



CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT IN AFRICA

PROCEEDINGS OF THE SECOND
UNIVERSITY OF CAPE COAST
AND
UNIVERSITY OF ILORIN
JOINT INTERNATIONAL
CONFERENCE

Edited by
I. O. OLOYEDE

C. O. Ogunkure

24

**CLIMATE CHANGE AND SUSTAINABLE
DEVELOPMENT
IN AFRICA**

Edited Proceedings

**Second University of Cape Coast and University of Ilorin Joint
International Conference**

**Edited by
I. O. Oloyede**

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APRIL 2012

National Library of Nigeria Cataloguing-In-Publication Data
CLIMATE Change and Sustainable Development: Proceeding's of Second
University of Cape Coast and University of Ilorin
Joint International Conference.

1. Climate Changes – Africa
2. Sustainable development reporting – Africa I. Oloyede, I. O.

QC	991.A258	2013	577.220966
ISBN:	978-978-932-440-8	(pbk)	AACR2

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Published by:

The Library and Publications Committee
University of Ilorin, Ilorin, Nigeria

Printed by:

UNILORIN PRESS
University of Ilorin, Nigeria

4

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A Re-Interpretation of Isaiah 24:4-6 in the Context of Climate Change in Africa

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Abstract

Man, who was made in the image of God is responsible for the management and sustenance of that which God has created (Gen. 1:26-31). Unfortunately, man has failed in this responsibility as he has not been a good caretaker. Consequently, this has led to several challenges confronting the whole earth in general and Africa in particular. Top on the list of the challenges confronting human beings is the climate change which has attracted lots of scholarly debates. It is noted that just as the judgement of God came upon the land of Israel at the time of Isaiah, as a result of disobedience so also, several African nations are confronted with various climatic challenges as a result of human activities on the environment. Using historico-exegetical method, this study focused on a re-interpretation of Isaiah 26: 4-6 in the context of climate change in Africa. The paper therefore suggests that human beings should preserve the earth in order to bring about the desired sustainable development in Africa.

Introduction

Biblically speaking, God created the heavens and the earth, including man who was made in His image. Everything created by God was very good (Genesis 1:31; Psalms 19:1; 24:1). But the whole world and particularly the African nations today are confronted with ecological challenges emanating from global warming or climate change. These ecological challenges are grouped into two broad categories, namely natural and man-made. The natural challenges include flood, erosion, drought, desertification, earthquakes just to mention a few. The impact of natural challenges in affecting climate is greatly felt in recent times as there have been records of earthquakes in some parts of the world. In New Zealand, "the quake reduced many buildings to rubble, buckled many streets, and defaced the iconic Christchurch Cathedral...the number of dead people had risen to 102, while 226 were reported to have been missing"(Tell, March 7, 2011, 51). Also, the 9.0 magnitude earthquake that occurred on 11th March, 2011 in Japan triggered a powerful tsunami that devastated dozens of coastal communities. The latest official death toll from the quake and tsunami stands at nearly 3,400 while thousands of people are missing and it is feared at least 10,000 may have been killed.(The Punch, March 16, 2011,66). Also, about

80,000 people were ordered to evacuate danger zones around the two atomic facilities in Fukushima as 19 people already showed the signs of radiation. Furthermore, 500,000 households and businesses were without water and many more lack electricity. (The Nation, March 14, 2011, 3).

The man-made causes of climate change are centred on human selfish attitude which is manifested in several ways, such as, greed, hunger, poverty, unemployment, among others. The effects of man-made causes include deforestation, bush burning, loss of biodiversity, greenhouse effect, ozone layer depletion, just to mention a few. In as much as humans are helpless in terms of preventing the natural causes of climate change, the same cannot be said of the man-made causes. In other words, human beings have much to do in controlling the man-made causes of climate change. Dokun Oyeshola (1998, 9) notes:

The problem of global warming is not the result only of a specific destructive activity but of the quantity of human action everywhere in the world. The greenhouse effect, which threatens to bring about a rise in sea level, will inundate low-lying coastal areas like the fertile and densely populated Nile delta in Egypt and the Bengal delta region, which covers 80 percent of Bangladesh already subject to violent seasonal storms that cause disastrous floods. 46 million people may lose their homes and livelihood in the two deltas alone. Similarly, a rise in sea level could also wipe out entire island nations such as the Maldives, none of which is more than a metre or two above sea level. Together with a whole host of other ecological issues, environmental degradation raises on a global level the question of human activity as such.

Corroborating Oyeshola on the humans' influence on climate change, Fatubarin (2009: 33) says:

Man has also continued to evolve, not only biologically, but also culturally, and in fact, he has undergone evolution in agriculture, industry, technology and communication. Man has in the process of making life conducive for him, done a number of things that are having unpleasant effects on the environment.

The Bible has much to say on climate change and the environment. Therefore, the thrust of this paper is a re-interpretation of Isaiah 24:4-6 in the context of climate change in Africa. Emphasis is placed on human factors responsible for climate change. It is a paper from the biblical perspective which is intended to appeal to the hearts of human beings for a positive change of attitude towards the environment. The historico-exegetical method is adopted. The justification for this paper is that when the spiritual dimension of man-made

causes of climate change is addressed, there may be a more responsible attitude towards our environment and less degradation of our continent.

Exegesis of Isaiah 24:4-6

The Text in Hebrew:

4 אֲבָל־הָאֲרֶץ וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים
תִּשְׁבֹּן וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים
אֲבָל־הָאֲרֶץ וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים וְהַיָּם וְהַנָּחַל וְהַכָּל־לִפְנֵי־הָאֱלֹהִים

The Text in English (New International Version):

⁴ The earth dries up and withers, the world languishes and withers, the exalted of the earth languish. ⁵ The earth is defiled by its people; they have disobeyed the laws, violated the statutes and broken the everlasting covenant. ⁶ Therefore, a curse consumes the earth; its people must bear their guilt. Therefore earth's inhabitants are burned up, and very few are left.

Much has been said and written on the authorship of Isaiah, such as whether the whole book was written by one Isaiah of the eight century or by two individuals (Deutero-Isaiah), or even by three individuals (Trito-Isaiah) as comprehensively summarized by John N. Oswalt (1988, 22-28) and Raymond B. Dillard & Tremper Longman III (1995, 286-76). However, the focus of this paper is to examine Isaiah 24:4-6 in its context, that is, a passage that is located within the second section of the book.

Isaiah 24-27 constitutes the climax of the second part of the book, that is, Isaiah 13-27. Isaiah 24-27 is often called "the Apocalypse of Isaiah" and it has its focus upon the worldwide triumph of God. (Oswalt, 1988, 440). Also, the section is designed to show how the fate of the nations, and especially among them, will ultimately be determined. The section represents an important stage of hermeneutical development between prophecy and apocalyptic books of the Old Testament and the later apocalypses of the inter-testamental period. (Clements, 1982, 196). G. B. Gray observes that the section deals with a prophecy of a world judgement and the New Age which is to follow, but the prophecy is interrupted at several points by the introduction of songs-25:1-5; 9-12; 26; 1-19; 27:5-6. Commenting further on Isaiah 24-27, he argues that they are a work of the post-exilic period and that the inserted songs may have been written earlier, before the prophecy. (Gray, 1975, 402).

Isaiah 24 functions as a transition between chapters 13-23 and 25-27. In particular, Isaiah 24:1-6 describes the impending judgement on the whole earth as a result of the covenant which people have broken with God. Oswalt (1982, 443-4) enunciates:

Verses 1-6 paint the central picture of destruction. The earth is under a curse because its people have broken God's laws. No one, from the highest to the lowest, will escape the devastation; thus in the end only a remnant will remain.

Commenting on Isaiah 24:1-6, Clements(1982,200) argues that it is the original poem in the chapter while three separate additions, that is, verses 7-9; 10-12; and 13 were later added to it. He believes that Isaiah 24:1-6 provides a prophetic picture of a coming world-wide catastrophe which is the judgement from God because of the sinfulness of its inhabitants. The judgement is purely an act of God and no reference is made to the activities of hostile armies.

Isaiah 24:1 begins with a Hebrew demonstrative particle, *hinneh*, which is an exclamation for a threat or complaint or even a sign of triumph.(Kautzsch & Cowley, 1985,470). It means "behold" and in this case it is an exclamation signifying a threat. The LORD is going to lay waste the earth and devastate it. He will ruin its face and scatter its inhabitants. The Hebrew word *boqeq* is from the verb *baqaq*, which means to empty or lay waste of land cf. Nah 2:3; Jer. 19:7.(Brown, Driver,Briggs,1979, 132). Also, the word *bol^eqaq* is from the word *balaq*, which means waste or lay waste.(Brown et.al. 1979, 118). Furthermore, the word *hephis* is from *pus*, which means to scatter or disperse. It speaks of the scattering of the inhabitants of the earth.(Brown et.al. 1979, 806-7). The word *pus* is mainly used by the prophets in connection with the scattering of armies (1 Samuel 11:11; 13:34); the scattering of sheep (Jeremiah 10:21; Ezekiel 34:5-12; Zechariah 13:7); and the scattering of the people of Israel.(Hamilton,1980,2:217). The use of the above words shows that the coming desolation and ruin of the whole earth will be by the direct intervention of the LORD.

Isaiah 24:2 shows that Yahweh is the Omnipotent Ruler and no one will escape from Him. All classes of people will be affected by the coming judgement. Six classes of persons are particularly grouped in pairs- the priest and the people; the master and the servant; the mistress and the maid; the seller and the buyer; the borrower and the lender; the debtor and the creditor.

Isaiah 24:3 demonstrates that the whole earth will be completely laid waste and totally plundered. Every part of the creation will be affected and everyone, no matter how highly or lowly placed will be involved.

Isaiah 24:4 has its focus on climate change as the whole world mourns and loses its vital power. The Hebrew word *'ab^elah* is from the verb *'abal*, which means to mourn or lament. In this passage, it is used figuratively of the land that is mourning. (Brown *et.al.*, 1979, 5). The word is used in parallelism with *'um^el^elah* which is from the verb *'amal*, which means to languish. (Brown et.al. 1979, 51).The verb *'amal* describes the state of exhaustion. It is used to express the state into which the objects of God's punishment and discipline come upon the proud mother who boasts over her barren rival (1 Samuel 2:5); Moab (Isaiah 16:8); Egypt (Isaiah 19:8) and the whole world (Isaiah 24:4).(Scott,1980,1:50). The word *nab^elah* generally speaks of flowers or leaves that wither and fall (Isaiah 1:3; 28:1; 34:4; 40:7) but in this context it speaks of a lifeless body or corpse. Thus, as a result of the mighty blast that has gone forth from the mouth of Yahweh, the whole earth is grieving and withering away and the inhabitants of the world languish and wither as well.

Isaiah 24:5 highlights the cause of the devastating judgement upon the earth. This is centred on the pollution of the earth by man cf Jeremiah 3:9; Numbers 35:33; Genesis 6:11. The Hebrew word *han^ephah* is from *hanaph*, which means to be polluted or profane. It can be the pollution of the priest and prophet (Jeremiah 3:9; 23; 11) or the pollution of the land as in Isaiah 24:5. (Brown et.al. 1979, 377-8). The idea of the profanation of the land of Israel by the conduct of its inhabitants in shedding of blood, committing adultery, or practicing idolatry is found in Numbers 35:33; Deuteronomy 21:1-9; Psalm 106:38; Job 16:18 and Jeremiah 3:9. (Gray, 1975, 441). Another key word in the verse is *'ab^eru*, which is from *'abar* and it means to cross, pass over or transgress. In this context it is used of the people of Israel transgressing and overstepping a divine covenant or command (Numbers 14:11; Joshua 7:11, 15; Deuteronomy 17:2; 26:13; Judges 2:20; 1 Samuel 15:24; Hosea 6:7; 8:1; 2 Kings 18:12; Jeremiah 34:18; and Isaiah 24:5. (Brown et.al., 1979, 717).

Closely connected with the word *'beru*, is *hal^ephu*, which is from *halaph*. It means to pass or to pass away. In this context it means to overstep or transgress a promise or covenant. The point is that the world-wide judgement, whereby the whole earth is dried up and its people languishing is as a result of sin. The earth is defiled or polluted because human beings have disobeyed the laws of God; violated His statutes and have broken the everlasting covenant- (Genesis 9:1-17; Deuteronomy 29:20).

The judgement of God as a result of the pollution of the earth is stated in Isaiah 24:6. It says that: "Therefore a curse consumes the earth; its people must bear their guilt. Therefore earth's inhabitants are burned up, and very few are left." Two words are important in this verse. The first one is *'alah*, which means oath and it has three meanings namely oath of testimony (Leviticus 5:1; Numbers 5:21); oath of covenant (Genesis 24:41); and curse from God as a result of breaking the covenant with God (Numbers 5:23; Deuteronomy 16:59; 17:18-19; 30:7; 2 Chronicles 34:24; Isaiah 24:6; Jeremiah 23:10; 29:18; 42:18; Daniel 9:11). (Brown et.al., 1979, 46 & Scott 1980, 1:45). The second word is *harar*, which means to be hot, scorched or burnt. The word describes the inhabitants of the earth who were objects of God's wrath. (Brown et.al., 1979, 359).

The pertinent questions are: why is the earth still fading away? Why is it that the whole world is languishing? Why is the land being defiled on daily basis by human beings? Perhaps, the answer to these questions is connected with the continuous violation of the Sabbatical and Year of Jubilee laws as stipulated by Yahweh in Leviticus 25:1-55. The Hebrew word Sabbath is a feminine noun which means "abstinence from labour, that is, a day of rest." (Brown et.al. 1979, 992). So the principle is as the Israelites were to work for six days and then rest on the seventh day, so the land on which they lived was to be worked for six years and then allowed to rest on the seventh year (Lev. 25:3-4). The normal activities of sowing, pruning, tending and reaping were suspended on the seventh year. The people must live on whatever the uncultivated fields yield. This implies that anyone can pick and gather whatever he finds, wherever it is. Obviously, the law

of Sabbath is not only to allow the land to fallow but it is of special benefit to slaves and those who did not own land (Lev. 25:6 cf. Exod. 23:11). (Tidball, 2005, 293 & Wenham, 1985, 318).

Sabbatical law allows the man to rest together with his servants (Lev. 25:2) even at the time of harvest (Exod. 34:21). Sabbath is a sign between Yahweh and the Children of Israel for ever (Exod. 31:17). Sabbatical year which is unto the Lord is meant to be a 'day of worship' (Lev. 23:3) as well as a 'day of rest and refreshment' for man (Exod. 23:12). (Unger & White, 1980, 54-5). The reason for Sabbath is deliverance from Egypt (Deut 5:15) when the Israelites are to "remember that God is an emancipator, a liberator." (Hamilton, 1980, 2:903). Also, Hamilton notes that the "Sabbath is a social or humanitarian ordinance which affords dependent labourers a day of rest" (Exod. 20:10; 23:12; Deut 5:14-15). (Hamilton, 1980, 2:903). Writing on the purposes of the Sabbath to the Israelites, Tidball (2005:293) says:

It prevented Israel from raping the land and turning it into an arid dustbowl. It allowed the land to replenish itself naturally. It also provided the people with a year of rest and space to accomplish other things. But it served deeper purposes as well. The land belonged to God, and it was his right to determine its use as he chose.

Corroborating this view, Dale and Sandy Larsen (1992:132-3) while commenting on the law of Sabbath say:

The law of the Sabbath year was good for more than the people. It was good for the land, God cared that the physical earth would be treated with respect and not be abused. The people were not simply to take all they could get from the land; they must allow it time to renew itself. It's a principle of good farming that farmland needs to lie fallow occasionally. If it is farmed continuously with no chance to rejuvenate, it will be exhausted and turn into a dust bowl.

Along with the law of Sabbath for the land on every seventh year, Yahweh ordered a special release on every fifty years. The Hebrew word *yobel* is a masculine noun which basically means ram, ram's horn or cornet (Lev 25:10; Joshua 6:5; Exod. 19:13). The word is used to designate 50 years marked by blowing of the cornet (Brown *et.al.*, 1979, 385). The law for the year of Jubilee, which ascribed ownership of earth to God, is spelt out in Leviticus 25:23 which says "The land must not be sold permanently, because the land is mine and you are but aliens and my tenants." Unfortunately, the Israelites had not been faithful in observing these laws. In fact, some of the Prophets had to rebuke them for neglecting the Sabbath (Isa 1:13; Jer. 17:21-27; Ezek. 20:12-14 and Amos 8:5).

To conclude, Isaiah 24:4-6 demonstrate the judgement of God that came upon the whole creation as a result of human factors. There was so much pollution over the earth as a result of various atrocities caused by man. There was

bloodshed and various forms of other transgressions. There was violation of divine covenant. Therefore, as a result of disobedience to God's laws and statutes, the curse of God came upon the whole creation-both living and non-living things. Everything got burnt and scorched thereby bringing a change to the beautiful environment and creation of God.

Isaiah 24:4-6 and Human Factors in Climate Change in Africa

It has been demonstrated in Isaiah 24:4-6 that the judgement of God over the creation vis-à-vis the climate change experienced by the Israelites was caused by the people as they violated the divine covenant. Attempt is made in this section of the paper to show that human factors are responsible for the climate change that is going on currently in the whole world in general and Africa in particular.

Africa is the world's second largest and second most populous continent after Asia. The continent accounts for about 14.72 of the world's human population and it has 54 sovereign states. The climate of Africa ranges from tropical to subarctic on its peaks. The northern part of Africa is mainly desert and arid; while the central and southern areas contain both savannah plains and very dense rain-forest regions. In between, there is a convergence where vegetation patterns such as Sahel and steppe dominate.(en.wikipedia.org/wiki/Africa).

From the biblical account, God created the heavens and the earth and everything He created was very good (Gen 1:31). Specifically, man was created in the image of God and after His likeness (Gen 1:26-27). Therefore, God expects human beings to carry out certain responsibilities, which include tending the garden or the earth (Gen 2:15). The Hebrew word '*abad*' means to serve or to till. Also, the Hebrew word '*shamar*' means to guard or be vigilant for the sake of another. (Dale & Sandy Laresn,1992,98). Thus, at creation, human beings were blessed by God to be fruitful, increase in number, fill the earth and subdue it, work on the earth and to take care of it (Gen 1:28; 2:15).

Unfortunately, human beings have not lived up to the expectation of God's standard as far as taking care of the environment or creation is concerned. There are several farming practices in Africa such as bush burning, tree clearing, continuous cropping, grazing and overgrazing which have contributed negatively to the sustainability of farmlands and the environment.(Are, Igboke, & Asadu, 2010,125-30). In other words, instead of maintaining and taking good care of the earth, it has been noted that "there has been a growing consensus that human activities have been substantially contributing to the increase of climate change."(Akanbi, Imam-Tamin,& Rashaq,2011). Oloyede observes that "human beings have caused profound environmental changes in their search for survival and development."(Oloyede,2008,2-3). Commenting further, he says: "Human activities have also caused negative environmental changes manifested by soil erosion, loss of cropland, pollution, deforestation and disruption of biological diversity among others."(Oloyede,2008,3).

The report of the Intergovernmental Panel on Climate Change (IPCC) "in 1995 shows that in the last 140 years, human activities have contributed the major cause of climate change." (<http://www.grida.no/climate/IPPC.tar>. Date accessed 25/03/2011. Speaking further on the human activities as the cause of climate change, the National Research Council as quoted by Obot, Obot & Umoh, 2009 say:

Greenhouse gases are accumulating in Earth atmosphere as a result of human activities, causing surface air temperature and sub-surface oceanic temperatures to rise. Temperatures are, in fact, rising. The changes observed over the last several decades are likely due to human activities, but we cannot rule out that some significant part of these changes are also a reflection of natural variability. Human-induced warming and associated sea level rise are expected to continue through the 21st century.

Schaefer's contribution to the issue of human activity and climate change is from a spiritual dimension. In his article titled "Environmental Degradation, Social Sins and the Common Good", he highlights various evidences and indicators of environmental degradation and climate change. He concludes that the sinfulness of individual and collective human actions are the main factors thwarting the common good of God's earth. (Schaefer, 2010, 70). He argues further that social sins are those "that threaten other species, destroy their habitats, disrupt the functioning of ecological systems and force changes." (Schaefer, 2010, 78-9). Furthermore, he cites Pope John Paul II who recognized the fact that "social sin almost inevitably causes damage to the fabric of our relationship with others and with the created world." (Schaefer, 2010, 79). Incidentally, what Schaefer refers to as social sin can equally be termed as "moral evil" which, has its origin in lust, greed and hatred in humans. It involves the will, choice and action of men, the free moral agents. (Ogunkunle, 2003, 3).

Some Specific Human Activities

It is appropriate at this point to highlight some specific human activities that have direct bearing on climate change:

1. **Bush Burning:** This is one of the human activities which is contributing greatly to climate change, especially in Africa. As already noted, Africa is blessed with savannah grasses which ought to serve as good farm land for agricultural purposes. Unfortunately, people set fire on grasses anyhow thereby destroying the farmlands and the animals dwelling therein. In addition, there is the burning of fossils like oil, gas and coal to create energy which is used for heating of homes and for transportation among others. (Akanbi *et al.*, 5-6 & Oloyede, 2008, 6-7). Research shows that in 2005, burning of fossil fuel released about 27 billion tons of carbon dioxide into the atmosphere. (Akanbi *et al* 5).
2. **Deforestation:** Closely connected with bush burning is deforestation which is a form of human interference with a forest in which forest trees and their

undergrowth are removed.(Fatubarin,2009,34). It is the indiscriminate cutting down of trees especially by charcoal merchants. Obviously, the level of poverty in the African nations is a major factor responsible for acts of environmental degradation. On the one hand, many of the people in this business are poor and they must survive. Therefore, they descend on the trees in the forest; cutting them to make charcoal for sale. On the other hand, those who are patronizing the charcoal merchants are equally poor people who cannot afford to buy gas or kerosene for their domestic use. It has been reported that "deforestation causes 5.9 billion tonnes of CO₂ per year to be released into the air and this constitutes about a quarter of all carbon emissions."(Akanbi *et al.*, 6). Deforestation leads to an increase in run off of rain water which again causes various forms of erosion in the forest. According to the United Nations Environmental Programme, deforestation is affecting Africa at twice the world's rate. It has been reported that deforestation has already wiped out roughly 90% of West Africa's original forest.(en.wikipedia.org/wiki/Africa).

3. Poaching of wildlife: This term, according to Fatubarin (2009), is unauthorised killing of wild animals, which are either sold to willing buyers as "bush meat" or eaten by the hunter himself. Poaching of wildlife is one of the greatest threats to survival and multiplication of wild animals in their natural habitats. It is also the greatest threat in the issue of loss of biodiversity in many countries of the world. (Fatubarin,2009,35). Unfortunately, the high level of poverty is the main reason why many of these animals are killed. As a result of unemployment and lack of basic needs of life, many people are turned to hunters, killing animals and selling them for money. They easily get buyers because the so-called buyers of "bush-meat" do not have enough money for their choice meat or fish, hence, they settle for "bush-meat."

4. Refuse and Garbage Disposal Problem: As a result of increase in population and human activities in commerce and industry, disposal of refuse and garbage is already an environmental problem in many African cities and towns. Garbage and other waste products are dumped into various undesignated places such as streams, rivers, lagoon, etc. Apart from the fact that these waste products are offensive to sight, they pose a threat to human health as such places serve as breeding grounds for many disease organisms and their agents.(Fatubarin,2009,35-6).

Effects of Climate Change

Climate change is becoming one of the most important challenges of the 21st century. The report of the Intergovernmental Panel on Climate Change (IPCC) in 2007 states that "Eleven of the last twelve years (1995 – 2006) rank among the twelve warmest years of global surface temperature since 1850." The report states further that "More intense and longer droughts have been observed over wider areas since the 1970s particularly in the tropics and subtropics. (www.africapartnershipforum.org). Writing on the long term effect of climate change, experts on environmental study note:

The main long-term impacts include: changing rainfall patterns affecting agriculture and reducing food security; worsening water security; decreasing fish resources in large lakes due to rising temperature; shifting vector-borne diseases; rising sea level affecting low-lying coastal areas with large population; and rising water stress. (www.africapartnershipforum.org).

The effect of climate change is particularly felt in Africa because of its overdependence on rain-fed agriculture compounded by factors such as widespread poverty and weak capacity. Writing on the effects of climate change in Africa, Oloyede (2008: 6) notes:

For Africa, climate change means hotter dry seasons; more intense heat waves, droughts and desertification or desert encroachment, increased dust storms, wildfires in the Sahel regions, heavier downpours, stronger and more dangerous windstorms, higher sea levels and increased food risks to coastal and forest areas. These events lead to loss of lives, crops and properties, rising levels of food scarcity and hunger. Lake Chad in Northern Nigeria and Lake Saquibine in Northern Mali, which were once vast lakes have now evaporated to become arid deserts.

Corroborating on the impact of climate change in Africa, Akanbi, Imam-Tamin and Razak observe that "African nations like any other developing nations are most vulnerable to climate change because they have fewer resources to adapt: socially, technologically and financially." (Akanbi *et al.*, 7). In addition, at a one day dialogue on water and climate change in Lagos which was organised by Bread of Life Development Foundation in collaboration with the Water and Sanitation Media Network, the participants were worried that the changing in climate is threatening Nigeria's water resources. They particularly note that:

Climate change would affect urban and rural water through unpredictable rainfall leading to inadequate recharge of aquifers and surface water, quality and quantity of water sources to be impaired, and over exploitation of aquifers... (Uwaebgulam, 2011, 49).

The possibility of climate change leading to civil wars in sub-Saharan Africa by over 50 percent within the next two decades has been established. A new study by a team of researchers at the University of California, Berkeley show that a long term climate change may ultimately lead to wars and population decline. The main reason for the above assertion is that because a large majority of the poor in most African countries depend on agriculture for their livelihoods, and their crops are quite sensitive to small changes in temperature, so when temperatures rise, the livelihoods of many in Africa suffer greatly, and the

disadvantaged become more volatile to take up arms. (www.sciencedaily.com/2007/11/071121112917.htm).

In addition, the prediction of the future warming across Africa indicates a range of 0.2°C per decade to more than 0.5°C per decade. This warming is the greatest over the interior of semi-arid margins of the Sahara and central southern Africa. Studies have shown that the Sahel zone has been experiencing declining of rainfall since the turn of the last century and more particularly since 1950.(Obot et al.46).

Conclusion

Our study has shown that the judgement of God came upon the Israelites at the time of Isaiah as a result of pollution of the earth through transgression and disobedience to God. The whole earth at that time was involved in the judgement. Unfortunately, a similar thing is happening in the contemporary society. The whole world and African nations in particular are being confronted with series of challenges that are connected with climate change, as a result of the activities of humans on the environment. Therefore, conscious efforts must be made by all the stakeholders to prevent anything that may destroy our God given environment.

Recommendations

The challenges confronting the whole world and Africa in particular as contained in Isaiah 24: 4-6 include problems associated with climate change such as deforestation, bush burning, loss of biodiversity among others, which have come as a result of man's disobedience. These challenges can be stemmed and reduced to a manageable status if human beings can control their activities on the environment. Therefore, the solution to the problems associated with climate change, according to this paper, lie on the combination of individuals and government. In other words, all the stakeholders must collaborate together to come up with a permanent solution.

Individually, there must be a change of heart and attitude as to what we do in our environment. Generally, man is selfish and greedy. In his greed and self-centeredness, he does several things without taking other people and the environment into consideration. In practical terms, the way people block drainages while constructing their houses; the attitude of dumping refuse/wastage here and there without considering the health implication; and so on, must be checked by individuals. Individuals must learn to live in a clean and neat environment. Closely connected with self-centeredness is lack of maintenance culture which is a serious problem in several African nations. For example, an individual who damages a bridge/culvert while constructing his house may not repair the culvert until the entire road is damaged. Therefore, individuals must be conscious of what they do to the environment with the aim of preserving it. People must abide with the environmental laws (Isaiah 24 :5) because failure to do so will bring the judgement of God (Isaiah 24: 6).

On the part of the government, effort must be made to evolve policies that will promote combating climate change in the continent. Also, the government must enforce such laws that will promote the save keeping of the environment so as to prevent what was experienced in Isaiah 24: 4-6. Each nation in the continent must not play politics with the issues of climate change. In Nigeria for example, the participants at a round table discussion organised by the Jigawa State House of Assembly Special Committee on Flood have identified inadequate funding and lukewarm attitude of the Federal Government towards providing adequate funds for the Hadejia Jamare River Basin Development Authority as the major setback militating against the efforts to overcoming the yearly flood disaster. (The Guardian, Monday, February 14, 2011, 49).

Also, the government must address decisively the issues of unemployment, hunger and poverty. A situation where many young people are unemployed, hungry and poor is not good for the people and environment as noted in Isaiah 24:4-6. Indeed, a hungry person will do anything for his survival, even to the detriment of the people and the environment. Therefore, the government of each African nation must as a matter of policy provide basic amenities for the populace.

In addition, the government must embark on serious sensitisation programme informing the people on the danger of human activities on climate change as observed in Isaiah 24: 4-6. This is one of the areas where the government can encourage private individuals and investors to make contribution towards the stemming of climate change in Africa. Speaking on the role of the private sector on climate change, participants at the Third Lagos Climate Change Summit 2011 note:

The private sector has the greatest potential to mobilise the finance required for climate change actions, stating that developed nations have viable consolidated and socially extended private insurance systems to intervene in disasters, including those that are related to Climate Change. (The Guardian, Monday, February 14, 2011, 50).

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