



Modern Perspectives on Environmentalism: Ecocentrism and Technocentrism in the Nigerian Context

Faisal C. Emetumah^{1*}

¹*Department of Geography and Environmental Management, Imo State University, P.M.B. 2000,
Owerri, Imo State, Nigeria.*

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ABSTRACT

The evolution of environmentalism in the 21st century has taken an anthropocentric viewpoint despite global calls for instituting sustainable development which should provide the required equilibrium. Therefore, environmentalism in developing countries like Nigeria is quite an ethical dilemma between protecting the environment and meeting their developmental needs. While ecocentrism points out the relevance and intrinsic value of ecological entities, technocentrism tries to demonstrate that scientific and technological advancements will proffer the required solutions. Nevertheless, holistic global policy frameworks provide feasible institutional directions for individual countries to follow. Conclusively, humanity needs to harness the positives from both ecocentrism and technocentrism as no singular perspective can resolve environmental issues in entirety. The paper recommends more awareness creation, holistic environmental policy design and mechanisms to reduce the cost of 'green' technologies.

Keywords: Environmentalism; ecocentrism; sustainable development; technocentrism.

*Corresponding author: Email: fc.emetumah@imsu.edu.ng, chinonso.emetumah@gmail.com;

1. INTRODUCTION

Today's anthropocentric perspective on environmental issues is quite analogous to two sides of a coin. While the head of the coin is our selfish self-seeking satisfaction from enjoying nature's resources, the tail shows our 'none of my business' attitude when it comes to pernicious impacts that our daily activities have on the environment. This perspective could be as a result of the long term nature of these impacts which do not manifest acutely. Furthermore, global leaders are slow in acting on global warming and climate change because the direct impacts or consequences of doing nothing do not seriously affect their daily lives just yet [1]. Unlike natural environmental disasters like earthquakes or tsunamis whose activities and impacts are felt instantaneously, anthropocentric environmental problems like air or water pollution take longer time to cause significant impact on human wellbeing. Sequel to that, anthropocentrism as an ethical perception apportions all intrinsic values to humanity; every other environmental factor exists only to satisfy the needs of mankind [2]. The question then is what needs to happen before humanity can understand the dangers environmental degradation and pollution portend to sustaining life on earth?

Environmentalism as a philosophical thought stems from our conscious desire and concern towards improving our environment, eventually reducing degradation and pollution. According to Pepper [3], environmentalism is very pertinent because humanity inherently places 'undesirable' value for environmental resources as we have always consumed and destroyed them as though we were superior and in charge to do as we wish. Therefore, this points to the deduction that we are responsible for the environment and must ensure that we live up to this important responsibility. The importance of this responsibility stems from the fact that humanity has the freedom to do as it wishes; consume and ultimately destroy the environment or conserve and ultimately sustain the environment [4]. Therefore, we are expected to express and utilize this freedom depending on how accessible and convenient it is for us to do so. According to Fieldson [5], the field of environmentalism has given humanity the ability to think cognitively on how best modern environmental problems can be solved so that developing countries can develop without causing pollution and degradation; this is simply learning lessons from the environmental cost of the 19th and 20th

century industrialization of the developed world which studies have shown to be responsible for modern environmental problems [6-7] and commensurate environmental laws [8].

According to Olson & Rejeski [9], much of the environmental degradation that took place during the industrial revolution went on without challenge because the principles of environmental ethics were very much anthropocentric; technological advancements of that era (steam engine, mass production, chemical synthesis among others) were understood as tools that made life on earth easier with very little attention paid towards understanding their long term impacts on sustaining life on earth. Early environmentalists and social activists like John Muir and Ralph Waldo Emerson were not taken seriously due to the lack of political will in paying attention to environmental impacts of the technological advancements of that time. According to Abedi-Sarvestani & Shahvali [10], sustainability principles of environmental ethics are reasonably anthropocentric since it supports the role technological development will have in realizing the ultimate goal of sustainable development: providing for the current generation without compromising the potentials of future generations meeting theirs [11]. On that note, environmental ethics look at the moral and value systems which guide our attitude towards the environment and its resources. Principles of environmental ethics are not new; the romanticism principle which was wide spread in the first half of the 19th century was an 'environmental' reaction to the industrial revolution with its 'technological' advancements which were perceived by Romanticist as abhorring the natural ways of doing things [12].

Environmental ethics as we know it today emerged in the 1970s due to increased awareness on the acceptable moral attitude mankind should have in relating with the natural environment; this awareness was premised on the general assumption that conventional ethical values on environmental resource utilization (mostly anthropocentric) were no longer feasible at that time [13]. Moreover, the publication of *Silent Spring* in 1962 which was authored by renowned Environmental activist Rachel Carson provided the turning point for humanity to take responsibility for the pernicious impacts our actions have on our immediate environment; the book pointed out the relationship between

pesticides and the destruction of environmental biotics [14].

2. MODERN VIEWS ON ENVIRONMENTALISM IN NIGERIA

Environmentalism in Nigeria stems from international agreements and conventions which are mostly instituted and designed by developed countries (1997 Kyoto protocol, 2001 Stockholm convention, 2015 COP 21 agreement etc.); these serves are models for them to follow and ensure that they are developing sustainably. However, there are other aspects to this relationship; Broada & Cavanagh [15] in their study on the environment in poor countries posited that many international mining companies in places like Nigeria are only concerned with profit making and only propose moratorium based approaches in dealing with environmental issues which are mostly short term. This is quite divergent from the long term approach enshrined in the principles of sustainable development preached by their native countries.

Nigeria's quest to develop an environmentalism paradigm is mostly the onus of the government and civil society organizations that are expected to develop and enshrine strategies that guide the citizenry in realizing the need to protect their environment. According to Omofonmwan & Osa-Edoh [16], the Federal Ministry of Environment headquartered in Abuja with regional offices across the country is supposed to be responsible for managing the Nigerian environment in terms of enforcing and implementing government regulations but its programs are disconnected from generality of the populace. This disconnect implies that civil society organizations are left with most of the responsibility of ensuring that the citizenry is aware of modern paradigms in environmentalism. According to Abdulkadir [17], deficiencies in the government's majority role in environmental protection has left the citizenry with the option of taking alternative paths in making sure that they realize their environmental objectives; pollution and degradation especially in the Niger delta region of Nigeria where international oil companies have significant control has resulted in tremendous awareness and activism. This environmental consciousness in the people could be traced to the 1995 execution of renowned Nigerian environmental activist and writer Ken Saro-Wiwa along with eight of his compatriots by the Nigerian military government. According to Cox [18], Ken Saro-Wiwa was a colossal figure in bringing to global

limelight the extent of environmental pollution in Niger delta Nigeria; his execution was mainly due to his vocal campaign against Royal Dutch Shell Petroleum Company and their pernicious activities in degrading as well as polluting the environment in his native Ogoni land. On that note, the challenges environmentalism faces in Nigeria are quite enormous and are centered on the social dimensions of today's world; these challenges are mostly illuminated because poverty is still endemic while environmental philosophy is still rudimentary. Therefore, if the current developmental path of greed - fueled materialism and consumerism continues, we will not only significantly reduce the quality of life but may eventually become homeless as the environment would have exceed its carrying capacity to support our superfluous lifestyle [19]. In the same vein, global environmental pollution and degradation have increased as technological advancements have improved in the 20th and 21st century [20]. This correlative relationship maybe as a result of the anthropocentric purposes for which most of these technological advancements were made; most technological innovations are simply geared towards making life easier without considering the cumulative effects on ecosystems across the globe. Consequently, the key issues lies on how we can utilize environmental resources, promulgate technology and still sustain the earth for future generations yet unborn.

2.1 Understanding the Ecocentrism Perspective of Environmentalism

Goodin [21] asserts that ecocentrism is based on the concept of 'deep ecology' which points to the reverence of all natural resources whether they are valuable to humanity or not; all natural resources have intrinsic value which surpass their ability to satisfy the needs of humanity. This implies that humanity is not only part of a universal natural entity, but also has a moral duty as the main custodian of environmental resources. The Gaia hypothesis proposed by James Lovelock [22] provides the foundation for understanding the ecocentric mind; the entire ecosystems on the planet combine into a universal wholesomeness which must be sustained in order to maintain environmental balance and equilibrium. In other words, the wholesomeness of the environment takes precedence over individual ecological units within the entire environmental system. Consequently, ecocentrism tries to make humanity realize that it is only a biotic factor within the natural

environmental system and therefore obligated to the laws of ecology. According to Eckersley [23], ecocentrism underscores the need for involving all stakeholders in the environmental decision making and also understanding that there are limits to the rights humanity has over environmental resources; the role humanity is expected to play as the most advanced ecological species is that of a steward responsible for conservation and protection of environmental resources from exploitation and destruction. However, theoretical principles can be different when it comes to application. In a developing country like Nigeria, convincing people about the intrinsic value of environmental resources is a very serious issue due to corruption, high unemployment, economic inequality among others [24]. These issues have significant impact on how Nigerians perceive concepts like ecocentrism. For example, a poor peasant woman in a rural area who needs firewood to cook for her family cannot be easily persuaded to conserve communal forests which serve as her only source of heating fuel. The same also goes for a hunter told to preserve certain animal species faced with the danger of extinction, when hunting down these animals provide his only source of livelihood.

2.2 Technocentrism as a Perspective of Environmentalism

The relevance of technology in today's world is exemplified by its easy accessibility and this is demonstrated by how technology affects our daily lives. For example, the mobile phone is usually the first thing that comes to mind when in urgent need of contacting someone out of shouting distance. This is because it is more convenient and faster for us to engage a conversation over the phone as opposed to travelling long distances in order to do the same thing. Technology plays a lot of role in broadening 21st century environmental management; apart from its role in providing solutions in managing environmental problems, technological tools are very important in creating environmental awareness [25]. This implies that technology has come to stay and will be fundamental in shaping environmentalism in the 21st century, whether we like it or not. Technocentrism may be termed as 'shallow ecology' due to its anthropocentric tendencies and is centered on the belief that environmental problems are always within the mitigating capacity of science and technology; it is a modern perspective on environmentalism based

on humanitarian ethical principles [26]. Though technocentric perspective acknowledges the pernicious nature of environmental problems, it is not interested in making the revolutionary changes in values which is required if humanity intends to mitigate environmental problems like climate change. According to Van de Loo [27], technocentrism unlike ecocentrism which posits that far-reaching modifications in economic, social and political values are pertinent in meeting environmental challenges, firmly believes that advancements in science and technology are all needed to protect and conserve environmental resources. However, it is important to note that ecocentrism is not completely against technology; it supports development of 'green' technologies that are environmentally friendly with little or no pollution to the ecosystem. According to O'Riordan [28], modern viewpoints on technocentrism have two angles: Interventionist are of the opinion that environmental problems will be taken care of by science and technology so that the world can continue on the path of perpetual progression while Accommodators believe that thoughtful economic and innovative environmental management principles are the panacea to all environmental problems. Technocentrism does not call for adequate consultation or any serious ethical changes in environmental perception but rather advocates the importance of science and technology in solving the world's environmental problems. According to Meadows [29], technocentric principles were explicated by global think tank 'Club of Rome' in their position that a technology driven society will surmount its environmental problems as long as they are optimistic. However, technology may only provide transient relief; its solutions may only postpone the day of reckoning as long as humanity maintains its current path to unlimited growth and development. Studies by O'Riordan [30] and Pepper [31] provide the background for modern understanding of technocentrism; these studies all posit that technological advancements are simply a continuum of both intrinsic and extrinsic human development. In Nigeria, technology is perceived as a tool that can be used to improve the quality of life. A good example is the advent of mobile phone technology which has become an important mode of communication because as at January 2017, Nigeria had over 155 million registered phone users with the figure expected to continue to rise steadily [32]. Similarly, technology has significant role to play in shaping environmental perception and management. According to Ikeke

[33], the tecnocentric perspective of the 20th century eco - philosopher Thomas Berry which calls for a humanist application of technology in solving environmental problems can be utilized Niger Delta Nigeria where many of the environmental pollution have significant social facets. This perspective recognizes the role technology has played is environmental degradation but posits that with thoughtfulness and intuition, technology can also play a critical role in remediating environmental pollution and destruction. Therefore, it no surprise then that most of the remediation recommendations in the United Nations Environment Program assessment report on pollution in Ogoni – Nigeria recommends the application of modern bio technological advancements in remediating degradation in the area [34].

3. POLICY FRAMEWORK IMPLICATIONS

Regional and community based policy approaches to managing environmental issues are not new; as far back as the 14 century, London had promulgated regulations for air quality control by restricting the burning of coal for the sole purpose of improving air-quality in the London area [35]. Similarly, technological advancements also help to determine and shape policy formulation. For instance, the British Alkali Act of 1863 which was passed by parliament to significantly reduce gaseous hydrochloric acid emissions from industrial processes that produce the gas; the legislation called for a better 'technological' process to be used in industries so as to mitigate the impact of the gaseous release on human health and wellbeing [36]. A highly globalized and technology driven world which we live in today has created an atmosphere where governments are similarly structured along the principles of democracy as currently being supported by most advanced economies in the western hemisphere. This 'centrist' perception has resulted in the relevance of bodies like the United Nations in determining the policy direction for countries all over the world to follow especially in the area of sustainable environmental management. In line with the globalization phenomena as a result of technological advances the world over in the 21st century, many approaches to tackle environmental problems also take a holistic uniform approach. For instance the United Nations Environment Program (UNEP) manual on technology and the environment [37] posits that at a global scale, environmental impacts of technology cover a wide range of areas: human

health and safety (communicable diseases and chemical exposure), natural environments (habitat destruction and contamination by chemicals), global environmental impacts (global warming and ozone layer depletion), non-renewable resource impacts and social impacts (cultural values, equity and social disruption issues). This holistic approach is expected to guide technology focused environmental policy formulation in most member countries of the United Nations.

Policy formulation dealing with environmental issues in Nigeria also follows the holistic framework developed by international development agencies. According to Ijaiya & Joseph [38], Nigeria has a number of environmental laws which provide principles and guidelines on managing the environment. Some of them include:

- Harmful Waste (Special Criminal Provision etc.) Decree 42 1988 (the first 'specific' environmental law in Nigeria which was a reaction to a toxic waste disposal controversy at that time).
- National Environmental Standards and Regulations Enforcement Agency (Establishment) Act of 2007 (which replaced FEPA decree no. 58 of 1988; it provides for a wide range of regulations on environmental issues but ironically does not regulate the oil and gas sector [39]).
- Environmental Impact Assessment (EIA) Act, 2007 (a revamp of EIA decree of 1992).
- National Policy on the Environment, 1989 (Revised in 1999, 2007 and 2009).
- National Environmental (Sanitation and Waste Control) Regulations 2009.

In addition, these frameworks also guide the various states in enacting edicts that guide environmental issues in their localities. Similarly, the department of climate change in the Nigerian Federal Ministry of Environment is charged with the overall responsibility of managing Nigeria's response to CO₂ emissions and climate change mitigation techniques [40]. The activities of this department are streamlined to follow the guidelines instituted by the United Nations Framework Convention on Climate Change (UNFCCC) in line with the Kyoto mechanisms that encourage carbon trading as well as developing renewable energy technologies among others [41]. However, studies have shown that the success of these programs is

hampered by improper implementation due to severe ethical and socioeconomic deficiencies [42-44]. In addition, most of the approaches taken have been reactionary. For example, the Hazardous waste decree of 1988 which is considered the first direct legislation on environmental management in Nigeria was enacted as a reaction to toxic waste disposal by an Italian businessman in Koko village in present day Delta state [38].

4. CONCLUSIONS AND RECOMMENDATIONS

Humanity's perception on environmental resources center on utilizing the bounties the environment has to offer without adequately considering the impacts of this "utilitarian" approach. While ecocentric environmentalists argue for the preservation of all environmental resources due to intrinsic values, technocentrists advocate that technological tools and advances can be used in managing all environmental problems for the overall benefit of humanity. Despite the positions taken by both schools of thought, it is pertinent to understand that environmental ideologies like ecocentrism and technocentrism alone cannot individually solve the array of environmental problems that are common place in today's world. On that note, we must understand that technology has come to stay due to its ability to make life easier for

humanity; the only thing that can be done is to 'synchronize' it with environmental management so that sustainable development can be produced. This implies that environmentalism in the 21st century must align both ecocentric and technocentric perspectives by picking out the positives in both of them for the overall sustenance of the earth. Therefore, humanity must apply technological tools in such a way that negative impacts on environmental resources are reduced as far as possible; this must be done through instituting 'feasible' policy frameworks with the realization that all environmental resources and entities have as much right as any other. The illustration in Fig. 1 shows perspectives of environmentalism (technocentrism and ecocentrism) with their corresponding drawbacks described in the review; sustainable development is the overall crux of the perspectives as it ensures ethical policy formulation, environmental education and increased used of green technologies.

In line with the conclusions drawn, the following recommendations are made:

More individuals need to rise up to the challenge of information deficiency by sponsoring and participating in the activities of non-governmental organizations that can help in providing relevant information on pertinent environmental issues. With a significant young population in Nigeria,

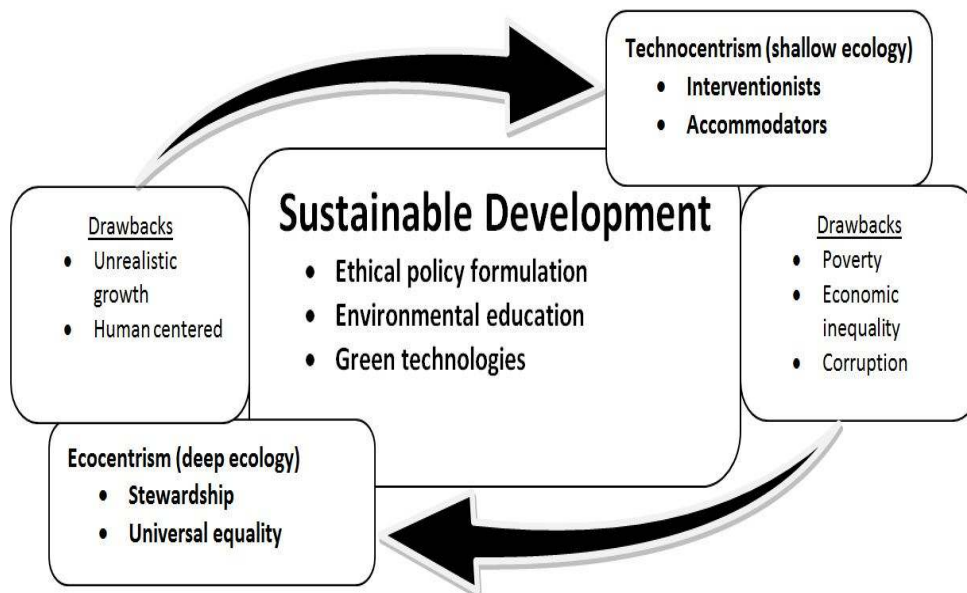


Fig. 1. Illustration on modern perspectives of environmentalism

awareness creation should be centered on primary and secondary schools since they are the leaders of tomorrow. Educating children can also affect the perception of adults around them as children can engage their parents and guardians in thoughtful discussions on environmental issues. This engagement could be the panacea to attitudinal change required.

With rapid technological development in the 21st century, more research should focus on identifying how 'green technologies' can be made more affordable for a wider range of people particularly in developing countries like Nigeria with very high energy deficit. For instance, the area of energy deficiency in sub-Saharan Africa can be effectively mitigated with the availability of cheaper solar photo voltaic systems due to the high rate of solar insolation in that part of the world.

Individual countries, state governments and even local authorities should schematize environmental policy frameworks that are in line with the holistic framework from international development organizations like the United Nations who have already designed frameworks that elucidate the principles of ecocentrism and technocentrism; this will go a long way in making sure that frameworks designed in these individual countries are in line with international best practices.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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