

---

## Climate Destabilization in a Religious World: The Role of Religion in Addressing Climate Change in Nigeria

John Arierhi Ottuh

<http://dx.doi.org/10.4314/ujah.v19i1.4>

### Abstract

*Human activities on earth either pose threat or safe haven to human environment because such human activities contribute to climate situation. Using the exposition method, the aim of this paper is to explore religion in the prevention of possible environmental disaster and the mitigation of post disaster scenario. Drawing from the 2011/2012 flood disaster in Nigeria, it shows that it was human induced in the sense that it was partly caused by blockage of water channels such as drainages. The paper argues on a general note that weather and environmental scientist set the agenda for environmental prevention through scientific means but religion helps to work on the mind of the stake holders and carry out the campaign of the agenda to their adherents. By so doing, religion is playing its role in environmental protection.*

**Key words:** Climate Destabilization, Study of Religion, the Role of Religion, Climate Change, Nigeria

### Introduction

The issue of environmental protection has become a burning issue in Nigeria especially after the incidence of the flood disaster that took place in Nigeria between 2011 and 2012. It was very

devastating in the sense that lives and properties were lost to the flood. Besides, many people and families were rendered refugees and were kept in Internally Displaced Persons (IDP) camps. Some believed that it was caused by the evacuation of dams from Cameroun which made the seas and rivers to rise above its level. Others believed that it was due to climate change.

However, we cannot dismiss the fact that it was partly caused by the activities of some Nigerians who were dumping refuse in drainages and canals. One reality slaps Nigeria on the face, that is the possibility of more natural disaster if humans refuse to handle their environment with the utmost care it deserves. It is obvious that sub-sahara Africa is not free as thought by some scholars in their comparison of volume of pollution and population with Los Angeles or Mexico (Summers 1991; Lal 2002:115-116). Nigeria is at risk like any other nation in terms of climate change and environmental degradation. The Intergovernmental Panel on Climate Change (IPCC), established by the United Nations and World Meteorological Organization, have determined that “humans have very likely influenced a net warming to the Earth from the increase of greenhouse gases, aerosols and land use changes” (Cannon et al 2014:455).

This paper seeks to look at how religion can be explored in preventing climate change by seeking to address religious adherents through formal and informal religious institutions on the need to protect the physical and social environment of humans. It also seeks to show the role of religion in post-flood disaster experience in Nigeria. This is possible because vast majority of Nigerians belong to one religion or the other. By religion we mean those who are adherents of Christianity, Islam or African Traditional (Indigenous) Religion.

## **Climate Change**

Climate change and blocking of water canal and drainages with buildings and refuse could be responsible for flood disaster. Bariweni et al (2012) observed that climate change is an attributed cause of flooding because when the climate is warmer, it results to: “heavy rains, relative sea level will continue to rise around most shore line, and extreme sea levels will be experienced more frequently and as such climate change is therefore likely to increase flood risk significantly and progressively over time (Ali & Hamidu 2014:139 citing Bariweni et al, 2012.).

There is no much divergence between the issue of climate change and economic, social, cultural and physical environment of any nation because they are related in so many ways. It is a vital environmental factor that shape and re-shape various activities of human beings in a society (Ali & Hamidu 2014:140). The director of the Institute for Environmental Sciences, University of Geneva, Switzerland, Professor Martin Beniston has observed that “human activities in most parts of the world are transforming the global environment.” Among the numerous factors that contribute to global environmental change, mention can be made of “land-use change, desertification and deforestation, loss of biodiversity, air pollution, ozone depletion, and climate change” (Beniston 2010:557).

The human environment is friendly and at the same time perilous due to human activities. Human activities have contributed to the problem of climate change as pointed out above. The threat being posed by climate change to human environment has equally engaged experts and all stakeholders to identify and find solution to the problem. This is why experts and geo-scientific bodies have defined it from their stand points. According to the NOAA National Weather Service (2007), climate change is a long-

term shift in the statistics of the weather (including its averages). For example, it could show up as a change in climate normals (expected average values for temperature and precipitation) for a given place and time of year, from one decade to the next.

From the view point of natural variability, the NOAA (2007) also views climate change as a normal part of the Earth's natural variability, which is related to interactions among the atmosphere, ocean, and land, as well as changes in the amount of solar radiation reaching the earth. Both natural and human induced climate change have been enhancing the phenomenon. Moreover, the NOAA (2007) has also revealed that part of the causes of climate change is "certain naturally occurring gases, such as carbon dioxide (CO<sub>2</sub>) and water vapor (H<sub>2</sub>O), trap heat in the atmosphere causing a greenhouse effect. Burning of fossil fuels, like oil, coal, and natural gas is adding CO<sub>2</sub> to the atmosphere. The current level is the highest in the past 650,000 years." The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007) concludes, "that most of the observed increase in the globally averaged temperature since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" (Cf. Petit 1999).

The geologic record includes significant evidence for large-scale climate changes in Earth's past. An example of this variability of temperature data for the last 420,000 years, derived from an Antarctic ice core is shown in appendix II figure 2. Dince (2012) also agree that "climate change is a long-term continuous change (increase or decrease) to average weather conditions (e.g. average temperature) OR the range of weather (e.g. more frequent and severe extreme storms)." If it is a long term continuous change man also need to have a long and short term planning how to tackle or prevent it.

### **Flood Menace in Nigeria**

Flood has constituted a very serious hazard to Nigeria in recent times. It was termed a menace by some Nigerian scholars because of its occurrence and re-occurring phenomenon which sometimes has devastating impacts on human livelihoods and infrastructural developments.

Agbonkhese et al (2014) revealed that the causes of the flood include rapid population growth, poor governance, poor drainage facilities and decaying infrastructures, lack of proper environmental planning and management strategies, poor practice of dumping waste/refuse and climate change coupled with inadequate preparedness, human activities in terms of developmental involvements adjudged to be very important factors in accelerating the rate of this disaster which often leaves in its wake spread of diseases, loss of thousands of lives from various parts of the country and properties worth billions of naira being destroyed. It is worth noting that the impacts of floods are more pronounced in low-lying areas. The recent 2011 and 2012 flood appears to be the worst incidence of flooding in Nigeria with a lot of reported cases indicating how flood menace ravaged affected states of the country when water from the Lagdo Dam in Cameroon was released. Although the Nigerian Meteorological Agency (NIMET) had alerted Nigeria that there would be an above normal rainfall in strategic parts of the country which might lead to flooding incidents in 12 states of the federation but many did yield such warning (Agbonkhese *et al* 2014).

Ali and Hamidu (2014) have equally added their intellectual voices to the flood disaster in Nigeria. To them, flood is the most frequently and devastating natural disaster that kills people in thousands and as such the consequences are profound, particularly on people in the less-developed countries like Nigeria.

The impact is left much to be desired because it has left negative impact on Nigeria especially in low laying areas due to rapid growth in population, incessant dumping of waste in drainages, decaying infrastructures and lack of proper environmental planning, resulting in loss of lives, properties, spread of diseases and displacement of people. This phenomenon is even worst in Nigeria as a result of climate change and inadequate preparedness.

It is plausible to agree that the environmental problem of Nigeria goes beyond flooding. The impact of heavy rain falls have caused serious gulley erosion in many cities of Nigeria to the extent that humans are sometimes casualties when there is heavy down pour. The issue of waste management and gas flaring in the Niger Delta region of Nigeria must also be addressed to forestall climate change in Nigeria. Those living around the refinery areas experience acid rain on a daily basis, yet no one has concretely responded to that. If the government does not pay attention, it might get worse. Since Nigerians are very religious, it might yield some response if addressed from religious angle.

### **Boom and Impending Doom**

Without mincing words, the boom of crude oil exploration in Nigeria with the aftermath environmental depletion through gas flaring and oil exploration activities is posing an impending doom for the nation. Nigeria is a nation blessed with natural resources. Scholars cannot talk about environmental issues in Nigeria without talking about the activities of crude oil exploration and its negative impact on the environment. The multinationals do not care for the environment in Nigeria like they do in the western world. This boils down to the issue of moral probity and conscience. Both the

operators and policy makers of the government in Nigeria belong to one religion or the other, yet this is happening in Nigeria. Religious institutions must address their followers specifically to do away with corruption and do what is right for posterity. If the religious institutions refuse to address their followers and influence the government to do the right thing, the impending environmental doom will be inevitable. The flood that was experienced in the over twelve states in Nigeria between 2011 and 2012 is an indication of a possibility of worse situation in the future if measures are not put in place to prevent it.

Apart from the negative impact crude oil exploration has on Nigerian's environment, the illegal and unprofessional mining of solid minerals by citizens and non citizens cannot be glossed over by religious institutions and the government. These uncontrolled activities are equally dangerous to the well being of the environment and humans living in it. Indiscriminate burning of toxic substances pollute the air and add to global warming as well. Nigerian Meteorological Agency (NIMET) keep warning and warning yet adequate proactive measures have not been taken due to corruption and negligence on the of political leaders and even citizens.

Another aspect of the environmental problem is indiscriminate deforestation. Many animal and plant species are gradually going into extinct as a result of human activities on the forest. Although, oil exploration companies in Nigeria are also guilty of this, some citizens cannot be exonerated from this evil act. All religious institutions in Nigeria must give a new orientation to their followers on this matter by making them to know that it is immoral to deplete the forest when they scoop herbs. The depletion of the forest opens the environment for wind disasters. Religious groups should go on the campaign of planting

trees in Nigeria. They should be challenged by the attitude of Israel. Israel has no forest but today they have planted and are still planting trees. For those who cut trees, there must be a replacement.

At present all those enjoying the economic boom being created by the activities of oil, solid mineral and forest exploration in Nigeria without thinking of how to replenish the environment are living the environment for perpetual damage on the long run. While they benefit from these gifts of nature, they are subjecting the environment to become dangerous to humans. All of these equally call for the intervention of religious institution.

### **Postulations on the Roles of Religion and Climate Change**

There are some postulations undergirding the idea of exploring religion for the prevention of environmental problems such as climate change caused by the activities of humans on planet earth. These postulations formed the direction of the arguments and submissions on this paper. First, Religion does not handle scientific tools; it handles the men that handle scientific tools. Even those who claim to be atheist cannot deny the fact that they believe in something.

This is what Ottuh and Ottuh call morality without religion (Ottuh & Ottuh 2012). Religion with respect to the Nigerian milieu play a lot of roles in the life of many individuals and families in the society. Religion influences the decision and the way of life of so many people in Nigeria. Religious leaders therefore have a role to play in passing out the message of environmental preservation for the development of their physical and social environment. Just as Sideris (2015) has observed in a similar issue, “many environmentalists (not just Transition advocates) view the



environmental crisis as a product of our dysfunctional cultural myths or narratives.” While scientists and technologists invent the concrete way forward, the conscience and character of those who live in the environment should be addressed by religions. In Nigeria for example, those who practice African Traditional Religion (ATR) especially the herbalists are quite familiar with importance of ecological wellbeing. They explore plants for their medicine. There is the need for them to know that deforestation is an injustice to the environment and as such, people should be made to plant more herbal plants to replace the ones taken out. The scientist and technologists are equally to be encouraged to be committed in their search for solution for the problem of climate change. The government of Nigeria has put up some policies on environmental issues. However, religious institutions should also wake up to their responsibility.

Second, men are also contributors to the problem of climate change because some activities of men which are inimical to the ozone layer have contributed to climate change on planet earth. While we agree that climate change is dangerous to human existence, we cannot agree that climate change will bring about the end of the earth, religion and religious studies but instead “it will fundamentally alter it and render it strange and unfamiliar” (King 2015:423). The question of the end of religious studies in the face of many academics who consider the study of religion as increasingly irrelevant to the great scientific and technological challenges ahead is another academic puzzle that deserves deep academic response. It is so because the question is very difficult to answer. In the midst of climate challenge, the round table discussion by the American Academy of Religion (AAR) on the subject matter is timely. We agree with Kings that the powerful and wicked problems are purely of human creation, and the

questions of meaning and human nature loom large. One weakness in the postulation of Kings is the generalization that all the problems on the earth are created by humans. The doctrine of theodicy has made us to understand that evil could be natural and man-made. It could be natural because it can occur naturally. It is human because human mistakes and evil intentions can also be involved. Problems created by humans cannot be solved without understanding the humans who created the problems and who must create the solutions. The insinuation being created by those who feel that Religious Studies has no relevance in the scientific and technological challenges ahead must arouse all and sundry in the enterprise of Religious Studies in particular and humanities in general to create space for scholarship in the ongoing interdisciplinary conversations that attempt to address global environmental change (King 2015:423). It is on this premise that this paper argues that religion is pivotal to addressing the human environmental problem.

Third, moral deficit on the part of humans living in the environment also needs to be addressed. This can only be addressed by religion. The right to set agendas and develop governance frameworks based (in part) on cultural and religious knowledge should extend to all people. The development of meaningful interdisciplinary frameworks includes not only scholars from various disciplines, but also those who bring worldviews and insights which are traditionally unrecognized; it is Religious Studies which can demonstrate the significance and implications of attending to local values and beliefs (King 2015). People easily break laws in Nigeria especially when they know that no one is watching them. Breaking of environmental laws is not exceptional. People dump refuse on the drainages and on the road. Many burn refuse indiscriminately. Even multinationals in

Nigeria are also guilty of this moral deficit. Religious institutions in Nigeria must be involved in addressing their members to see dumping of refuse on drainage and environmental depletion as a proof of moral deficit.

This idea should be coded in the societal and religious values. When such moral values are created in religious adherents, they will do what is right even when no one is there to watch them. Moral values so created by religion will drive the society towards doing things right even if there is no law binding them to do so. Piers Forster, a professor of physical climate change at the University of Leeds, England agreed with the importance of religion in this dimension when he suggests that “by supporting the scientific consensus, the [Pope’s encyclical] could help convince some of the conservative element in the U.S. that has been skeptical” (Naik 2015). This moral dimension of preventing our environment from destruction is what Pope Francis is equally advocating. The Pope linked environmental degradation to cultural, political and social decline and as such religion must come in at this point to redirect its adherents to collaborate with scientist to prevent this looming doom of environmental impacts caused by human activities.

Fourth, religious institutions in Nigeria should discourage negative use of science and technology and influence the government on exploring an all inclusive approach to the solution of climate change. One question that comes to mind here is: can science and technology alone solve human environmental problem? The answer is no. It is no because governments need to formulate policies that will protect the environment. The negative use of science and technology must also be addressed by all religious institutions in Nigeria. Kudos must be given to the USA for fighting against the invention of weapon of mass destruction

like nuclear weapons. In his April 5 Prague speech in 2009, President Obama, a former president of the United States of America called on the United States to lead international efforts toward a world free of nuclear weapons.

A new Council on Foreign Relations-sponsored Independent Task Force report, co-chaired by former secretary of defense William J. Perry and former national security adviser Brent Scowcroft, says that while "the geopolitical conditions that would permit the global elimination of nuclear weapons do not currently exist," steps can be taken now to diminish the danger of nuclear proliferation and nuclear use (Task Force Report 62 2009). This type of policy no doubt is a product of human conscience and moral probity. The production of weapon of mass destruction is one of the negative use of science and technology. It will be more perilous if it gets to the hands of terrorists. No doubt, most of the terrorists that are terrorizing Nigeria and other parts of the world today have some sort of religious beliefs. How can science and technology thrive in a world that is under the siege of terrorism? Such religious sects like the "Boko Haram" in Nigeria need to please give conscience and moral probity a chance. Science and technology will be wiped out if schools are closed indefinitely in Nigeria.

Those who lead them can stop this blood shedding, destruction of properties and environments by giving them a new moral orientation to value human life and embrace peace. This is why today the world and the academia cannot play down on religion because it has a lot to contribute to human survival on planet earth. Science without good conscience is rather dangerous. All the inventions that have been produced so far in the fight against terrorism has not stopped it in the world but the day their leaders realize the need to give their followers new orientation

about human life and environment, peace will come without cost. Someone must have taught them and worked on the psyche of the terrorist that he is doing what is right. It will also take their leaders to reverse this.

### **Post Environmental Disaster and the Role of Religion: The Nigerian Milieu**

Natural disasters live humans with psychological, medical, economic and social maladies. Although, we are saying that climate change be prevented by the activities of humans, we cannot stop thinking and being proactive when it happens. That is, when it happens what do we do?

This is why religion needs to stand on the constant campaign on the need for the government to put adequate structures in place to mitigate and ameliorate the condition of victims of post environmental disaster. While the agenda of experts on global bio-geo-physical systems is different from that of religion in terms of expertise action, “religions can take a decisive role by mobilizing public opinion and public funds” to prevent environmental disasters and at the same time prepare for the mitigation of its effects on humans when it happens (Dasgupta and Ramanathan 2014: 1458). Human usually and of course states lose a lot of things whenever, there is a natural disaster but worse still if there are no preparations as a proactive measure. This is seriously lacking in Nigeria. The government lack preparation for natural and mechanical disasters like flood, building collapse and environmental pollution. This lack of preparedness could be responsible for the much effect of the 2011 and 2012 flood disaster because NIMET predicted the disaster and warned government to

take proactive measures. The government ignored the warnings and did not prepare for any mitigation.

UN (2011) attested that worldwide, there has been rapid growth in number of people being killed or seriously impacted by flood disasters. The socio-economic damages associated with flood disaster are very devastating to a large proportion of people in affected area. The UN (2011) report also clarified that floods, including urban flood is seen to have caused about half of disasters worldwide and 84% disaster deaths in the world was attributed to flooding. Agbonkhese et al (2014:34) reported that thirteen states were affected by the flood of August 2011 in Nigeria. These states include Benue, Borno, Delta, Ebonyi, Lagos, Imo, Jigawa, Kano, Katsina, Oyo, Sokoto, Taraba and Yobe and out of these thirteen states, Nine (Zamfara, Oyo, Delta, Ebonyi, Borno, Imo, Taraba, Yobe and Benue) were the worst hit having higher number of casualties as reported in the National Early Warning System (NEWS) as shown in Appendix I. The flood claimed about one hundred and forty lives with thousands displaced and properties worth millions of Naira destroyed, sadly children and the elderly accounted for a larger percentage of the dead from the flood as shown in appendix II figure 1.

The flood also rendered many people living in the affected areas homeless, jobless and in perpetual hunger because their homes, source of livelihood and food stuffs were swept away by the flood. Some children and adults were drawn and killed by the flood disaster. Children were mostly affected. The disaster led to the emergency setting up of Internally Displaced Persons (IDPs) camp in different part of Nigeria by the government. It was an emergency camp because it was not prepared for. However, the government should be applauded for the provision for the victims.

How does religion come in here? In Nigeria, during the post flood experience, the IDPs were cared for by the government, religious institutions, non governmental organizations and individuals. There was a high sense and involvement in humanitarian services to these people. Materials such as food items, clothing, drugs and money were donated to care for the IDPs by religious bodies. The role of religious bodies in this context is humanitarian services. The experts have predicted, it has happened but they do not supply any physical succor to the victims because they do not have the resources to do so. Religion is relevant in any society because it is human centered. Nigerians are very religious and as such its adherents provided some kinds of succor to victims of flood disasters. This is a model to all religious adherents.

### **Scientific and Religious Solution to Climate Change in Nigeria**

Controversies have always trailed the relationship between science and religion. These controversies have also been acknowledged by scholars (Turner, 1978; Ecklund & Park 2009). One of such controversies is the insinuation that science is empirical and quantitative and religion on the other hand is abstract or spiritual in nature. This has also been reconciled by scholars. In a recent research by De Cruz (2017), it was argued that both science and religion deal with nature and as such religion is being studied scientifically. Therefore, there are both scientific and religious solutions to environmental threat to human life. These duo solutions can go side by side. While the former will follow techno-scientific oriented measures, the later usually follow socio-scientific measure. Techno-scientifically, the government of Nigeria should work more on the prevention of environmental activities that can trigger climate change. More “state of the art”

technological and scientific equipments should be purchased for the experts and institutions like NIMET and Universities. Also human resources should be made available through training and retraining. All agencies of government in the area of climate and environmental studies should be synergized to carry out concerted efforts on modern weather study and climate change prevention by controlling human activities that are hazardous to the environment. As already observed by the United Nations Environmental Programme-UNEP (2009), climate change is “the defining challenge of our generation” and as such “it is no longer relevant to discuss whether or not climate is changing, but rather, how fast changes will occur.” As it is today, the UNEP has set an agenda for the prevention of human environment. Nigeria must not lag behind.

On the other hand, government cannot do it alone and as such, religion has its role to play in this enterprise as well. First, religious institutions in Nigeria should also take a scientific and practical approach. The scientific approach to be taken by the Church is a simple study of the environment in their daily interaction with it. For instance, religious groups can set up committees to study the environment from time to time, get information from government institution like NIMET and educate their followers on the need to care for the environment. For example also, religious institutions in Nigeria can educate their followers not to pollute the environment by burning of refuse indiscriminately or dumping of human waste on the road. They can also be educated not dump refuse on water channels. Apart from setting up a committee to help get information on environmental protection, religious institutions in Nigeria can invite environmental experts from time to time to talk to their congregation during meetings. Second, the religious institutions in



Nigeria should take it as a duty to support National Orientation Agency (NOA) on public awareness on the policies of Government and the advice of climate and environmental expert as to how people should relate with their environment.

Imagine the impact this will make if successfully done in religious institutions. Although, religious statistics have not been officially taken in Nigeria, a mere observation can show that out of 160 million Nigerians, over 80% of the population may be adherents of one religion or the other especially Christianity and Islam. Therefore, a successful awareness campaign by religious institutions in Nigeria will go a long way to reduces human abuse of the environment. Third, apart from the prevention and prevention campaign, the need for adaptation is equally very important. This is a point also been promoted by experts. As such, one of the preventive measures that should be included in the campaign of religious institutions is the need for adaptation (Smit, Burton, Klein & Wandel 2000; Burton 1997).

While the people are being how to prevent environmental disasters, they also need to know that sometimes it can happen despite efforts to prevent it and when it happens, there must be need for adaptation. This is probably the thought of Lorenzoni et al (2000); Sharma and Kumar (1998) when they pointed out that disproportionately greater attention has been paid to climate change mitigation than to adaptation measures. This implies that no matter how hard scientist might work to prevent climate change caused by natural and anthropogenic perturbation of the atmosphere, there is still the possibility of climate change oriented disaster on human environment and as such, the need for the Church to prepare the mind of their followers becomes very pertinent in Nigeria. Fourth, the Church needs to collaborate with the government in the campaign for tree planting especially in

replacement of the once being cut down and the preservation of animal species. This is where ecology theology comes in. Religious adherents should be encouraged to plant trees in their private landed properties. They should also be encouraged to preserve the animals in their environment by not killing them.

### **Conclusion**

This paper has argued that climate change prevention is very important for human survival and the role of religion in this enterprise is equally important in the achievement of the agenda already set by techno-scientific experts. The article has also shown that the flood disaster in Nigeria or elsewhere is always associated with socio-economic losses and health hazards and as such, this is a wakeup call to all Nigerians, all nations and the academia to support and participate in the agenda of climate change prevention so that the human environment can be protected from human induced environmental disasters.

**John Arierhi Ottuh**

Department of Christian  
Religious Studies,  
Obong University  
Obong Ntak  
*wibachef90@gmail.com*

### **References**

Agbonkhese, O.1; Agbonkhese, E.G; Aka, E.O; Joe-Abaya, J.1; Oholi, M.1; and Adekunle, A.1. (2014). Flood Menace in Nigeria: Impacts, Remedial and Management Strategies. *Civil and Environmental Research* 6 (4), 32-40.

- Ali, Dauda and Hamidu, Shitufa (2014). Environmental Hazard: Climate Change and Flooding, the Impact on the Built Environment in Nigeria. *Journal of Environmental Sciences and Resources Management* 6 (1), 136-144.
- Bariweni, P.A, Tawari, C.C; and Abowei, C. (2012). Some Environmental Effects of Flooding in the Delta Region of Nigeria. *International Journal of Fisheries and Aquatic Sciences*, 1 (1), 35-46.
- Beniston, Martin (2010). Climate change and its impacts: growing stress factors for human societies. *International Review of the Red Cross* 92 (879), 557-568.
- Burton, I. (1997). "Vulnerability and Adaptive Response in the Context of Climate and Climate Change." *Climatic Change* 36:185-196.
- Cannon, Amy, Lalor, Peter, Ozbay, Gulnihal (2014). A Case Study on Climate Change Response and Sriharan, Shobha, Adaptation: Fictional Aysese Islands in the South Pacific. Fan, Chunlei and *American Journal of Climate Change* 3, 455-473.
- Dasgupta, Partha and Veerabhadran Ramanathan (2014). Pursuit of the Common Good. *Science* 345, 1457-1458.
- De Cruz, H. (2017). "Religion and Science." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. Available online in URL = <<https://plato.stanford.edu/archives/spr2017/entries/religion-science/>>.
- Dinse, Keely (2011). Climate Variability and Climate Change: What is the Difference? Available in <http://www.miseagrant.umich.edu/downloads/climate/11-703-Climate-Variability-and-Climate-Change.pdf> (Accessed August 17, 2015).

- Ecklund, Elaine H. & Park, Jerry Z. (2009). "Conflict Between Religion and Science Among Academic Scientists?" *Journal for the Scientific Study of Religion* 48 (2): 276-292.
- King, Sarah J. (2015). Response to the Roundtable on Climate Destabilization and the Study of Religion The End of the World As We Know It? Apocalypticism, Interdisciplinary, and the Study of Religion. *Journal of the American Academy of Religion* 83 (2), 422-431.
- IPCC (2007). *Climate Change 2007*. Cambridge University Press.
- Lal, Vinay (2002). *Empire of Knowledge: Culture and Plurality in the Global Economy*. London, UK: Pluto Press.
- Lorenzoni, I., Jordan, A., Hulme, M., Turner, K. and O'Riordan, T. (2000). A Co-Evolutionary Approach to Climate Change Impact Assessment. *Global Environmental Change* 10, 57-68.
- Naik, Gautam (2015). Scientists Back Pope Francis on Global Warming. *The Wall Street Journal* in <http://www.wsj.com/articles/scientists-back-pope-francis-on-global-warming-1434648362> (Accessed August 4, 2015).
- Nations Environmental Programme-UNEP (2009). "UNEP Climate Change Programme." Available at <http://www.unep.org/climatechange/Portals/5/documents/June.pdf>. Retrieved August 17, 2015.
- NOAA National Weather Service (2007). Climate Change. Available in <http://www.nws.noaa.gov/om/brochures/climate/Climatechange.pdf> (Accessed August 17, 2015).
- Ottuh, P.O. and Ottuh, J.A. (2012). "Morality Without Religion: Re-thinking Tai Solarinism. *Epha Journal of Religious Studies* 8 (1), 77-88.

- Petit, J.R., et al. (1999). Climate and atmospheric history of the past 420,000 Years from the Vostok ice core, Antarctica. *Nature* 399:429-436. Available at <http://www.ncdc.noaa.gov/paleo/abrupt/story2.html> (Accessed August 17, 2015).
- Sharma, S. and K. Kumar (1998). Impacts and Vulnerabilities. In *Climate Change Post-Kyoto Perspectives from the South*, pp. 61-78. New Delhi: Tata Energy Research Institute.
- Sideris, Lisa H. (2015). Roundtable on Climate Destabilization and the Study of Religion On Letting a Thousand Flowers Bloom: Religious Scholarship in a Time of Crisis. *Journal of the American Academy of Religion* 83 (2), 356-372.
- Smit, B., Burton, B., Klein, R.J.T & Wandel, J. (2000). "An Anatomy of Adaptation to Climate Change and Variability." *Climatic Change* 45: 223-251.
- Summers, Lawrence (1991). "The Memo." (December 12). <http://www.whirledbank.org/ourwords/summers.html> (accessed September 8, 2014).
- Task force Report No 62. 2009. *U.S. Nuclear Weapons Policy*. Council on Foreign Relations Press, 144pp.
- Turner, Frank M. (1978). The Victorian Conflict between Science and Religion: A Professional Dimension. *Isis* 69 (3):356-376.
- UN (2011). *Cities and climate change: Policy directions. Global report on human settlements* Abridged Edition. London: UN-Habitat, Earthscan.