

THE WHAT, WHY AND HOW OF ENVIRONMENTAL EDUCATION

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ABSTRACT

Environmental education is a useful tool for the enhancement of good quality of life. It is a major instrument for the achievement of sustainable development. To this end, this paper examines the meaning of environmental education, the necessity for it, as well as the methodology of its attainment. Also, the paper probes into the aims, objectives, goals, strategies, as well as the benefits of environmental education. Furthermore, the paper explores into major environmental challenges as well as the approaches for overcoming them. The paper concludes that environmental education is an important ingredient in the promotion of sustainable development. Finally, the paper recommends that individuals, organizations, companies, schools, environmental managers, traditional rulers, communities, future leaders, government, non-governmental organizations and other stakeholders should help in the promotion and dissemination of environmental education.

Keywords: Challenges, Development, Education, Environmental, Sustainability.

1. INTRODUCTION

This paper attempts an analysis of environmental education and identifies the major challenges in the environment, vis-à-vis the role of environmental education in the achievement of sustainable development. Without a sound grasp of the geographical underpinnings of the earth's surface, that is, our living environment, the desire to solve environmental problems associated with human activities through sound environmental management would continue to be elusive (Ofomata and Phil-Eze, 2007). For the purpose of this work, the environment is considered as the totality of that which surrounds man and the circumstances in which he lives. The human environment includes living and non-living components that surrounds man and that are capable of influencing him and his actions. Fatubarin (2009) noted that the human environment is essentially similar to all other environments where living organisms are found. This is because the human environment is located within the biosphere.

Education refers to the development of the powers of the human mind. It results or is expected to result in the acquisition of ideas, knowledge, and skills and in the mind becoming analytical and imaginative. Education aims at the full development of the human personality. It is the means by which society undertakes to transmit particular attitudes, knowledge and skills to their young members through formal systematic training (Kwame, 2008). Given, the definitions of environment and education we can rightly define environmental education as the transfer of knowledge and skills about the environment and its allied problems. It is the people's education which holds the key to environmental management and good quality of life (Anil and Arnab, 2014).

Aina (1990) defined environmental education as that which aims at developing a world population that is aware of and concerned about the environment and its associated problems, and which has the knowledge, skills, attitudes and motivations collectively directed towards the solution of current problems and the prevention of new ones. On this note, environmental education connotes the thinking about the environment in such a way that technological innovation and diffusion will not destroy the environment. In essence, environmental education deals with the knowledge, attitude change and participation in finding solutions to environmental problems. Environmental education is more than mere information about the environment. It teaches critical thinking, problem solving, and the general care for the environment.

Borrini – Feyerabend (1995) identified the conditions for environmental education and care as capacity to organize and participate, capacity to influence development priorities, integration of local knowledge and awareness of the environment, security of tenure of natural resources, as well as access to environmentally sound technologies. Other conditions are community – based environmental management, access to information and public accountability, as well as access to socially responsive practices. These are the pre-conditions for solving local problems with global implications. Also, it is a basic concomitant to international understanding and cooperation.

The major aim of environmental education is to increase public knowledge and awareness about environmental issues and to provide facts, opinions or the skills to make rational decisions and implement actions in the environment. The goals include fostering awareness about socio, political and ecological interdependence in urban and rural areas, value and attitude to improve the environment, provision of opportunities to acquire the knowledge, and the creation of new patterns of behavior of individuals towards the environment. Environmental education enables us to assess the impacts of proposed development projects on the bio-geo-physical environment. It is of vital importance when it comes to the creation of an enabling environment that is conducive and convenient for working, circulation and recreation.

Environmental education deals with the interrelationships between man and his environment. It covers a broad spectrum of environmental issues like physical development, urban planning, rural development, public health, housing, population dynamics, as well as recreation and tourism planning (see Ibimilua and Ibimilua, 2013; Andrejs et al., 2013; and Anil and Arab, 2014). It enables us to make informed recommendations about individual and societal behaviors that affect the environment. Also, it aids the social, economic, political and cultural development of a nation. It propels people to take rational decision about the protection or/and preservation of the environment (see Andrejs, et al., 2013; Anil and Arnab, 2014; and Ibimilua and Ibimilua, 2014). It makes the people to take care of the environment so that the environment can take care of the people in returns. In this sense, environmental education is seen as an agent of sustainable development.

Environmental education leads to positive changes in attitudes, commitments and civic actions, ethical values and responsibilities with respect to the protection and improvement of the environment with due consideration given to future generations (Santra, 2011). From the above submission, we can rightly say that environmental education increases public

awareness about issues relating to problem solving and decision making about the environment. To this end, environmental education makes us to be better informed citizens, and to understand the important issues that are facing our communities, and to be better prepared to contribute to the solutions to environmental problems.

2. ENVIRONMENTAL CHALLENGES

The environment, including the living things (plants and animals) and non living things such as air, rocks, water bodies and sunlight, all work together as a system. These set of objects and their attributes or components inter-relate with one another to make them operate and function. Thus, the mal-functioning of the environmental system is referred to as environmental challenges. Erukoha, Emeh and Umoinyang (1995) opined that man lives in environment which poses complex problems. Environmental challenges result from natural forces and anthropogenic (human – induced) factors. However, this paper focuses more attention on anthropogenic factors because it is more prevalent (in terms of its frequency) than natural causes and it can be better managed than natural challenges.

Natural causes of environmental challenges include drought, flood, desertification, soil erosion, landslides, volcanic eruption, tornadoes, hurricanes and tsunami. Also, anthropogenic challenges include forest destruction, overgrazing, bush burning, over exploitation of species, habitat loss, illegal mining activities, and solid wastes. Others are urbanization, diseases, improper farming practices destruction of aquatic habitats, urban slums, land degradation, as well as the negative environmental impacts of industrialization. Anthropogenic challenges result from ever increasing human population and the associated human greed for lavish consumption of environmental resources. Other causes of anthropogenic challenges are the application of science and technology, as well as people's negative disposition towards environmentalism.

Furthermore, the continuing willful destruction to the environment is an aftermath of ignorance, poverty, economic collapse and many other factors. These problems are further aggravated by climate change, land use change, overuse of nutrients and the spread of alien invasive species. Uche (1995) opined that the environment has been poisoned, devastated, stripped bare and raped by man through his various activities. He noted further that the destruction and devastation inflicted on the environment by man are in part due to his misconceptions about nature, his flawed attitudes to matters

relating to the environment and his failure to regulate his activities on the planet.

The counter-productive activities of man affect the various components of the ecosystem. These are the vegetal covers, lands and soils, atmosphere, water resources and other natural resources. Environmental challenges affect public health and safety. It causes economic loss as well as damage to lives and property. Above all, the heavy dependence on the environment has translated into a number of other environmental challenges. Moreover, the techniques adopted in exploiting the environment never made allowance to ameliorate any deplorable conditions faced by the environment due to earlier exploration (Jimoh, 2000). Environmental challenges affect both the poor and the rich as well as the urban and rural places.

Johnathan (2006) observed that national and global environmental issues are major challenges in the twenty-first century. He noted further that the response to these challenges require the understanding of the working condition of the environment systems. Nevertheless, Onuigbo (2004) opined that there is poverty of education and enlightenment on the need to protect and conserve the environment and its biodiversity. Also, Santra (2011) submitted that humans need to become aware, conscious and knowledgeable about their place in the environment. Similarly, Ibitoye (2004) opined that it is necessary to raise public environmental awareness so as to promote the understanding of the essential linkages between environment and development, and to encourage individual and community participation in environmental improvement efforts. Of course, access to environmental education is a key element of good governance that protects the environment, the people, as well as environmental resources.

3. ENVIRONMENTAL EDUCATION

The management of water, forests, fisheries, wildlife; and other natural resources is too often subject to poor governance, which contributes to degradation – such as rapidly disappearing forests, collapsed fisheries and polluted water-and threatens the health and livelihoods of millions of people. These problems are particularly prevalent in poorer countries, in which people are most dependent on their natural resources base (World Bank, 2006). This problem is caused mainly by lack of environmental education. Whereas, education is a vehicle of changing peoples attitude, perception and behavior. Environmental education is meant to assist the public to understand, appreciate and change people's attitude favorably towards the environment (see Umoren, 1995 for greater details).

Peters (1995) defined environmental education as the process of educating citizens about matters and issues that affect our environment- our homes, villages, cities, farmlands, water supplies, forests and weather in order to improve our environmental awareness and skills, and engender a change of attitude towards our environment; and thereby arouse concern about the physical problems around us. Man's health, happiness and survival is dependent on the way he manages the environment. Hence, it is necessary to manage the natural wealth of the environment for the current and future generations.

To Martin (1990) environmental education is that which helps people to understand the forces that determine human behavior in relation to the environment, whether this be natural environment or the man-made environment of agriculture, towns and cities. In this regard, environmental education focuses on the preservation of aesthetic, cultural and ecological values of the environment. It entails the judicious use of the environment for sustainability. In essence, environmental education refers to organized efforts to teach about how natural environments function and, particularly, how human beings can manage their behavior and ecosystem in order to live sustainably. The term is used more broadly to include all efforts to educate the public and other audiences, including print materials, websites and media campaigns (see Kwame, 2008; Peter, 1995; Umoren, 1995; Uche, 1995; Franca, 2002; Stanley, 2010; and Ofomata, 2007).

Environmental education encompasses indoor education outdoor education, experimental learning as well and the transfer of knowledge from one person to another. It increases the level of citizen participation in environmental monitoring. It deals with the conservation and sustainable use of environmental resources. Environmental education reduces the excessive pressure on natural resources. In fact, it is anchored on the premise that prevention of environmental problems is better than the control. This is based on the premonition that the consequences of environmental hazards are usually disastrous. Since environmental education encompasses the understanding of how individual actions affect the environment, it creates an avenue for the acquisition of skills about the side effects of environmental issues.

Santra (2011) perceived environmental education as a necessary tool for making appropriate decisions concerning the solution and prevention of environmental problems. To this end, an environmentally literate person should know that it is necessary to take care of the environment; it is important to protect environmental amenities; their choices and impacts of

their actions affect the environment either positively or negatively; and that it is necessary to protect the environment for the future generations.

4. AIM AND OBJECTIVES OF ENVIRONMENTAL EDUCATION

The main aim of environmental education is to make people aware of environmental problems, change behavior, and generate support for sustainable use of environmental resources. Moreover, it seeks to improve the understanding of the workings of environmental system, enhance the capacities of decision makers and empower the governance of nature. Also, the objectives of environmental education are to:-

- Enlighten the people about the major components of the environment.
- inform people about man-environment inter-relationships.
- nurture people about environmental changes.
- tutor people about the consequences of environmental hazards.
- create concern for environmental quality
- develop sanitation and conservation ethics.
- edify people about the necessity to protect the aesthetic value of the environment
- motivate people to continually educate others about environmental hazards and risks management.

5. STRATEGIES OF ENVIRONMENTAL EDUCATION

The strategies of environmental education include the following:

- support for natural resources inventories
- active stakeholders dialogues on environmental issues and policies
- enhancement of environmental monitoring
- conflict resolution on environmental issues
- capacity building, training and researches on environmental issues
- promotion of the use of modern techniques in environmental planning and management
- support for public awareness activities
- recognition and analysis of the risks related to environmental hazards
- focus on sustainable usage of environmental resources.

Towards the realization of the strategies of environmental education, emphases are placed on local environment, the challenges and the ways forward. Attentions are also focused on the beauty of the environment and the necessity to preserve it. Above all, the strategies of environmental management focus on the present situation of the environment and lay more

emphasis on future environmental condition (see Siyanbade, 2006; Ibimilua and Ibimilua, 2011; Ike, 2000; Olaniran, 1994; and Raheem, 2000).

6. WAYS OF PROMOTING ENVIRONMENTAL EDUCATION

The possible ways through which we can promote environmental education include trainings, public campaigns, open forum public meetings, indigenous education, radio jingles, visual displays, discussions and citizen participation in planning. Environmental education research instruments include the use of questionnaire, interview and observation. Also, environmental information are disseminated through the town planning authority, printed materials, models, diagrams, maps, pictures, charts, illustrations, films as well as slides. Others are the mass media-radio, television, press, NIPOST, NITEL and transport terminals.

Other ways through which we can promote environmental education is to include it in the curricular of schools and colleges. This will enable pupils and students to have environmental awareness and to guide against environmental crimes. Approaches to the development of environmental education curriculum include syllabus inserts, permeation, and special courses in environmental management and planning. Other approaches that can help us to consolidate environmental education are focus group discussions with the assistance of the traditional rulers, chiefs, and targeted citizens. Contemporary environmental education makes the use of the application of scientific skills like geographic information system (GIS), cartography, computer mapping, remote sensing technique and photogrammetric.

7. BENEFITS OF ENVIRONMENTAL EDUCATION

Man lives in an environment which poses complex problems. To survive in this environment, man must be able to solve these problems (Enukoha, Emeh and Umoinyang, 1995). Environmental education helps us to keep the people informed about environmental problems as well as the necessity to solve them. To this end, the basic knowledge of the environment and its working condition is required. Environmental education makes the citizens to be responsible for the environment. Also, it affords citizens to respect and obey environmental laws and to acquaint them with their roles and responsibilities in the environment. Likewise, it enables the citizen to have respect for public property and infrastructural amenities. In so doing, environmental education creates an avenue to reduce

environmental crimes like arson, indiscriminate bush burning and malicious damage of environmental amenities.

Environmental education helps us to create awareness about the causes and consequences of environmental problems. It teaches us how to prevent or/and solve environmental problems. Likewise, it is indispensable in solving urban and rural problems like land degradation, deforestation, poverty, water scarcity, climate change as well as abuse of pesticides and herbicides. It helps us to change people's negative disposition towards environmentalism and it helps in poverty reduction, water retention and conservation, reduction of deforestation, vegetation management, community-based rural resources management, as well as land reclamation and management. Other benefits that can be derived from environmental education are pollution abatement and management, biodiversity conservation, enhanced carbon sequestration, improved soil productivity, prevention of soil erosion and flooding, reduction in green house emission, improved waste management, protection of human health, as well as promulgation and enforcement of environmental policies.

There is the need to embrace environmental education. The game plan should focus on the mode of man-environment interactions. This is in the hope of highlighting in good time the consequences of whatever form of interaction man engaged with his environments. The net effect of this type of development will be the emergence of a healthy environment that holds a lot of prosperity for both the present and the future generations (Jimoh, 2000). Environmental education enlightens, informs, alerts and awakens the citizens about the necessity for community involvement and public participation in environmental management. It remains an indispensable tool in the creation of awareness, knowledge, attitude, skill and participation in environmental monitoring.

8. OVERCOMING ENVIRONMENTAL CHALLENGES AND PROMOTING SUSTAINABLE DEVELOPMENT

In order to protect the environment for sustainable development, there is the necessity to combat environmental challenges. The measures of achieving this include environmental sanitation, biodiversity conservation, poverty reduction, climate change mitigation, forest management, water resources management, disaster mitigation, effective waste management, planned industrial development, prevention of fire outbreak, land use control as well as citizen participation in environmental management and planning. Others are sustainable farming and agro-forestry, effective management of

environmental problems, livestock and wildlife management, removal of pollutants, youth empowerment, conservation of energy, natural resources management, public and private sector in government, wildlife conservation as well as application of contemporary techniques in environmental monitoring and management.

9. SUMMARY

This paper examines the meanings of environment, environmental education, and reasons for environmental education, environmental challenges, aim and objectives of environmental education, ways of promoting environmental education, benefits of environmental education, as well as the grand design of overcoming environmental challenges for the attainment of sustainable development. Environmental degradation is caused by natural factors and human greed for lavish consumption, ignorance of the working conditions of the environment as well as deliberate degradation of the environmental amenities. To this end, this paper concentrates on anthropogenic challenges like environmental pollution, fire and the related issue of bush burning, climate change, ozone layer depletion, green house effect, biodiversity loss, deforestation, as well as waste disposal problem.

The demand for environmental resources is ever-increasing because of heightening population pressure and advancement in science and technology. A number of environmental discomforts have emerged from meeting man's needs like clothing, shelter, food and other comforts of life. The problems are compounded by human greed for lavish consumption and inadequate environmental education most especially in the developing countries of the world. The consequences of environmental problems include aesthetic destruction, human health problems, decline in the desirable elements of the environment, property damage, stress and anxiety, as well as declining real estate values.

Combating environmental challenges requires the knowledge of the working system of the environment and the understanding of the negative consequences of environmental challenges. A possible means of achieving this is environmental education. There is the necessity to be well informed about the meaning of the environment, the significance of the environment, man-environment interrelationships, and to mitigate the negative consequences of environmental challenges.

This paper has demonstrated that the quality of our lives depends completely on the health and vigor of the various components of the environment. Thus, the knowledge about the environment is an agent of

change and a step towards community empowerment. People must be aware of the possible consequences of their interrelationships with the environment. Effective access to environmental education promotes responsible behavior towards the environment. Furthermore, environmental education enhances accountability and improves the capacity to monitor the environment. As such, it helps us to identify alternative courses of action. Above all, it provides new opportunities for environmental awareness, biodiversity conservation, as well as environmental hazards and risks management.

10. RECOMMENDATIONS

The attendant problems that result from man-environment interaction are multi-dimensional. The environment is being degraded by man due to lack of recognition of the ecological services it provide and the naive knowledge of the consequences of environmental degradation at local and international levels. The problems are further aggravated by poverty and rapid human population increase. The discomforts that result from man-environment interaction can be resolved through well-conceived environmental education programme. Such programme should lay emphasis on preventive measures of environmental problems than the curative dimensions. It should be concerned majorly with the improvement of environmental quality. Environmental literacy should engage in problem solving, responsible decision making and sustainable development.

Environmental education should provide information in a comprehensive way to the people. It should foster local understanding and international cooperation. People should be informed of all the legislations that are guiding the use and abuse of the environment. Environmental managers, future leaders, planners, and other decision makers should lay emphasis on transparency and accountability in natural resources management, protection of water resources, prevention of animal straying, soil conservation, prevention of bush fires, as well as climate change mitigation.

As suggested by Dambaki (2004) there is the need to embrace environmental education. To this end there should be mass mobilization of individuals, schools, companies, organizations, traditional rulers and their communities. Government at all levels (federal, state and local) should be involved. They should organize lectures, public exhibitions, symposia, seminars and workshops on environmental issues. Non-governmental organizations and community based organizations should help to consolidate

environmental education by promoting more equitable, sustainable and effective management and use of environmental resources.

Environmental education should focus on environmental impact assessment, conservation of wild species for recreation and tourism, improved agricultural practices, integrated pest management, soil conservation, poverty reduction, as well as preservation of medicinal plants for health care. Other areas where environmental education is required are conservation of energy, planned industrial development, environmental sanitation, pollution control, land use control, waste management, and recycling. Moreover, there should be reform in education system to promote environmental education, governance and eco-politics. Such a reform should educate people on how to rely on alternative income generating projects rather than the total reliance on the environment.

11. CONCLUSION

This paper has demonstrated the importance of the environment to human health and well-being, as well as the socio-political, economic and aesthetic damage that can emanate from poor environmental practices. The paper has revealed that the qualities of our lives depend on the health and vigor of the web of living things and non living things that constitute the environment. This necessitates the preservation of the resources of nature for the present and future generations. Nevertheless, the major challenges of preserving the environment are ignorance, poverty, population pressure and deliberate destruction of environmental resources. Environmental challenges range from local to global. They emanate from man-environment interaction, natural factors, as well as the application of science and technology. Education is very important when we are considering issues relating to the environment. The major objectives of environmental education are to create awareness, knowledge, attitudes and participation in environmental management and monitoring

Environmental education is multi-disciplinary in nature. It cuts across both formal and informal learning process. It is concerned with the improvement of environmental quality. It recognizes the value of local knowledge, perception and practices in ensuring environmental sustainability. Environmental education is about the advocacy for clean and hygienic environment. It is a decision making tool which helps us in the identification of alternative courses of action. Moreover, it enhances accountability and improves the capacity to manage and monitor the environment well. It encompasses the governance of nature and conservation of biodiversity. For

short, there is the need to warmly embrace environmental education, for the attainment of the most desired sustainable development.

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