Education for Sustainable Development

Maxwell-Borjor Achuk Eba[1*]

[1] Department of History and International Studies, University of Calabar, Cross River State, Nigeria.

E-Mail: *raremaxxy@yahoo.com*

Abstract: It is observed by several authors (Uyanga 1985; Norris 2016; Uwadiegwu & Iyi 2015; Ajaps, S., & McLellan 2015; Ebhote & Odia 2020) that there is a lacuna in teaching Environmental Education in the Nigerian schools. This is because the curriculum neglects the developmental aspect of sustainable development. If this is allowed to continue, then Education for sustainable development becomes unilateral. Education should be aimed at empowering learners with the ability and desire to work towards realizing sustainable development, both locally and globally. This includes the awareness and knowledge about the environmental development (Cognitive); develop willingness, desirable attitude, feelings and values required (Affective); also to act with the essential competence and skills (Action-oriented). Hence there is a need to incorporate social, political, and economic aspects that should be considered together within the existing curriculum. It is in the whims of teachers to develop a positive attitude towards ESD and also integrate ESD meaningfully into the existing curriculum.
Keywords: State of Nature, Education, Sustainable development, Environment.

INTRODUCTION

> *"Earth provides enough to satisfy every man's need, but not every man's greed"*
>
> ***Mahatma Gandhi***

The above quote by Mahatma Gandhi rightly points the nature of earth which has sufficient resources to meet the human needs, but not to satisfy the greed. It has a great relevance in the modern world where people are exploiting the natural resources in an uncontrollable manner. Environment which is a combination of living and non-living things is very important for life to exist on the earth. Man has started the exploitation of the environment since he came into existence on earth. The exploitation of nature can be seen when he started to live in caves, nomadic life and settled and practiced agriculture [1]. For the satisfaction of his basic needs and greed, he started to exploit the environment by cutting trees, destroying forests, destroying patches of land, constructing buildings, depleting of resources, using various modes of transportation, development in technology etc. This exploitation reached its zenith when the population increased drastically [2]. The consequence of this devastation can be seen in many places in the form of deforestation, different types of pollution, ozone depletion, Greenhouse effect, Acid rain, various natural calamities etc. Number of plants and animal species has started to become extinct, large number of incurable diseases both for plants and animals have started to rule the earth and even man fails to find suitable preventive measures to fight diseases. Pollution, deforestation, loss of biodiversity, ozone hole, global warming are some of the environmental problems that are faced by the world today. Where did they come from? All the basic resources required for living come from the environment [3]. It is the environment that provides raw materials to industries, food for people, fuel for transport etc. The environment also absorbs the waste that developmental activity creates, which means that the environment is both a source and a sink for developmental activity. The ways people interact with the environment influence its health and well-being. Overuse of environmental resources causes environmental degradation.

Nigerian population growth is ascending on a yearly basis. But while the population increases, it also puts pressure on the resources, the pressure of "development" is perhaps even greater. Unless development needs and those of poverty in particular, are dealt with simultaneously, there could be neither protection of the environment nor success in the programmes to achieve development [4]. Development is an important facet of the present world, which is essential for the societal well-being. But these developments should not exert much pressure on the resources which can deteriorate the environment. The environmental, social and economic wellness is the need of the hour, which amalgamates together in the concept of sustainable development. Solving these environmental problems

---

Corresponding E-mail: raremaxxy@yahoo.com

and preventing new ones will require an understanding and appreciation of the linkages between environmental well-being and human wellbeing. However, many of these linkages are not apparent. To bring environment and development concerns to people's notice, to enable them to understand the linkages between the two, to encourage them to take appropriate action, and to equip them with the skills necessary for taking the required action, education is necessary for all this [5]. The awareness of these prevailing dangerous situations of earth has led many scientists and eminent persons to predict about what could happen to the earth if it goes the same way. This is how the concept of protection and conservation of earth came into existence. Various measures were planned and adopted to some extent, though not successfully to control the environmental devastation at the international level. In order to bring about awareness and to maintain the balance of the ecosystem, the developing countries had started to give more emphasis on the concept of Sustainable Development. Few environmentalists have criticized the term "sustainable development", claiming that economic policies based around concepts of growth and continued depletion of resources cannot be sustainable. Resources such as petroleum and coal are consumed much faster than they are created by natural processes and are continually being depleted. Increasing population, accelerated resource exploitation and development based on careless application of technology are the chief cause of environmental crisis. Many fear that the world is quickly using up the vast but finite amount of fossil fuels whereas some fear that we may have already peaked in fossil fuel extraction and production.

CONCEPT OF SUSTAINABLE DEVELOPMENT

According to S. Eden "The earth does not belong to man; man belongs to earth. Whatever befalls the earth befalls the sons of the earth. Man does not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself" [6]. According to the Indian Philosophy, all that exists in the universe, whether organic or inorganic, have five constituent elements i.e. air, water, fire, earth and space. Everything comes from varying combinations of these five elements, and ultimately returns to these, which together create nature [7].

Protection of environment in Nigeria is not a recent origin. It dates back to pre-history period [9]. Every religion and every culture in Nigeria expressed concerns about environment while reflecting the traditions and social perspectives, with a clear warning on the impact of environmental degradation and need for conservation for human survival [10]. Environmental conservation and protection were of major concerns in ancient African cultures, this is seen in the existence of taboos and totems that help protect and conserve some certain species of animals and plants unique to each village and culture [11,12]. As time proceeded, Industrial revolution has created a huge pressure on the environment. This was the main reason for including Environmental Education as a major subject in all education systems. Development is essential for the progress of any country. Hence, we started to think of both development and environmental protection, where it came out with a new concept of Sustainable development. Here the development is concerned with the economic and societal aspects, whereas the environmental protection is the environmental aspect in sustainable development. The objectives formulated in the conference held at Tbilisi (1977) were; to develop awareness to the total environment and its allied problems, develop knowledge about the environment and its associated problems, develop attitudes including values and feelings of concern for the environment, to acquire skills for identifying and solving environmental problems, to actively participate at all levels towards resolution of environmental problems.

The principles that were identified in the Tbilisi conference (1977) stated that Environmental Education should consider the environment in its totality, be a continuous life-long process which begins at the pre-school level and continue through all formal and non-formal stages; be inter-disciplinary in approach; examine major environmental issues for local, national, regional and international points of view so that students receive insights into environmental conditions in other geographical areas, focus on current and potential environmental situations while taking into account the historical perspective; promote the value and necessity of local, national and international co-operation in prevention and solution of environmental problems; enable learners to have a role in planning their learning experiences and provide an opportunity for making decisions and accepting their consequences; relate environmental sensitivity, knowledge, problem-solving skills and value clarification to every age but with special emphasis on environmental sensitivity to the learner's own community in early years; help learners discover the symptoms and real cause of environmental problems; emphasize the complexity of
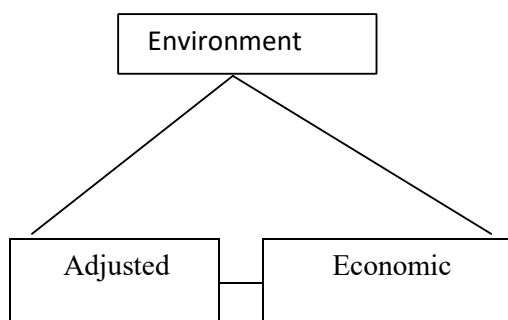
environmental problems and thus the need to develop critical thinking and problem-solving skills; utilize diverse learning environments and a broad array of educational approaches to teaching/ learning about and from the environment with due stress on practical activities and first-hand experience [13].

The aims of ESD are to promote understanding of the interdependence of natural, socio-economic and political systems at local, national and global levels, to encourage critical reflection and decision making. It is reflected in personal lifestyles, to encourage the active participation of citizenry in building sustainable development, develop interactive and participatory skills, developing appropriate environmental understanding based on an understanding of the independence of nature and skills of problem-solving. Beyond a simple one sentence definition, many governments and individuals have pondered what sustainable development means. The Rio declaration on environment and development fleshes out the definition by listing the 27 principles among which 18 principles of sustainability are addressed below.

i)   People are entitled to a healthy and productive life in harmony with nature.

ii)   Development today must not undermine the development and environment needs of present and future generations.

iii)   Nations have the sovereign right to exploit their own resources, but without causing environmental damage beyond their borders.

iv)   Nations shall develop international laws to provide compensation for damage that activities under their control cause to areas beyond their borders.

v)   Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost effective measures to prevent environmental degradation.

vi)   In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

vii)   Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people.

viii)   Nations shall cooperate to conserve, protect and restore the health and integrity of the earth's ecosystem. The developed countries need to acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

ix)   Nations should reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies.

x)   Environmental issues can best be handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by making the environmental information widely available.

xi)   Nations shall enact effective environmental laws, and develop national law regarding liability for the victims of pollution and other environmental damage. Where they have authority, nations shall assess the environmental impact of proposed activities that are likely to have a significant adverse impact.

xii)   Nations should cooperate to promote an open international economic system that will lead to economic growth and sustainable development in all countries. Environmental policies should not be used as an unjustifiable means of restricting international trade.

xiii)   The polluter should, in principle must bear the cost of pollution.

xiv)   Nations shall warn one another of natural disasters or activities that may have harmful trans-boundary impacts.

xv)   Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability.

xvi)   The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people.

xvii)   Warfare is inherently destructive of sustainable development, and nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment.

xviii) Peace, development and environmental protection are interdependent and indivisible.

ESD is based on ideals and principles that underlie sustainability such as intergenerational equity, gender equity, social tolerance, poverty alleviation, environmental preservation and restoration. This is stated in Rio Declaration which contains 27 principles of sustainability. These principles can help governments, communities and school systems identify knowledge, principles, skills and values on which they will create education for sustainable development or reorient existing education to address sustainability. Sustainability is a well-articulated goal for management based on the explicit abandonment of the assumption that Natural resources are limitless [14]. Sustainable Development, which is a complex concept, has its origin in the Natural and Social Sciences that has been developed through international dialogue in response to the challenges facing the world today. Hence, the common elements it covers are the well-being of the human society, the well-being of the environment and sustainability over time. Sustainable development is not a fixed concept; rather it is a culturally directed search for a dynamic balance in the relationships between social, economic and natural systems, a balance that seeks to promote equity between countries, races, social classes and genders. The interdependence of people and the environment requires that no single development or environmental objective be pursued to the detriment of others [15].

A core principle behind sustainable development is a combination of economic, social and environmental conditions. Without a proper ecosystem, it is impossible to maintain a better society and economic development for our own and future generation. Thus environmental dimension can be regarded as the ultimate boundary for sustainable development. The Social dimension is to meet the basic needs of all people without exceeding the boundaries of the ecosystem. The economic dimension is a means to realize the goal within the limits of a socially and environmentally sustainable manner. Education for Sustainable Development is intended to educate all the stakeholders including the students, community, corporate etc [16]. about the importance and need for sustainable development in the present world. So *Education for Sustainable Development (ESD)* cannot be considered as having link only with environment but with development of social and economic aspects. The tripolar relationship of sustainable development is represented in Figure 1.

Figure 1. Triangle of Sustainable Development

These "three pillars" of Sustainable Development are called as 'triple bottom line' or 'triad' of sustainable development [17].

NEED FOR EDUCATION IN SUSTAINABLE DEVELOPMENT

The earth's environment has been considered as a remarkably stable, self-correcting machine, taking care of all human misadventures and assaults on fragile biosphere. But this misconception of nature cannot be taken for granted. Modern technology in industry and agriculture, as well as other developmental activities of modern society are highly exploitative in nature, which is enhancing pollution and causing enormous damage to the environment [18]. Emission of smoke and gases from industry and automobiles leads to increased carbon dioxide content in the atmosphere. Effluents of the industry and mining are contaminating water bodies and are degrading the land. High dose of fertilizers are polluting lakes. Pesticide residues in the soil contaminate water bodies. The developmental activities including agriculture hasten the desertification and reduction of genetic diversity. Pollution of air and water is a great challenge which is intimately connected with the health of population and ecosystem. Inland water bodies and coastal areas have so far been treated as dumping grounds for wastes thus affecting aquatic and marine life. Environmental degradation refers to the diminishing of a local

ecosystem or the biosphere as a whole, due to human activity. The long term final result of environmental degradation may cause unsustainability of human population.

Sustaining human population is a part of sustainable development. Sustainable development demands ways of living, working and enabling people of the world to lead healthy, fulfilling, and economically secure lives without destroying the environment and without endangering the future welfare of people and the planet [19]. Unsustainable development occurs when nature's resources (such as trees, habitat, earth, water, air) are being consumed faster than that of nature can replenish them. Sustainability requires human activity that uses nature's resources to the point where they can be replenished naturally. Unsustainable development ignores the fact that man managed systems degrade the natural resources by consuming nonrenewable resources, and reducing the capacity of natural systems to renew or recycle. The fast expanding green revolution unfortunately leads to the unsustainable exploitation of natural resources. Excessive and unscientific use of chemical pesticides and mineral fertilizers also leads to environmental degradation. Thus tools for measuring sustainability will have to be enlarged in a manner that current attention could be paid to economic viability, environmental sustainability and social equity. The intensified and unsustainable demand for land, water, marine and coastal resources resulting from the expansion of agriculture and uncontrolled urbanization lead to increased degradation of natural ecosystems and erode the life supporting systems that uphold human civilization. Caring for natural resources and promoting their sustainable use is an essential response of the world community to ensure its own survival and well-being. The relationship between consumption behavior and sustainability is represented in Table 1.

Table 1. Relationship between consumption behavior and sustainability

Consumption of natural resources	State of environment	Sustainability
More than nature's ability to replenish	Environmental degradation	Not sustainable
Equal to nature's ability to replenish	Environmental equilibrium	Sustainable growth
Less than nature's ability to replenish	Environmental renewal	Sustainable growth

One should be aware of this relationship between consumption and sustainability. Education plays a crucial role in attaining such sustainability. Education encompasses teaching and learning specific skills, the imparting of knowledge, positive judgment and well developed wisdom which are less tangible but more profound. One of the fundamental aspects of education is imparting culture from generation to generation. The basic aim of the education system for sustainable development is 'education of a new man', 'the man of a sustainable type of thinking', a man of cosmo-planetary consciousness with a holistic world outlook who has a methodological culture and a culture of sustainability, who is ready to a socially significant labour, to self-organizing and self-perfection, a man with high socio-cultural needs and deep moral ethical values, a man who is capable to solve global tasks facing by the mankind and to promote the forming of sustainable society.

Education in its contemporary development should be aimed at the future, should "foresee" and form in a certain way and satisfy needs of future generations of people [20]. It means that education should be anticipatory to social, economic and cultural life; it should form a desirable sustainable future. A new educational paradigm will be a micro model of sustainable society. But such ideas could not be realized in old organizational forms of education system. There is a need for new organizational forms and educational institutions that are mobile, synergetic, creative, future-oriented which could provide the implementation of new objectives and new historical functions of education. For that it is necessary to incorporate possible principles of sustainable development into all spheres of life. These spheres of life should not only be considered at the individual level, but at the community level. There is a significant scope for regional and global cooperation in sustainable development. Education for sustainability is a new paradigm for a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific, technological, and social literacy, and commitment to engage in responsible actions that will help ensure an environmentally sound, socially just, and economically prosperous future for all [21].

Some of the areas of common concern are marine and riparian issues, trans-boundary environmental impacts, and management of bio-resources, technology sharing and sharing of sustainable development experiences. Efforts must be made especially by developing countries, to work towards synergizing experiences and raising shared regional concerns as a strong united front in international forums. Mechanisms must be put in place to facilitate such international exchange of domestic and global experiences in sustainable development. There must be mechanisms for monitoring the compliance of countries to their obligations under various environmental agreements. Currently there is a multiplicity of institutions with fragmented responsibilities. A better governance regime is required to ensure cooperation and compliance. Sustainable development is achieved through optimizing gains from several variables, rather than maximizing those from a single one. This requires government departments, by convention sectorally organized, to work together, or in some cases as a single multi-disciplinary authority. For this joint planning, transparency and coordination in implementation are required. The richness of skills available in society must be harnessed through partnerships involving institutions in civil society, such as NGOs, CBOs, corporate (including private) bodies, academic and research institutions, trade unions, etc., which must be made an integral part of planning and implementation for sustainable development.

On the one hand there is a surfeit of laws, in which some of them are outmoded and irrelevant. On the other hand, effective enforcement is lacking in respect of laws relevant to contemporary concerns and conducive to governance. This calls for a thorough review of laws, elimination of those which are outmoded, and simplification of the procedures for implementing those which are relevant. Internal reviews as well as learning from international experience should be the basis of identifying and filling gaps in existing laws. It must, however, be recognized that laws in themselves do not provide solutions, unless there are mechanisms to effectively enforce them. There are many traditional systems and practices whose values and validity needs to be recognized and brought into the mainstream of government policies. Appropriate mechanisms for integrating them need to be created. Many policies were framed before sustainable development became a major concern. These need to be reviewed from the point of view of sustainable development. All future policies must be guided by considerations of sustainable development. Areas lacking policies should be identified and adequate policies compatible with the imperatives of sustainable development must be framed. It should be based on successful examples, of policies and initiatives in similar areas.

Effective management of resources requires participation by all stakeholders. At the local level, strengthening democratic institutions generally leads to better and more sustained management of natural resources [22]. To enhance effectiveness of people's participation in local governance, committees comprising both elected and executive members of local bodies and representatives of community groups, must be formed [23]. Appropriate capacity building would enable them to undertake local development activities according to community priorities, monitor project implementation and manage community assets [24]. Social groups which have been traditionally discriminated against must be represented in local governance and empowered to ensure that they become effective and mainstream partners in development. Children are a valuable asset of every society. It is the responsibility not only of the parents but of the community that children realize their potential fully, growing up in a healthy, enriching and fulfilling environment. Ensuring the provision of such an environment is a major challenge of governance at the local level. The occupational, cultural and economic heterogeneity of population is on the whole a major asset in making development sustainable; but there are times of crisis when the same heterogeneity can become the basis of conflict and social insecurity. It is imperative to evolve participatory mechanisms of governance involving citizen groups and local authorities which will provide effective means of conflict resolution.

INTERNATIONAL EFFORTS ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

There are a number of committees and commissions that have contributed towards the origin of sustainable development. In 1970, U.S Congress passed the **National Environmental Act of 1970**. The Act authorizes the creation of an office of EE in the U.S Department of Health, Education and Welfare, establishment of a national advisory council for EE and establishment of a domestic grants program. The Western Regional Environmental Education Council (WREEC) (now the Council for Environmental Education) is created as a "… unique effort to create a partnership and network between education and natural resource professionals in support of EE" [25]. In 1972 The United Nations

Conference on the Human environment in Stockholm, Sweden was held. In 1975, UNESCO sponsored conference in Belgrade, came out with Belgrade charter, which outlines the basic structure of Environmental Education. In 1976, the WREEC and the American Forest Institute (now the American Forest Foundation) developed Project Learning Tree (PLT). It helps K-12 students gain awareness and knowledge of the natural and built environment, their place within it, as well as their responsibility for it. In 1977, the UNESCO in cooperation with UNEP held a conference in Tbilisi. It laid down the goals, objectives and guiding principles of EE [26]. In 1983 WREEC and the Western Association of Fish and Wild life Agencies developed Project WILD. It sponsors the conservation and Environmental Education programs with a focus on wildlife for grades K-12. In 1987, the World Commission on Environment and Development published the Brundtland Report which is also known as *Our Common future*, which introduced the idea of sustainable development in which environmental protection and economic growth are reviewed as independent concepts [26].

Some of the programs building for the future are, in 1990, the council for Environmental Education and the Watercourse initiated Project WET (Water Education for Teachers). It facilitates and promotes awareness, appreciation, knowledge and stewardship of water resources in students K-12. In 1991, the University of Wisconsin Stevens Point founded the National Education Advancement Project. In 1992 the United States Environmental Educational Protection Agency awards its first Environmental Education Training Program to the National Consortium for Environmental Education and Training, a cooperative partnership led by the University of Michigan. The Rio Declaration of 1992 has laid down 27 principles, out of which 18 were purely towards sustainability. In 1993, the North American Association for Environmental Education initiates the National Project for excellence in EE. The project works to create guidelines for Environmental Education [26]. In 1994, the President's Council on Sustainable Development held the national forum on Partnerships Supporting education about the Environment at California. The report, *Education for sustainability; An Agenda for action,* was produced as a result of this meeting. In 1996, the United States Environmental Protection Agency's National Environmental Education Advisory Council released the report *Assessing Environmental Education in the United Nations and the Implementation of the National Environmental Education Act of 1990* [27].

Thus the history of Sustainable Development can be traced back to several years. "Education is critical for promoting sustainable development and improving the capacity of people to address environment and development issues…It is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision making" (Chapter 36 of Agenda 21, Rio Declaration 1992) [28].

The three day international conference on climate change and environment (ICCCE, 2010) at Cochin University for science and technology came out with the following recommendations [29].

i)   Today climate change is not only a problem for scientists alone but also a problem for all. Therefore global intervention and strong political initiatives are required.

ii)   There has to be close cooperation at various levels-starting from national level right down to the state and regional level with sharing of infrastructure and data, and integration of research outputs and networks at all levels.

iii)   The need for multidisciplinary approach involving society at large, agriculturists, NGOs and health authorities is now warranted. The people's role is critical and should now form part of every citizen's agenda. A compulsory program on climate change should be introduced at all educational levels.

iv)   An exclusive media line has to develop on climate change-that could serve as a platform to address our issues and look for solutions.

v)   Emphasis has to be laid on researches to understand and quantify natural and national resources and develop alternate sources of energy.

The International forum for a Sustainable Asia and the Pacific (ISAP) was held in Hayama, Japan 26-27 June 2009, by the Institute for Global Environmental Strategies (IGES), an international strategic policy research institute based in Japan. Under the theme 'Towards Copenhagen: A new Development pathway to a low carbon sustainable Asia and the Pacific, ISAP promoted dialogue on regional sustainable development and enhanced cooperation among initiatives in Asia and the Pacific region. Five areas of consensus identified by the panelists and audience were [28];

i)   Specific environmental courses at Universities can swiftly respond to the urgent needs of actual demands for environmental competencies by government agencies, civil society organizations and private companies.

ii)   Problem-solving and interdisciplinary approaches across environmental courses, as well as faculty partnerships across university departments are essential to train students for increasingly complex environmental careers especially at the decision making level, where social and scientific knowledge and skills are needed.

iii)   Internship programmes enable students to gain practical experience and skills (collaboration between academia, industry and the government)

iv)   A multi stakeholder consortium incorporating diverse universities, private companies and governmental agencies can be an effective way not only to identify common needs for environmental human resources but also to narrow the gap between different counterpart's interests.

v)   Inter university cooperation should encourage practical collaboration to provide students with opportunities to allow universities to share implementation of similar programmes. [29].

IMPORTANCE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) IN NIGERIA

ESD aims at building up ones knowledge, skills, attitudes and values towards sustainable development which are some of the objectives of ESD. The knowledge, skills and values to be addressed in sustainable development are given below;

Knowledge Building

The World Energy Council has estimated that energy demands would double between 1990 and 2020, a demand erupting most forcefully from the developing countries where per capita consumption levels have not peaked as a result of low income and lack of infrastructure. It is consequently expected that a number of developing countries will make those critical moves towards committing themselves to major investments in infrastructure in the next couple of decades [28]. In order to build knowledge on sustainable development, **The United Nations Division for Sustainable Development** has listed the areas or topics as coming within the scope of sustainable development. These areas to be addressed while addressing sustainable development are agriculture, atmosphere, biodiversity, biotechnology, capacity-building, climate change, consumption and production patterns, demographics, desertification and drought, disaster reduction and management, education and awareness, energy, finance, forests, fresh water, health, human settlements, indicators, industry, information for decision making and participation, integrated decision making, international law, international cooperation for enabling environment, institutional arrangements, land management, major groups, mountains, national sustainable development strategies, oceans and seas, poverty, sanitation, science, small island development states (SIDS), sustainable tourism, technology, toxic chemicals, trade and environment, transport, waste (hazardous), waste (radioactive) and waste (solid) and water.

Skill Development

ESD will enable basic knowledge to all students which must give practical skills that will enable them to continue learning after they leave school. UNESCO has listed out the skills to be incorporated, which will fall in the three realms of SD i.e. Environmental, Social and Economic. Some of these skills are; ability to think critically about-value issues, the capacity to move from awareness to knowledge to action, to work cooperatively with other people, capacity to use processes like knowing, inquiring, acting, judging, imagining, connecting, valuing and choosing, the ability to think in time-to forecast, think ahead and to plan. Pupil will also need to learn skills which help them to manage and interact with the local environment.

Critical thinking on sustainable development is a reasonable, reflective, responsible and skillful thinking that is focused on deciding what to believe or do for attaining sustainability. A person who thinks critically can ask appropriate questions, gather relevant information, sort this information efficiently and creatively, reason out logically from this information and come to reliable and trustworthy conclusions about the world that enable one to live and act successfully in it.

Development of Values

The Earth Charter (1992) is a synthesis of values, principles, and aspirations that are shared by a growing number of women, men, and organizations around the world. Drafting the Earth Charter was part of the unfinished business of the Earth Summit. "We urgently need a shared vision of basic values to provide an ethical foundation for the emerging world community. Therefore, together in hope we

affirm the following interdependent principles for a sustainable way of life as a common standard by which the conduct of all individuals, organizations, businesses governments, and transnational institutions is to be guided and assessed" [30]. The values underlined in the Earth charter were;

i) Respect and care for the community of life which includes; respect Earth and life in all its diversity, care for the community of life with understanding, compassion, and love, build democratic societies that are just, participatory, sustainable, and peaceable, secure Earth's bounty and beauty for present and future generations [31].

ii) Ecological integrity which includes; protect and restore the integrity of earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life, prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach, adopt patterns of production, consumption, and reproduction that safeguard earth's regenerative capacities, human rights, and community well-being, advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.

iii) Social and economic justice; eradicate poverty as an ethical, social, and environmental imperative, ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner, affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity, uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities,

iv) Democracy, non-violence, and peace which includes; strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice, integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life, treat all living beings with respect and consideration.

v) Promote a culture of tolerance, non-violence, and peace.

There are values underlined in the Millennium Declaration by UNESCO. The Millennium Declaration—which outlines 60 goals for peace; development; the environment; human rights; the vulnerable, hungry, and poor; Africa; and the United Nations—is founded on a core set of values described as follows: The United Nations General Assembly consider certain fundamental values to be essential to international relations in the twenty-first century. These include:

i) **Freedom:** Men and women have the right to live their lives and raise their children in dignity, free from hunger and from the fear of violence, oppression or injustice. Democratic and participatory governance based on the will of the people best assures these rights [32].

ii) **Equality:** No individual and no nation must be denied the opportunity to benefit from development. The equal rights and opportunities of women and men must be assured.

iii) **Solidarity:** Global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with basic principles of equity and social justice. Those who suffer or who benefit least deserve help from those who benefit most.

iv) **Tolerance:** Human beings must respect one other, in all their diversity of belief, culture and language. Differences within and between societies should be neither feared nor repressed, but cherished as a precious asset of humanity. A culture of peace and dialogue among all civilizations should be actively promoted.

v) **Respect for nature:** Prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of sustainable development [33]. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants. The current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants.

vi) **Shared responsibility:** Responsibility for managing worldwide economic and social development, as well as threats to international peace and security, must be shared among the nations of the world and should be exercised multi-laterally. As the most universal and most representative organization in the world, the United Nations must play the central role [34].

There has been special emphasis on need to give importance to Environmental Education, and this has been kept in view while designing curricula, framing the syllabi and developing text books. The

philosophy behind the curricula is that Environmental Education could be infused into the curricula especially at the primary level. It can be argued that Environmental Education (EE) should be a lifelong process beginning at the pre-school level and continuing through all formal and non-formal stages. Thus children become the first and most important target group, and a strategy of EE which addresses itself to this group becomes imperative in the overall scheme of things. Environmental Education is not just a subject to teach, rather is an opportunity to let children use their own environment, of which the school is a part, as a source of information, a ground for learning, and a storehouse of experience which will last a lifetime. Thus Environmental Education to be effective, should ideally utilize diverse learning situations and a broad array of approaches to teaching and learning about and from environment, with due stress on practical activities and first-hand experience. The institutional framework includes space, organization and special environment which can be used for effective transaction of Environmental Education in schools. The main actors that interact within framework are students, teachers, curriculum or instructional material and methods. Programmes and materials that attempt to address all these are essential to realization of goals of Environmental Education. Environmental studies aims at educating the young child to be better equipped to face the ever changing environment in his future life. The objective of environmental studies is the development of necessary attitudes, skills and concepts for the study of other environments [35]. Within the school system, it is the teachers who are communicators of knowledge as well as architects of attitudes, play the greatest role in ordering learning conditions and guiding or inspiring students' thinking and action in a desired direction. Environmental Education is not merely passing out facts and rules to be memorized by the students. Teachers need appropriate curricula, and material for communicating ideas effectively. Above all, the teacher also needs to adopt innovative methodologies and approaches to this process.

In the existing educational system in Nigeria, teachers are beset by a number of problems related to lack of resources, physical or academic constraints. While the content for teaching is provided in the form of text books, the methodology, skills and support materials for the effective use of the instructional material are often not provided. Moreover, most teachers do not have time, resources and confidence to undertake the task of active teaching-learning which are the key to effective EE. Teacher's role in Environmental Education should be to assist learners in acquiring positive attitudes, recognizing, analyzing, clarifying personal values concerning the environment, and developing skills to solve problems in order to live more harmoniously with the environment. Teachers need a great deal of support and encouragement towards an approach which promotes thinking, problem-solving and active participation of teachers and learners alike and this also helps teaching to move away from a dully repetition of facts. This support would need a two-fold approach – (a) the development of instructional and resource material, and methods that combine worthwhile content with an enjoyable process; and (b) the orientation and training of teachers in the optimum use of the same [36].

CONCLUSION

There is a strong need and important for integrating Education for sustainable development (ESD) into the Nigerian school curriculum, there is a felt need for educational reform. It extends beyond the boundaries of individual school subjects and requires the attention of teachers, educational administrators, planners and curriculum agencies. It is particularly important for National officials to be sensitive towards achieving a high standard of physical, social and cognitive development. In some circumstances these trends will call for intervention in what is seen as an emerging and widespread inability of students to achieve success in a specific part of the curriculum. In other circumstances, the focus will be on the curriculum itself because it may be seen as being in need of revision and restructuring in order to take account of recent research and/or new social and economic conditions [36].

This paper argues that Environmental Education strategy in Nigeria should incorporate the infusion of environmental concerns into the existing curriculum. It concludes that the infused material is creating incoherence in the curriculum, and that attempts to remove this incoherence are further creating confusion. To overcome this problem it suggests that changes may be required in the existing science syllabus. Thus there is a need to define the country's environmental problems more realistically and rigorously in the syllabus. The initial step in launching an ESD program is to develop awareness within the educational community and the public. If government officials or school district administrators are unaware of the linkage between Education and Sustainable development, re-orienting education to attain sustainable development will not occur. Thus the importance of ESD must reach beyond the delegations

and permeate the educational community and general public. Children should explore the learning situations and learn the meanings on their own by connecting their knowledge with background experiences and the local knowledge.

There is an urgent need on an overall review of the existing approach in the education system with a sharper focus on attaining ESD which can sensitize the knowledge, skills, critical thinking and value issues towards attaining sustainable development. ESD should be incorporated in the entire curriculum starting from pre-schooling to higher education, which should be transacted in a meaningful manner using appropriate pedagogical techniques. Looking into the researches' conducted in the past, which were more concerned with creating environmental awareness and studying environmental attitude, and the trend in the world's concern which is focused on sustainable development, it was intended to research upon ESD.

REFERENCES
[1] Bassey, S. A., (2020), Technology, Environmental Sustainability and the Ethics of Anthropoholism. *Przestrzeń Społeczna*, 1(19).
[2] Bassey, S. A., (2019), 'Anthropoholism'As an Authentic Tool for Environmental Management. *International Journal of Environmental Pollution and Environmental Modelling, 2(3).*
[3] Njar, B. I., & Enagu, D. A. (2018). Development and Environmental Sustainability in Nigeria: An African Perspective. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 2(1), 37-47.
[4] Obilor, O. I., Iwundu, K., Okoroafor, F. O., Chima, E., & Bello, M. B. (2018). Democracy and National Development: A Focus on Nigeria. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 1(2), 1-8.
[5] Nwoye, L. (2018). Ethical Issues in Arms Technology. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 1(1), 25-33.
[6] Eden, S. (2000). Environmental issues: Sustainable progress? *Progress in Human Geography*, 24(1), 111–118.
[7] Ottuh, P. O. (2020). Religious Approach to Non-Anthropocentric Ethics in Environmental Philosophy. *Cogito-Multidisciplinary research Journal*, (1), 7-24
[8] James, G. A. (1998). The construction of India in some recent environmental philosophy. *Worldviews: Environment, Culture, Religion*, 2(1), 3–20.
[9] Eba, M. B. (2014). Tourism in Nigeria: Past, Present and Future. *The Leajon, an academic journal of intern-disciplinary studies*, 6(1), 128-137.
[10] Okafor, J. O., & Stella, O. (2018). Hinduism and ecology: Its relevance and importance. *FAHSANU JOURNAL*, 1(1), 53-63
[11] Osuala, A. N., & Nyok, E. I. E. (2018). New Twist to Political Corruption in 4th Republic Nigeria given Non-Human Animals Stealing millions: A Case for the Defense of Animal Rights. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 1(2), 15-37.
[12] BASSEY, S. and Pimaro Jr, T.M., 2019. Enyimba's Notion of Madukaku and The Question of Anthropocentrism In African Environmental Ethics. *International Journal of Environmental Pollution and Environmental Modelling*, 2(3), pp.129-136.
[13] Emmelin, L. (1978). Environmental education conference in Tbilisi. *Ambio*, 7(2), 79.
[14] Polunin, N. (1985). World Commission on Environment & Development. *Environmental Conservation*, 12(1), 78–79.
[15] Mensah, J., & Casadevall, S. R. (2019). Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1), 1653531.
[16] Yta, E.M., 2020. Beyond Watt Market Roundabout Audiences: Redesigning Tourists Oriented Theatres in Calabar. *PINISI Discretion Review*, 4(1), pp.73-82.
[17] Ketola, T., 2009. Pre-morphean paradigm - An alternative to modern and post-modern paradigms of corporate sustainability. *Sustainable Development*, 17(2), 114–126.
[18] Eyo, Ubong E. 2019. "Between Religion and Agriculture: A Roadmap to Revamping Nigeria's Economy ". *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis* 2 (1):62-70.
[19] Edame, G. E., Effiong, C. E., & Ackuk, E. M. B. (2014). Agriculture, Forestry and Water Resources Management: A Panacea for Sustainable Development in Nigeria. *Academic Journal of Interdisciplinary Studies*, 3(4), 373-373.

[20] Shephard, K. (2015). Higher education for sustainable development. In *Higher Education for Sustainable Development*. https://doi.org/10.1057/9781137548412

[21] Hume, T., & Barry, J. (2015). Environmental Education and Education for Sustainable Development. In *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (pp. 733–739). https://doi.org/10.1016/B978-0-08-097086-8.91081-X

[22] Enu, D. B., & Eba, M. B. (2014). Teaching for Democracy in Nigeria: A Paradigm Shift. *Higher Education Studies*, *4*(3), 64-71.

[23] Mayen, U.G., 2018. Diasporic culture, Cultural transformation and grass root development in Francophone Africa. *Lwati: A Journal of Contemporary Research*, *15*(2), pp.134-153.

[24] Umukoro, G.M., Odey, V.E. and Yta, E.M., 2020. Tourism Site Infrastructure, Visitor Patronage and Calabar Metropolis. *Jurnal Office*, *6*(2), pp.97-102.

[25] Michaels, S., & Furuseth, O. J. (1997). Innovation in environmental policy: The National Environmental Policy Act of the US and the Resource Management Act of New Zealand. *Environmentalist*, *17*(3), 181–190.

[26] Sibley, B. J. (2019). A decade of NEPA: Federal agency responses to the national environmental policy act. In *Applied Social Science for Environmental Planning* (pp. 221–239). https://doi.org/10.4324/9780429045356-20

[27] Masemann, V., Majhanovich, S., Truong, N., & Janigan, K. (2019). Education for Sustainable Development. In *A Tribute to David N. Wilson* (pp. 163–175). https://doi.org/10.1163/9789460912627_012

[28] Hamanaka, H., & Didham, R. J. (2010). International Forum for Sustainable Asia and the Pacific. *Journal of Education for Sustainable Development*, *4*(1), 19–21.

[29] Geryk, M. (2020). Sustainable Development in Higher Education. *Advances in Intelligent Systems and Computing*, *1209 AISC*, 384–392. https://doi.org/10.1007/978-3-030-50791-6_49

[30] de Wolf, M., & De Hamer, A. (2015). Education for sustainable development in the Netherlands. In *Schooling for Sustainable Development in Europe: Concepts, Policies and Educational Experiences at the End of the UN Decade of Education for Sustainable Development* (pp. 361–380). https://doi.org/10.1007/978-3-319-09549-3_20

[31] Allam, Onmoke Sylvester. 2018. "Unmasking 'Alekwu' Religious Experience Among the Idoma People-Group of Nigeria". *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis* 1 (2):118-30.

[32] Asuquo, Gabriel. 2019. "Liberalism and Its Implication for African Thought in the 21st Century: A Critical Analysis ". *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis* 2 (2):31-39.

[33] Uwadiegwu, B. O., & Iyi, E. A. (2015). Environmental Management and Control. In *European Journal of Business and Innovation Research* (Vol. 3, Issue 2).

[34] Åhlberg, M. K., Aineslahti, M., Alppi, A., Houtsonen, L., Nuutinen, A. M., & Salonen, A. (2015). Education for sustainable development in Finland. In *Schooling for Sustainable Development in Europe: Concepts, Policies and Educational Experiences at the End of the UN Decade of Education for Sustainable Development* (pp. 221–239).

[35] Masemann, V., Majhanovich, S., Truong, N., & Janigan, K. (2019). Education for Sustainable Development. In *A Tribute to David N. Wilson* (pp. 163–175). https://doi.org/10.1163/9789460912627_012

[36] Matthews, P. (2016). Education for Sustainable Development in Further Education: A Reality Check. In *Education for Sustainable Development in Further Education* (pp. 233–247). https://doi.org/10.1057/978-1-137-51911-5_15