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Theological Response to Global Warming in the Nigerian Context

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Introduction

Global warming is a scientific issue which draws the attention of diverse religious adherents. It has become a very important issue for discussion in the theological marketplace due to its devastating effects in the atmosphere and the earth surface, the only planet where life is sustained. This implies that the earth serves respectively as a habitat and guardian of the life of human beings, other animals and plants. However, global warming portends great danger inimical to the living economy of plants and animals. It is believed that the activities that led to global warming are majorly caused by human activities by emitting more carbon and other dangerous gases into the atmosphere.¹ As a result, the universe becomes hotter and no longer conducive for the existence of plants and animals.

The word, "theology" is derived from two Greek words, *theos* and *logos* which means "God" and "word" or "discourse". Simply put, theology means a discourse or study about God. In order to make theology objective, Erickson considers theology as the science of God.² To study God scientifically will include God's work especially the universe and humanity and how they relate with Him. In this work, theology means the study about God and his relationship with the universe including the environment and the health of humanity.

Moreover, since theology is a discipline with deep interest in the relationship of things in the universe as they act in response to God, a work theological response to global warming in the society” is not out of place. This work seeks to give a brief overview of global warming, its causes and effects before attempting a theological response to it. There will be theological discussions on global warming effect in the Nigerian context.

Overview of Global Warming

According to *Microsoft Encarta*, global warming is the increase in temperature of the earth atmosphere that is caused by the increase of particular gases, especially carbon dioxide, which is scientifically represented as CO_2 . It is regarded as a phenomenon of increasing average air temperature near the surface of the earth over the past one or two centuries. Global warming is about the measurable increase in the average temperature of earth's atmosphere, oceans, and land masses. In common terms, it refers to the warming in the recent decades and its projected continuation due to the human activities in the universe.³

The effects of global warming are enormous and hazardous in the society hence. In a theological discussion of All Africa Conference of Churches (AACC) held at Nairobi on June 3-5, 2008, it was submitted that the current climate crisis is primarily spiritual and ethical with serious political, economic and justice implications.⁴ This submission is based on the belief that God created the universe for the good of human beings, whom he made partners in the creation and redemption of the world. It is also believed that ecological sustenance can be assured only through the principle of being mindful of what God has entrusted to humanity.

In *Encyclopedia Britannica*, 2010 edition, it is stated, “since the mid- twentieth century, climate scientists have gathered detailed observation of various weather phenomena and of related influences on climate such as ocean currents and the atmosphere's composition...”⁵ Resulting from this research, it was discovered that

earth's climate has changed over almost every conceivable time scale since the beginning of industrial revolution. In other words, the influence of human activities has been deeply woven into the very fabric of climate change and ultimately affects the entire system, including human beings.

The only planet that is habitable comfortably by plants and animals is earth. Its conducive atmospheric condition is measured as 78% of nitrogen, 21% of oxygen and the remaining 1% is shared by argon, carbon dioxide, water vapour, hydrogen, ozone, methane, carbon monoxide, etc. The emission of more percentage of other gases at the expense of nitrogen and oxygen as shown above is causing global warming. This depletes the ozone layer and causes unnecessary heat in earth's atmosphere. The effect is brought about by greenhouse gases and aerosols.

Actually, greenhouse gases retain the radiant energy (heat) from the sun, in a process known as “green house effect”. Greenhouse gases occur naturally according to the sovereign will of God, and without them, the planet would be too cold to sustain life. But since the beginning of the industrial revolution in the mid 1700s, human activities have added more of these gases into the atmosphere. For instance, research information in *Encyclopedia Britannica*, 2010 edition, has that carbon dioxide, which is a powerful greenhouse, has been increased by 35% in 1750 largely by the burning of fossil fuel, natural gas, coal and oil.⁶

Causes of Global Warming

All Africa Conference of Churches (AACC) recognizes that climate change has primarily been accelerated by emission of greenhouse gases due to human activities.⁷ It is a fact that a number of issues are responsible for the unfavorable climatic change; most of them are grouped under the greenhouse gases in the atmosphere and temperature changes. Greenhouse gases contain the following water vapour, carbon dioxide, methane, nitrous oxide, ozone and synthetic compounds.⁸

Water vapour is a common greenhouse gas in the atmosphere. Human beings do not have a significant direct impact on water. However, as human activities increase, the concentration of other greenhouse gases involve the evaporation of freshwater (oceans, lakes, rivers), as well as evaporation in plants increases to raise the amount of water in the atmosphere. Freshwater is contaminated by parking industrial wastes into it as well as injection of hazardous waste ponds into oceans, rivers, etc. Apart from freshwater, there is groundwater which is drawn for consumption by many Nigerians today through bore holes, by water companies and individuals. This type of water is contaminated by the leakage of underground industrial storage tanks. The risk is that the waste arising from industrially-produced chemical deposited in water can cause cancer, birth defect.

Carbon dioxide (CO₂) is also circulated into the universe through a variety of natural process known as carbon cycle. Volcanic eruption and decomposition of plant and animals remain release carbon dioxide into the atmosphere. A by-product of respiration is the formation of carbon dioxide which is exhaled from animals into the environment is being used by plant to manufacture its food through the process of photosynthesis. In order to provide energy to overheat the atmosphere, building power automobiles and fuel's electricity producing power plants, human beings use them to burn objects that contain carbon, such as the fossil fuel oil, coal, and natural gas. When these products are burned, they release carbon dioxide into the atmosphere. Human beings also cut down large numbers of trees through the process of deforestation, to build and plant. These activities reduce the amount of oxygen in the atmosphere. Deforestation can also release carbon stored in trees and significantly reduce the number of trees available to absorb excess carbon dioxide. Because these human activities bring about the accumulation of carbon dioxide in the atmosphere, the result is global warming.

Apart from carbon dioxide, methane (CH₄), a colourless flammable gas is also flared into the atmosphere. This occurs as a product of decomposition of matter in swamps. It is also emitted during mining of coal and the production and transport of natural gas and oil.

This aids global warming. Equally, nitrous oxide (N₂O) which is a potent greenhouse gas is released agriculturally by plowing farm soil and burning fossil fuels into the atmosphere. Ozone (O₃) is both natural and human made greenhouse gases. The ozone in the upper atmosphere is known as ozone layer. This layer is a shield preventing the ultraviolet harmful effect from the sun. Some chemical substances are known to destroy ozone molecules allowing its depletion to occur. Depletion of the ozone layer causes a small part of the warming from greenhouse gases. In the lower atmosphere, ozone acts as a compound of smog, a mixture of solid and liquid and some smoke particles to calm that smoke and fumes. Smog is that particle that irritates the eyes and respiratory tracts. This is quite dangerous to health. It is also a severe type of air pollution which results in global warming.

Synthetic chemicals are generated through manufacturing processes. They are human-made greenhouse gases. In *Microsoft Encarta*, 2009 edition, it is posited that although synthetic chemicals are gasses produced in relatively small quantities, they trap hundreds to thousands of times more heat in the atmosphere, and carry more effect than carbon dioxide, basically because they are exceptionally long lived in the atmosphere.⁹ These chemicals, since they are human-made include chlorofluorocarbons (CFCs), a family of chlorine- containing gases that can be refrigerants, aerosol spray propellants, and cleaning agents. CFCs are inexpensive to produce. *Microsoft Encarta* shows that the chlorine released by CFCs into the upper atmosphere destroys the ozone layer.¹⁰ Today, CFCs in some developed countries are replaced by hydro-chlorofluorocarbons (HCFCs) and per-fluorocarbons (PFCs), which also are potent greenhouse gases. HCFCs and PFCs are less damaging to ozone layer.

Effects of Global Warming

Moreover, the effect of global warming is the result of adverse weather condition. *Microsoft Student Encarta*, 2008 edition reveals scientists' position on this matter and states that the weather will be terribly hot, for example, "Arctic temperatures have increased almost twice as much as the global average over the past one hundred years."¹¹ This means that a warmer world is predicted. A warmer world will be more humid as a result of more water evaporating from the ocean.

On the other hand, water vapour is a greenhouse gas, its increased presence would further increase warming, subsequently, and more water vapour in the atmosphere would produce more clouds, which reflects sunlight back into space, thereby, showing increased temperature. Moreover, storms are expected to be more frequent and more intense in a warmer world. Water will evaporate more rapidly from the soil, causing it to dry out faster between rains; some regions might actually become drier than before.¹² Carbon dioxide produced through industrial activities causes damage in the atmosphere and return the effect on people, animals and plants.

Consequently, in the region of West Africa, even in Nigeria, a drier weather condition is now being experienced than before, especially, in dry season and sunny days. In Niger Delta region of Nigeria, where petroleum is extracted, oil spillage and gas flaring resulting in global warming have left the weather very tense. As a sign of warming and depletion, any sunny day will be very hot that will end up in a reckless and sleepless night. Gas flaring arising from oil and gas burning as well as the use of combustion engines to process petroleum release more calories of carbon dioxide in the air. The heat experienced in this area makes the roofing sheets made of zinc to be corroded and depleted. From the participant observation, many people of Mkpato Enin, Eket and Ibeno in Akwa Ibom state are rendered homeless. For instance, zinc roofing sheet is more affordable than asbestos. It could be afforded by those who are not rich. In Mkpato Enin, Ibeno and Eket, about ninety percent houses are roofed with zinc and such roofs get easily depleted sooner and with leakages because of gas and oil flaring in the area.

With respect to plants and animals, scientific estimate of global warming effect is that when there is adverse warm in the atmosphere, some plants and animals would not survive.¹³ This could be the reason many species of plants and animals are facing extinction. The activities of oil spillage on the lower atmosphere and the returning heat effect from ozone layer is responsible for depletion in the Niger Delta region, and its entire system negates fish production in rivers and contaminate the soil which ends up in low productivity of our cash and domestic crops.

Interview with Israel Izuogu, the General Manager of the Presby Farms Limited, Itu, Akwa Ibom state reveals that 2010 harvest season was disastrous and complete loss to cocoyam farmers. In the coastland of Akwa Ibom and Cross River states, a particular specie of cocoyam, (*cocondia* or *ikpon paya*), which is one of the staple food of these people was grossly affected. Large quantity of this crop was planted, but nothing was uprooted.¹⁴ Those who put more money to plant the *ikpon paya* crop for commercial purpose lost. Izuogu explained many instances where a peasant farmer took a hundred thousand naira loan to plant the crop and got nothing during the harvest period. Another woman who recounted her energy, money and time invested in the cocoyam business was ready to commit suicide when rescued by her neighbour, etc.¹⁵ The market stand in Itu that was displaying these farm produce in many tones for sale in 2009 is now becoming empty.

Global warming also affects human health in tropical Africa where the atmosphere is warmer. In such atmosphere, more people will get sick or die from heat stress, due to not only the hotter days, but more likely, the effects of warmer nights. Diseases such as malaria, typhoid, etc., now found in Africa and transmitted by mosquitoes and other hosts, are projected to widen their range as these insects are increasing.¹⁶ The heat-related diseases cause untimely deaths in many families. They render the children fatherless and motherless, as well as causing miscarriages and sterility.

Theological Response to Global Warming

Global warming has caused series of circumstances that together create moral- social crises to which Christian theology must respond. Christian theology is not only saddled with the responsibility of explaining and establishing the teachings of the bible, but to respond to global issue, because, it assumes a transcendent commitment to relate human beings, the society and environment with God. It looks at them as emanating from God. The psalmist also believes that the whole earth belongs to God; everything in it and all who live in it (Psalm 24:1). This statement is quoted in the preamble to the confessions and resolutions made by World Alliance of Reformed Churches' *The Accra Confession*, 2004. On Confession no. 17, it is affirmed that God is the creator and sustainer of all life. He sees human beings, Christians in particular, as partners in the creation and redemption of the world. So, they should live under the promise that Jesus Christ came so that all might have life in fullness (John 10:10).¹⁷

If we make the atmosphere tense as in the case of global warming, the whole ecosystem would be adversely affected. Consequently, this is a way to make the earth into a failed enterprise and in addition, bring into disrepute the work of nature and creation. Then, what should be the Christian approach to Global warming? Is it right to abuse the universe through human activities? Are there some guidelines on how to manage the universe after God's will and with the value of human lives?

Christian theology derives its source from the Bible and relates its teachings to diverse human situations. It enunciates that God entrusted humans to be the custodian of earth and the resources of the planet. This is conveyed in this statement, "Be fruitful and increase in number, fill the earth and subdue it" (Genesis 1:8). This suggests that human beings are to use the resources of the earth responsibly. The command constitutes neither a license to abuse and waste the environment nor a prohibition against its use. God provided animals, minerals, trees, land, and water for people to use to improve their living.

Moreover, Christian theology teaches that God exercises his ultimate rule over the earth, and authority with loving care. It is the "rule of God over all creation."¹⁸ The theology of creation holds that this world was originally good. It also shows that humanity was created in a perfect relationship with God, his neighbour and the world. Even though the sin of humanity has affected all of creation to some extent because it has a universal effect Christian theology teaches that the salvation or atoning work of Christ can redeem both the soul of humanity and creation. The sovereignty of God desires the restoration of all creation. Timothy Palmer posits that the sovereignty of God focuses on the kingdom of God. It is the reign of God and human obedience to this reign.¹⁹ The kingdom of God is where God's reign is acknowledged by humans, his word obeyed and his instruction adhered to and carried out. This implies that if human beings would show obedience to the command of God not to only exploit the earth and use it rightly global warming will reduce and its devastating effects will equally shrink.

At this point, this work cannot be a show down device to the scientific concept of evolution, about how the world was created. It is reasonable that science is quite interested in the technical know-how, while theology is so much attracted to the 'know-why' of every event surrounding humanity and the world around him. While science is concerned about how the world came to existence, namely by evolution; Christian theology is concerned about why God created the earth, mainly for the well-being of humanity. This includes the existence of persons and that of plants and animals, marine life and conducive atmosphere for human sustainability. The evolutionist theologian, Teilhard de Chardin who looks at the world as part of evolutionary process maintains a mediating position between science and theology. He believes that the world is undergoing a process of developing and evolving through a long process created by God. He states as follows, "in a system of a convergent cosmogenesis, to create is for God to unite; to unite, to form one thing with something, is to be immersed; but to be immersed is to become a particle with it."²⁰

Although, this thought could raise some doubts, if to create means to unite, it seems that it is necessary to have something first before uniting it with others. His thought is also pantheistic, which conveys that both God and the universe are one and same thing. Whatever be the case, his idea of the creation of the world attributed to God is most welcome. To link the role of Christ in the creation of the world, Teilhard de Chardin describes evolution as intelligible faith and affirms with the phrase "I believe" that the universe is an evolution, which proceeds toward a spirit and this spirit is personalized in Christ.²¹ It is possible that this confession is based on the Christian scripture which says that the *logos*, Christ is the reason for the creation of the world and everything in it (John 1:1-5).

Moreover, there are other theologians who are ready to speak of the *creatio ex nihilo* (creation out of nothing). John Calvin is one of such theologians who affirm that the creator is concerned about everything, especially, every detail of human affairs in the earth and the course of nature. He therefore warns as follows, "we should not go behind God's act of creation in our speculation."²² His projection is the idea of foreordination of God, which holds that nothing in the universe is outside God's plan. He has foreordained fortuitous occurrences especially the good works of Christians (Ephesians 2:10). Foreordination does not mean that God overrides or violates the will of his creatures, but, furthers his plans through the free decision of human beings. God's sovereignty foreordained all things in the beginning and they were good until evil came into the world to challenge the plans of God.

Satist Worries enunciates that "our environmental crises stem from an arrogance that fails to see that the material and spiritual world are part of a continuum."²³ For him, the spiritual things that concern God, and the Christian would not be achieved without the material universe where we have our physical existence. He warns that the church as personification of Christian theology should not take the earth for granted. This is solely so because God cares for his creation in the sense that he makes it his concern and responsibility. Humankind

should also be responsible because good environment affects the quality of the lives of human beings, and no future can be quite fair when living resources such as plant, water and wildlife are distorted. These resources are very essential for human survival and development. Today, they are increasingly being destroyed or depleted by human carelessness. Humankind should be responsible, because, they would give account before God on the management of the environment. Therefore, we should create a strategy for sustainable and the conservation of earth's living resources.

Theology continues to tell us that God is deeply concerned about the well being of his creatures. This concern is reflected in the standard he sets for his people, whom he expects to love their fellow human beings and to turn that love into real care. That is why Jesus Christ describes this love as the second most important commandment, the first being to love God and to obey him (Matthew 22:34-40, Mark 12:30-31 and Luke 10:27). Both of them clearly endorse the fact that God wants men and women to love and care for those around them and his creatures as they also claim to love and obey him (God).

Recommendations

1. In the theological view of the natural world, the earth belongs to no individual, group or nation. It is a gift of God to all and is to be used for common good, therefore, the common resources of the earth must be sustained by all human beings, and Christians are not exempted. Preservation strategies such as launching awareness campaign on environmental sustainability, encouraging people to stop bush burning, developing forestation in our community and discouraging water contamination in our localities should be upheld.
2. The Bible also posits, "the whole creation has been groaning as in the pains of childbirth right up to the present time" (Romans 8:22). The creation's groaning in bondage, and waiting for its liberation refers to the cries of people who suffer from depletion/ effect of fuel burning on their homes/ roofing, oil

spillage on crops and adverse and alarming heat condition and all other damages done to the creation. This poses a challenge for Christians to show concern. This statement with similar ones in the Bible could be a guide to a better understanding of the roles of theology in the issue of global warming through stewardship.

3. Christian theology, being faithful to God's covenant requires that individual Christians and the churches should take a stand against current environmental injustices. Justice is demanded from everybody during moments of great peril like global warming. Social justice is a necessary dimension of the full gospel for the whole creation. This statements guarantee the church (believers in Christ) to fight, to retain justice for all, following the example of justice traditions of the biblical prophets and of Jesus in the gospels. The church should look through the eyes of the powerless and suffering people, as well as the wound of the creation itself as they are under- valued by the current global economy. The church should shout with her prophetic voice to condemn all ills associating with global warming in the society. The church should equally educate the masses through preaching, writing and acting about the dangers of global warming in our society and possible ways to guard against it.

Conclusion

The planet earth with all its fullness is a good place given to humanity by God; it then behooves of us to take absolute care and guard it conscientiously. Human beings should use the wisdom given by God to bring about possible solution to the harm and damage that have already occurred in the earth by avoiding deforestation and promoting aforestation- planting more trees. Also, by preventing excess pollution through oil and gas spillage and flaring brought about by heavy industrialization processes and other forms of emissions of green house gases by individuals just to make sure that further damage of the earth does not occur.

Endnotes

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⁵"Greenhouse Gases," *Encyclopedia Britannica Student and Home Edition*, (Chicago: Encyclopedia Britannica, 2010), 90.

⁶"Global Warming". *Encyclopedia Britannica Student and Home Edition*. Chicago: Encyclopedia Britannica, 2010, (soft copy).

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¹⁰Ibid.

¹¹A. Redmond: Microsoft Corporation, "Global Warming," *Microsoft Encarta*, 2008 [DVD].

¹²Michael Zimmerman, "Environment," *Microsoft Encarta 2009* [DVD].

¹³Mastrandrea and Schneider, *Microsoft Encarta 2009* [DVD].

¹⁴Israel B. Izuogu (45 years), Interview on Global Warming Effect in Nigeria. Itu: 15 April, 2013.

¹⁵Ibid.

¹⁶“Global Warming,” *Encyclopedia Britannica Student and Home Edition*. (Chicago: Encyclopedia Britannica, 2010), 56.

¹⁷“African Church Leaders' Statement on Climate Change and Water,” 13.

¹⁸Mbosowo Udok, “Martin Luther and John Calvin on the Kingdom of God in Relation to the Nigerian Church and Society,” (PhD Jos: Unijos, 2002), 47.

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²⁰Teilhard de Chardin, *Activation of Energy* (New York: Harcourt Brace Jovanovich, 1970), 262-263.

²¹Chardin, *How I Believe* (New York: Harper and Row, 1969), 3.

²²John Calvin, *Commentaries*. Trans. Joseph Harontunian, (Philadelphia: Westminster Press, 1957), 159.

²³Satist Kwnar Worries. *Environment Conservation* (New York: John Willey and Sons, 1972), 54.

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