less and use of public bus or train rides to work, instead of driving alone will greatly reduce pollution.

Planting of trees and flowers around the homes, schools and offices will enhance oxygen circulation in the environment. Equally, reduction in water usage in watering our gardens, washing of cars and taken a shower not hot water bath will reduce energy use.

The **Communities** involvement in the development of agro-environmental scheme targeted towards growing of energy crops to substitute fossil energy use; with reduction or near absence use of herbicides and insecticides, which affect the ozone layer and pollute ground water. This will aid in the reduction of methane and nitrous oxide, through agriculture. The community should be

encouraged to own renewable energy projects and protect such projects located in their areas. Their participation in turning waste to wealth projects cannot be overemphasized for gainful employment and economic empowerment.

The **Government**, through various mitigating sources have the power to make enormous impact on the environment by engaging private partnership to reduce the effects of Climate change through the introduction of carbon tax. Investing and developing of renewable energy projects, as well as developing and harnessing of biogas for replacement of fossil fuels with increased budgetary allocation and foreign financial support. The need to de-emphasis on importation of generators and provision of sustainable energy, while Nigeria's proposal of nuclear energy for increased power supply should attract speedy action with proper management of the risk involved in handling radioactive waste in order to avoid meltdown of the nuclear plant.

Cleaning up of oil sludge along coastal mining areas, to regain wetlands for agriculture; provision of clean portable drinking water and services, while regulating drilling of boreholes, which disrupt the basement rocks. Establishment of sanctuaries on land and ocean geared towards safeguarding and protecting other forms of life should attract the implementation of the laws prohibiting human invasion.

Strong political will for prompt enactment and implementation of Climate Change bill in Nigeria. The policy should be interlinked with the development of agro-environment schemes in Africa as a whole, as it concerns agricultural strategies, with comprehensive afforestation and re-afforestation programmes as Green revolution Schemes. Creation of massive enlightenment on developing of our capacity for re-use and re-cycle of waste, especially the investment in turning waste to wealth and banning of use of plastics.

7. Conclusion

We may conclude, with sufficient justification, that an important dimension of the urgent need for the 'renewal' that has occurred over the years, is the realization that the human co-operation in the work of creation must re-align with nature in order to preserve the planet for future generation. We need global action to act now, to revise, stabilize and avert further degeneration of the environment through our work and lifestyles. In as much as, we need to recognize and appreciate those striving in countless ways to guarantee the protection of our home which we share, humanity still has the ability to work together in building our common home, as one single human family. There are no frontiers or barriers, political or social, behind which we can hide, still less is there room for the globalization of indifference, as we solemnly invite Almighty God to aid in healing and transforming this awesome world He created.

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