

ECO-JUSTICE AND STEWARDSHIP: AN URGENT DISCOURSE IN OUR CONTEMPORARY WORLD

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Abstract

Man does not exist in a vacuum, thus sustainability of our dwelling place (our environment) becomes a crucial necessity. Sustaining our environment through intentional calling therefore becomes a responsibility, a life style and not just a response or a mere task. This is very imperative and should sink in our mind because the future generation will definitely live in the world that we shaped for them through our actions. Man has different roles to play within creation and towards other creatures, since God created the world and on the sixth day of creation, handed everything he created to man to have dominion. Unfortunately, man has not done enough in carrying out this divine mandate and exercising his authority over creation. Many cases of man's genuine stewardship are found on varying areas of human endeavour. Unrealistically, in environmental issues, man has really missed out in being good steward in ensuring an environment fit for human habitation. As a matter of fact, more than natural disasters, man's activities have to a great extent become a clog in the wheel to ecological advancement and sustainability. Ecological crisis have become a reality in today's world. There are varying issues of pollution, deforestation, scarcity of resources, extinction of animals and plants, depletion of ozone layer, global warming/climate change, etc. All these are grievously affecting human life adversely, thus, there arises a concerted action to safeguard the environment and human life at large. This looming danger has led to the emergence of eco- theology, eco-justice and stewardship. This concern is the observed state of affairs that has warranted the need to explore the meaning of eco-justice and stewardship, its interplay, man's duty towards the environment and some biblical injunctions on man's duty to his environment. Finally, man's action that threatens the ecosystem will also be discussed and solutions will be proffered. It has been observed that most of the ecological crisis that occurs is an upshot of man's indifferent attitudes towards the preservation and sustainability of the environment. The method adopted in this study is the historical and phenomenological approach.

Keywords: Ecology, Justice, Eco-justice and Stewardship.

1.0 Introduction

Man is endowed with great intellectual reasoning and vast responsibilities. Humans are at the centre of affairs on earth in every dimension. Logically, man exists and sustains his existence in the environment in which he dwells, as a result, the stewardship of man in his environment is not to be taken for granted, because the environment is actually man's life support scheme. It is quite perturbing that different activities of man have proved man's lack of stewardship towards his environment. The abuse of nature by man through his multi-faceted activities has become a bane to environmental sustainability and the actualisation of eco-justice. The sooner that man becomes aware of his call for service, then, the closer we save the future generation from partaking in the menace we are already causing. A call to stewardship warrants that man has to be keenly attentive to his environment. The greenhouse effect is a threat to global warming and has resulted to a grave negative impact on climate change. Varying amount of waste of different capacity has exceeded the

ecology's capacity to absorb them. E-waste, solid wastes, nuclear waste are on increase daily. A lot of pollutants make the soil, environment, seas, etc., uninhabitable: posturing great danger to its inhabitants; man and animal alike. Human life and its sustenance are highly dependable on environment for its survival; more pitiful is the future of our children and their own generation. Therefore, ecological justice and stewardship necessitate full participation, responsible involvement and inclusion of all and sundry for the realization of justice. This is therefore a call to work in the restoration of creation. The need for eco-justice and responsible stewardship simply upholds the reality that humanity is inseparable from healthy relationship with and within the ecosystem.

2.0. Key Terms Defined

Stewardship

Worell and Appleby (2000) states that Environmental Stewardship as an area of research has gained prominence relatively recently and has been recognised as a relatable confluence of socio-cultural norms and ecological sustainability which is crystallised into practice and conservative strategy. Thus, it is imperative that it must be acted out with all efforts and determination for the good of man. Williams (n.d.) stewardship means managing the property of another on his or her behalf. Faithful stewardship requires managing the property of another according to that person's will and pleasure. Stewardship is a way to build resilience, to increase civil engagement and to create partnerships between government and community (Baker, 2014). The practice of stewardship creates more environmentally responsible citizens, expands the capacity of management organisations by redistributing the responsibility of environmental monitoring and maintenance to the average citizen (Berry 2006). Similarly, Welchman (1999) is of the view that the term stewardship bears a moral core, providing a path for people to characterise their relationship towards nature as one of right or wrong actions or an ethic of care.

Justice

According to the Wikitionary the free dictionary (2022), Justice is derived from the Latin word *iustitia* which means righteousness and equity, *iustus* which means just, or *ius* which means right. It simply means giving to each person what is his right. The 202nd General Assembly, Presbyterian Church (1990), avows that Justice today requires participation, the inclusion of all members of the human family in obtaining and enjoying the Creator's gifts for sustenance. Furthermore, Justice also means sufficiency, a standard upholding the claim of all to have enough to be met through equitable sharing and organised efforts to achieve that end. In the legal dimension, Ahamba (1990), defines justice as “the principle and process by which man is assured the things that belong to him. In other words, justice consists in giving every man what he deserves. Justice can therefore be looked at objectively, subjectively and institutionally.

Ecology

Collins online dictionary (2022) defines ecology as the study of the relationship between plants, animals, people and their environment, and the balance between these relationships. The word ecology was coined from the Greek word "*oikos*" **which means** 'house', and "*logia*" meaning 'study of'. (Wikipedia the free encyclopedia 2022). It is the study of the relationships between living [organisms](#), including [humans](#), and their [physical environment](#). Ecology is the science of the interconnectedness of life and existence. Margaret (2019) states that, a healthy person and the social morality, economics, politics and finance are all intermeshed with the well-being of the environment. Going further, eco-justice means the well-being of all humankind or a thriving earth. It began as a movement during the 1970s. It includes social justice, participation in decision making and sustainable use of natural resources.

3.0 Eco-Justice and Stewardship: An Interplay

In the words of John Calvin (1509 – 1564)

Let him who possess a field, so partake of its yearly fruits that he may not suffer the ground to be injured by his negligence, but let him endeavour to hand it down to posterity as he received it, or even better cultivated. Let him so feed on its fruits that he neither dissipates it by luxury, nor permits it to be marred by neglect. Moreover, let everyone regard himself as the steward of God in all things which he possesses. Then he will neither conduct himself dissolutely, nor corrupt by abuse those things which God requires to be preserved... The creating is quite like a spacious and splendid house, provided and filled with the most exquisite and the most abundant furnishing. Everything on it tells of God.

The above words of John Calvin greatly illustrate the very background of the state affairs under discourse. Eco Justice and stewardship is basically intertwined. Eco-justice (ecology and justice) means ecological health and wholeness together with social and economic justice. It means the well-being of mankind on a flourishing earth. Man's stewardship to the eco-system is a yardstick to the attainment of ecological justice. Man is therefore spurred and encouraged to carry out his calling as co-creators with God. Moral responsibility is therefore required to answer this call of stewardship. Their crime of moral irresponsibility with regards to the call of stewardship is predicated upon the fact that ecological crisis is greatly in increase and these are not dissociated with the acts of man. In the natural quest for development, capitalism, explorations etc., the environment faces a lot of degradation. This leads us to the next session of this write-up 'A Call for Stewardship'.

3.1 Why Environmental Stewardship is Pertinent

Environmental stewardship calls for ecological consciousness and conscience. If we realise that man is greatly interconnected with other creatures, then we would embrace stewardship to the environment in its totality; since being good steward entails special care towards what is entrusted to one. Then, man needs to show love towards the creature cultivating the land with care, hunting the forest with mercy and love, drilling with concern, navigating in the sea with caution, disposing wastes with every sense of decency and care for posterity, while having restoration and sustainability in our mindset at all times. God entrusted creation to man's care, thus, how we relate to creation is a matter of stewardship. Therefore, the land is held in trust by man. It is inherently required that man must maximise production and return. There cannot be a social justice without ecological justice. Stewardship sees the rest of nature a gift from God and humans as tiller and caretakers of the earth. Recycling, reducing, reusing, preservation, saving, healing, caring gives a better expression of the term. Man's appreciation for the earth's creator (God) should spur man into protecting the environment. God's plan allows for human flourishing, thus allowing man to participate alongside with God, by consciously caring for the systems that were designed by God. Thus, good stewardship appreciates the beauty of creation, honours the creator and participates keenly in sustaining the creatures. Towards the ecosystem, man therefore needs to be responsible in the use and protection of the natural environment through conservation and sustainable practices. Such sustainable practices include implementing energy and water efficiencies, avoiding oil spillage, pipe bunkering, reduction of gas emission and reduction of other waste materials and hazardous materials we generate. It will be beneficial to man to use resources that biodegrade, in other word reducing waste through recycling. Good stewardship hence warrants that humanity must at all times be conscientious on matters of stewardship towards the ecosystem and put in every effort in sustaining and protecting the ecosystem.

3.2 Stewardship as a divine Mandate

Aside these, it is clear that stewardship is a call and a duty as seen in some biblical passages. The book of Genesis illustrated this fact. God created the world and invited human beings to “have dominion” (Gen 1:26) or “till and keep the garden” (Gen 2:15). *Most obvious, in Genesis 1 (vs. 29-30) - See, I have given you every plant yielding seed that is upon the face of the earth, and every tree with seed in its fruit, you shall have them for food. And to every beast of the earth and to every bird of the air, and to everything that creeps on the earth, everything that has the breath of life, I have given you every green plant for food (vs. 29-30).* God handed over everything he created to man.

In other words, When he created the world, God set aside a unique place, the Garden of Eden, and placed in it the first man, Adam (Gen. 2:8—15). God instructed Adam to cultivate and guard the Garden (Gen. 2:15)—to enhance its already great fruitfulness and to protect it against the encroachment of the surrounding wilderness that made up the rest of the earth. Having also created the first woman and having joined her to Adam (Gen. 2:18—25), God commanded them and their descendants to multiply, to spread out beyond the boundaries of the Garden of Eden, and to fill, subdue, and rule the whole earth and everything in it (Gen. 1:26, 28). Both by endowing them with his image and by placing them in authority over the earth, God gave men and women superiority and priority over all other earthly creatures. This implies that proper environmental stewardship, while it seeks to harmonise the fulfilment of the needs of all creatures, nonetheless puts human needs above non-human needs when the two are in conflict. And hence, man must answer this divine call.

Also, In Jeremiah, (12:4; 14:4-6), Prophet Jeremiah notes that creation and creatures suffer the consequences of human disobedience:

How long will the land lie parched and the grass in every field be withered? Because those who live in it are wicked, the animals and birds have perished. . . . The ground is cracked because there is no rain in the land; the farmers are dismayed and cover their heads. Even the doe in the field deserts her new born fawn because there is no grass. Wild donkeys stand on the barren heights and pant like jackals; their eyesight fails for lack of pasture.

Thus, it portrays clear acts of wickedness for man to ignore this mandate to stewardship. In addition, the *Encyclical laudato Si* (2015) which has the subtitle: "*On care for our common home*". In it, the pope critiques consumerism and irresponsible development, laments on environment degradation and global warming, and calls all people of the world to take "swift and unified global action. It unambiguously accepts the scientific consensus that changes in the climate are largely man-made and states that "climate change is a global problem with grave implications: environmental, social, economic, political and for the distribution of goods. It represents one of the principal challenges facing humanity in our day" and warns of "unprecedented destruction of ecosystems, with serious consequence for all of us" if prompt climate change mitigation efforts are not undertaken.

The encyclical highlights the role of fossil fuels in causing climate change. "We know that technology based on the use of highly polluting fossil fuels – especially coal, but also oil and, to a lesser degree, gas – needs to be progressively replaced without delay.

In *Laudato Si* 67- the Pope states thus, we are not God. The earth was here before us and it has been given to us.... although it is true that we Christians have at times incorrectly interpreted the scriptures, nowadays we must forcefully reject the notion that our being created in God's image and given dominion over the earth justifies absolute domination over other creatures....each community can take from the bounty of the earth whatever it needs for subsistence, but it also has the duty to protect the earth and to ensure its fruitfulness for coming generations.

4.0 Instances of Man's lack of Stewardship and Its Effect towards Eco-Justice

Ecological crisis, no doubt, has become a reality in our world today. It is observable that most of the ecological crises are caused by human activities. They are effects of lack of stewardship of mankind towards the ecosystem. Ecological crises of our time include the abuse of nature, overpopulation,

greenhouse effects which are the major causes of global warming, etc. These shall be discussed below.

- 1. Water:** Humans are making excessive demands upon and doing reckless damage to the lakes, streams and oceans. Poorly planned and inefficient irrigation systems waste water depletes aquifers and cause soil degradation from water logging. Oil spillage, industrial discharge and agricultural run-off contaminate the lakes. Pitifully, as rivers reach coastal areas, the estuaries are polluted, with great injury to aquatic life. The residues from pesticides seep into underground water. The sands and the bays and the great oceans themselves suffer from the outflow, and from the spilling and dumping of oil, garbage, toxic chemicals and radioactive waste (A report adopted by the 202nd General Assembly 1990 of Presbyterian Church U.S.A). The effects of these are grave. They are injurious to health and as a result many children especially in the third worlds lose their lives yearly because of the diseases bred or spread by water. When the rivers are polluted, aquatic animals that inhabit therein are injured. Again, the oceans and bays suffer outflow and it causes flooding in the surrounding environment.
- 2. Global Warming:** The greenhouse effect occurs when the earth's atmosphere traps solar radiation with the help of gases in the atmosphere such as carbon dioxide, water vapour (the clouds). Methane, nitrous oxide, ozone, and various chlorofluorocarbons (CFCs) that allow incoming sunlight to pass through but absorb heat radiated back from the earth's surface (Onyeabor, (2014) p. 1). This trapping of heat at the earth's surface and causes the global average temperature to increase. It is the biggest of all environmental dangers. Carbon dioxide (CO₂) is by far the largest component of these gases. Chlorofluorocarbons (CFCs), methane, and nitrous oxides, however, have been increasing rapidly in concentration. All these causes' disruptive effects on agriculture. And its effect on oceans is disastrous because when water warms it causes a rise at the sea levels leading to the flooding of the coastal areas and coastal cities, thus many people become environmental refugees. This leads to the melting of snow caps and the rising of sea levels. Unpredictable weather patterns and early maturation of crops which produces low yields becomes the effect.
- 3. Depletion of Ozone Layer:** Ozone layer prevents the entry of Sun's harmful ultraviolet radiations from reaching the earth's surface. Industrial use of chemicals like CFC's in refrigerators, and aerosols damage the ozone layers. The CFC's on reaching the ozone, splits the ozone molecule to form oxygen, as a result reduces the amount of ozone which becomes weak and cannot prevent the entry of UV rays. The effect is massive as it causes sunburn, cancer of the skin and cataract of the eyes. It causes genetic disorders and reduces the productivity in the seas and forests.
- 4. Species Extinction:** Confronted with claims that anywhere from 1,000 to 100,000 species are going to extinct per year and that many or most of the extinction is caused by human action (May, 1995). The above claim was rebutted by the Heyward and Stuart. They held that "Known extinction rates (worldwide) are very low. Reasonably good data exist only for mammals and birds and the current rate of extinction as mammals and birds and the current rate of extinction as mammals and birds (as some authors suggest, although others will dispute this). Then, if the total number of species in the world is say 30 million, the annual rate of extinction would be some 2,300 species per year. This is a very significant and disturbing number but it is much less than most estimates given over the decades. None of this means that there are not particular species that are, in fact, endangered and that can benefit from careful conservation efforts. But as field ecologist Martin (2000) points out, when monetary values are more fully aligned with other human values, the institutional arrangement allows for the maximisation of both values.

5. **Waste:** Waste is of different categories and it is more rapidly growing in our contemporary world.

Electronic waste: Electronic gadgets are widely used, easily get obsolete and most times improperly discarded and these are hazardous to the environment at large. Onyeabor (2002 – 2010) states that electronic waste if not treated properly becomes a major source of toxins and carcinogens since they contain different chemical elements and most of them are plastics and are flame retardants because of halogen added to the plastic resin which makes it difficult to be recycled. As a result, uncontrolled burning and disposal can cause environmental problems such as pollution of different categories. **Hazardous Wastes:** The problem of hazardous wastes is largely a problem of synthetic chemicals most of which are toxic. The greatest risks come from pesticides and a broad range of chemicals used in industrial processes. Similarly, the disposal of radioactive wastes from nuclear weapons production, nuclear energy plants, hospitals, universities, and research centres is also a bane to eco-justice.

Solid Wastes: Humans consume a lot and almost everything we consume generates waste. Discarding these wastes poses a lot of challenges. Some build incinerators which are not without its effects. It is the process of burning wastes after segregating the recyclable materials. The risky effects are that the fumes and residue of ash is injurious to health and it produces toxic gases which cause air pollution.

6. **Pollution:** Most human and industrial activities discharge some unwanted substances in the environment. Pollution may be air, water, land or noise. The contamination of the water bodies by the discharge of pollutants directly or indirectly into them. This pollution of water can be natural or by human activities, excessive use of fertilisers and pesticides lead to eutrophication which causes water pollution. This leads to the death of aquatic animals. The degradation of soil by substances that change the quality of the soil is land pollution.
7. **Desertification:** Desertification has serious consequences on available water resources. Long-term drought could adversely affect the level of upper ground water and stream flows, as well as the underground water. They also affect the level of large lakes, thereby affecting riparian access as in Lake Chad, which has receded beyond the borders on Nigeria (NAP, 2000).

As a result of the demand for wood for construction, building, fuel, fishing industry and other uses, the removal of trees, shrubs, herbaceous plants and grass cover from the fragile land of the Sahel will continue to accelerate the degradation of the soil to desert like conditions. Also, overgrazing leads to degradation (Okoye and Ezeonyejiaku, 2010). Cultivation of marginal areas is one of the causes of desertification. In periods of higher than normal rainfall, people tend to extend farming activities into the marginal areas. Irrigation cropping can turn land into desert if not properly designed and managed as a result of waterlogging salinization or alkalisation (Lopez – Bermodéz, 1995).

Closely related to the above, Eisler (1987) writes that the population crisis:

lies at the heart of the seemingly insoluble complex of problems futurist call the world problematique. For behind soil erosion, desertification, air and water pollution and all the other ecological, social and political stresses of our time lies the pressure of more and more people on fertile land and other resources of increasing numbers of factories, cars, trucks and other sources of pollution required to provide all these people with goods and the working tensions that their needs and aspirations fuel (p.29).

The words of Eisler prove that all these problems directly affect man and the environment at large.

5.0 The Way Forward

1. **Sustainability:** Sustainability is the capacity of continuous existence. Eco-justice sustainability therefore implies that ecosystems are functioning effectively which allows

that all inhabitants may continue to thrive or exist. It therefore necessitates that there exist stability of all natural systems. Although it may not be possible for man to eliminate the impact he makes on nature, lightening such impact is possible and this shall be the goal. Thus, the key word to embrace is sustainability. In other words, as regards eco-justice, all hands must be on deck. We can build good sewage systems, avoid wastage of water, plant trees, grow gardens, compost leaves and kitchen scraps, recycle trash, having in mind the restoration of God's creation.

2. **Justice Mindset:** Having a mindset of justice is quite imperative in this discussion. Justice simply means giving each other, his or her due. In other words, it entails participation in the full realisation of eco-justice. This cannot be achieved except man to whom the environment is being handed over, makes effort to carry out just actions that will spare the environment from greater harm. Justice must come to play. Man must give back to the environment its due. To organise and act for stewardship and justice, means to demand and enact a more democratic and equitable share of nature's sustenance, together with serious respect for nature's limits.
3. **Carbon Tax:** Odinkonigbo (2011 – 2012) laments that gaseous substances are intentionally flared by oil companies and therefore suggests that carbon tax should serve as a veritable instrument for regulating environmental pollution. If carbon tax is introduced, the activities of oil companies will be regulated and controlled in that the companies themselves will assist in checkmating their excesses and further bear the cost of the negative externalities that they generate. The fact remains that carbon tax may not bring a total end to gaseous emissions but it will make companies accountable for their activities.
4. **Adoption of Some International Laws:** Onyeabor (2002 – 2010) suggests that the stipulations of Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal be adopted, which entered into force on the 5th May, 1992. His suggestion is predicated on the findings of 2007 Basel Action Network (BAN) in conjunction Basel Convection Regional Coordinating Centre (BCRCC) which released the result of the research it conducted in Nigeria. The result which released that about 500 containers of used electrical/electronic equipments enter Nigeria every month. Each container contains about 800,000 computers and more than 50% were used computers, while 25 – 75% were completely junks which were either burnt or dumped carelessly. (Emeje, 2007).

The preamble to the Basel Convention stipulates thus;

- i. To trans-boundary movements of wastes should be reduced in to a minimum consistent with their environmentally sound management.
- ii. Hazardous wastes should be treated and disposed of as close as possible to their source of generation.
- iii. Hazardous waste generation could be reduced and minimised at its source.

Onyeabor further suggests that legislating against e-waste is a necessity in Nigeria except for The Harmful Waste (Special Criminal Provisions) Act Cap 11, LFN 2004, there is no other current legislation on e-waste. Besides, the above act does not target e-waste specifically rather it applied generally to any substance that qualifies as a harmful or hazardous substance pursuant to the provisions of its Section 15.

5. **Application of Criminal Penalties on Defaulters:** All these hazardous wastes are harmful to the environment and poses great harm to man. Thus, the threat of such harm is more serious than mere administrative disobedience. Thus Onyeabor (2012), advocates that government through laws can prove that someone has acted unlawfully in and caused or threatened such

harm, and therefore an effective system should have criminal sanctions in place to address the situation.

6.0 Conclusion

God's creation is one whole and man is at the centre of all creatures. With healthy relations restored between God, human beings, human communities, and nature, solidarity will be achieved; the environment will be more friendly to man and habitable for man. The environmental crisis is just one out of the many of global social problems. The worldwide problems require the development of a sustainable relationship with the nature. Thus, Eco-justice is elementary to all other issues of justice and it means our conscious rediscovering of the fullness of the meaning of our vocations in the stewardship of all of life. It is thus an adventure in faith, difficult, yet also rewarding. Our various talents and gifts should be utilised in our call to stewardship

REFERENCES

- Ahamba, M.I (1990). *The Pillars of Unity (freedom and justice)*. Enugu: Fourth Dimension.
- Arakwa, S., Sachdeva S.& Shandas V.(2018). *Environmental Stewardship: Pathway For Community Cohesion And Cultivating Meaningful Engagement*. Springer International Publishing (Dhiman , S., Marques J.,(Eds.) , *Handbook of Engaged Sustainability*. https://doi.org/10.1007/978-3-319-53121-2_37-1
- Astudillo, N. (2012). *Eco-justice is creation care: Shifting the foundations of Eco-theology to include stewardship, justice and spirituality* (Accessed on line on 22/02/2022). <http://www.ecclesio.com/2012/11/eco-justice-is-creation-careshifting-the-foundations-of-eco-theology-to-include-stewardship-justice-and-spirituality-rev-neddy-astudillo/neddy-astudillo/html>
- Baker, D. (2014). *Environmental Stewardship in New York City Parks & Natural Areas: Amending Barriers, Creating Opportunities & Proposing a new way forward*. Ph.D derivation, Yale School of Forestry and Environmental Studies
- Beisner, E. C., Cromartie, M., Derr, T S., Knippers, D, Hill, P.J., Terrell,T,(Eds) (nd.), **Public Policy: Environmental Stewardship in the Judeo-Christian Tradition: Jewish, Catholic, and Protestant Wisdom on the Environment; A Biblical Perspective on Environmental Stewardship**. <https://www.acton.org/public-policy/environmental-stewardship/theology-e/environmental-stewardship-judeo-christian-traditi.html>
- Bullock; P. and Le Honorou, H. (Eds) (1996). *Land Degradation and Desertification*. In: Watson, R.T. and others (Eds.) *Climate Change, 1995: Adaptations and Mitigation of Climate Change, Scientific-Technical Analyses of Impacts*. Report of IPCC Working Group 11, pp. 170-189. Cambridge University Press.
- Collins online Dictionary (2022). Retrieved from <https://www.collinsdictionary.com/dictionary/english/ecology>
- Eisler, R. (1987). *The Chalice and the Blade: Our History, our culture*. Cambridge, Mass: Harper & Row.
- Emeje, A (2007) "Fg Raises Alarm Over Effects Of Imported Appliance", Daily Independence Newspaper, Friday, 7th December, 2007, Vol.3, No 1371, C.2
- Encyclical Letter Laudato Si' Of The Holy Father Francis On Care For Our Common Home (official English-language text of encyclical)*. https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html
- Legesse, W., Mulugeta, T. & Ambelu, A. (2002). *Introduction to Ecology*, Ethiopia Jumma

- University,
- Lopez-Bermodez, F. (1995). Desertification/Degradation. Is this Important Research for the European Mediterranean Countries? Unpublished paper to: MEDALLUS Conference on Mediterranean Desertification, Myth or Reality, Almeria, November, 1994 in Thornes 1996.
- Martin, R. B. (2000). Biological Diversity: Divergent Views on Its Status and Diverging Approaches to Its Conservation, in *Earth Report 2000: Revisiting the True State of the Planet*, ed. Ronald Bailey (New York: McGraw-Hill,).
- May, R. M. (1995). Conceptual Aspects of the Quantification of the Extent of Biological Diversity, in *Biodiversity Measurement and Estimation*, ed. D.L Hawksworth (London: Royal Society / Chapman and Hall).
- Nap (2000). National Action Program report to Combat Desertification and Mitigate the Effect of Drought, towards the Implementation of the United Nations Convention to Combat Desertification and Mitigate the Effect of Drought in Nigeria.
- Odinkonigbo, J.J. (2011-2012). Carbon Taxation As A Policy Instrument For Environmental Management And Control In Nigeria. (Pg 96-111). *The Nigerian Juridical Review* 10, 96-111.
- Okoye, C.O, Ezeonyeojiaku, D.C. (2010). Desertification in the Dry Lands of Nigeria, Causes, Consequences and Solutions. *Unizik Journal of Environmental Sciences* 1, 49-54
- Onyeabor, E.U. (2002-2010). Electronic Waste And Developing Economies: What Options For Nigeria. *The Nigerian Juridical Review*, 9, 21-47.
- Onyeabor, E.U. (2012). Applying Criminal Penalties and Consequences in Enforcing Environmental Protection Legislation. *Journal of Nigeria & Comparative Law* 1, 42-51
- The 202nd General Assembly Presbyterian Church U.S.A (1990). *Restoring creation for ecology and justice*. Louisville: Presbyterian Church U.S.A.
- Welchman, J. (1999). The virtues of stewardship. *Environmental Ethics*. <https://doi.org/10.5840/enviroethics19992146>.
- Wikipedia the free encyclopedia. (2022). Retrieved from <https://en.wikipedia.org/wiki/Ecology>
- Wikitionary the free dictionary. (2022). Retrieved from https://en.wiktionary.org/wiki/justice#Derived_terms**
- Williams, C. C. (nd). A matter of Stewardships Eco-justice in Biblical Perspective. www.abhms.org/discipleship/resources.cfm. Retrieved online on 22/02/2022
- Worell, R., & Appleby, M. C. (2000). Stewardship of Natural Resources: Definition, Ethical and Practical Aspects. *Journal of Agricultural and Environmental Ethics*, 12(3), 263–277.