

ROLE OF NATURE EDUCATION IN ENHANCING CLIMATE RESILIENCE IN NIGERIA

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Abstract

Nature Education is vital for enhancing climate resilience, preserving biodiversity and achieving environmental sustainability in Nigeria. This study identifies the numerous benefits of nature and how nature can be factored in development planning for sustainable environment in Nigeria. Through literature review and participant observation, this study further gives information about the usefulness and importance of nature education research to our educational system as a means towards enhancing climate resilience, preserving biodiversity and achieving environmental sustainability in Nigeria. It concludes with the clarion call for in-depth nature education research towards enhancing climate resilience for environmental sustainability in Nigeria.

Keywords: Biodiversity, Climate Change, Nature Education, Research, Sustainability.

1. INTRODUCTION

Climate change is one of the global issues which we must of necessity tackle with alacrity in order to prevent a global warming too unbearable for the survival of mankind. The impacts of climate change are being felt globally but most especially in the developing countries like Nigeria (Anabaraonye, Okafor & Hope, 2018). Climate change affects individual species and the way they interact with other organisms and their habitats, which alters the structure and functions of ecosystems and the goods and services that natural systems provide to society. Understanding the direction and magnitude of ecological responses caused by climate change allows human communities to better anticipate these changes and adapt as necessary (Anabaraonye, Okafor, Ewa, & Anukwonke, 2021). Climate change has a major effect on the availability of numerous earthly resources, especially water that supports the life of the earth. Local climate conditions, such as rain, temperatures and the sun and the wind, along with the locally adaptable plant diversity, cropping systems and soil quality, can optimize food production so long as plants can be regulated by plant conditions (Shukla et al, 2021). As humans put increasing pressure on the planet, using and consuming more resources than ever before, we risk upsetting the balance of ecosystems and losing

biodiversity(Hancock,2022). Nature education is identified through this study as very vital to enable individuals, communities and institutions in Nigeria and beyond to understand the role of biodiversity preservation in enhancing climate resilience in Nigeria.

2. METHODOLOGY

This paper examined current progress with “the role of nature education in enhancing climate resilience in Nigeria” through existing literature review and data collection from relevant agencies. The main purpose of this research work was to survey theoretical backgrounds and previous studies on “the role of nature education in enhancing climate resilience in Nigeria” and the current progress with the implementation of these strategies in Nigeria and its role in enhancing climate resilience and ensuring sustainable development in Nigeria.

3. WHAT IS NATURE EDUCATION?

Nature Education is generally named with similar terms, for example, place-based education, environmental education, outdoor education, and environment-based education” (Louv, 2008). According to Keleş et al. (2010), nature education is aimed at recognizing nature in natural environments and making use of what nature offers as educational subjects, materials, and tools. In nature education, it is essential to use what nature offers as educational materials (Keleş, 2011). Nature education is based on the idea that students learn by living and dealing with authentic examples and models offered by nature so that learning will be more permanent. Studies on nature education have attracted attention as a result of field studies conducted in England and Australia (Strom,1980). In recent years, nature education has been particularly encouraged by state institutions and ministries of education. During nature education, teachers can use school gardens, national parks, museums, art galleries, historical and cultural sites, and picnic areas. Kıyıcı et al(2014) emphasized that practical activities performed during nature education facilitate associating learning with real life. Morgan et al. (2009) argued that outdoor activities are instrumental in unlocking individuals’ creative potential.

1.1. THE ROLE OF NATURE EDUCATION IN ENHANCING BIODIVERSITY AND CLIMATE RESILIENCE IN NIGERIA

Nature education has been discovered to play a great role in enhancing biodiversity and climate resilience for sustainable development in Nigeria. The most successful way of promoting swift improvements required for human populations to respond to future climate change is by maintaining biodiversity on all levels, from genes to biomes(Shukla et al,2021). Climate change worsens the impact of other stressors on nature and our wellbeing. Humans have overfished the oceans, cleared forests, polluted our water sources, and created a climate crisis. These actions are impacting nature and biodiversity around the world, from the most remote locales to our own backyards. Even the most important biodiversity hubs around the world are not immune from human pressures. Nigeria is a nation rich in biodiversity however climate change now poses as a threat to her rich heritage. Nigeria’s climate has been changing which is witnessed in: variable rainfall, rise in sea level and flooding, increases in temperature, drought and desertification, land degradation, deforestation, more frequent extreme weather events, affected fresh water resources and loss of biodiversity. There is a great need therefore, to adapt and mitigate the impacts of climate change on biodiversity in Nigeria through nature education to achieve sustainable development.

4. THE ECOLOGICAL INTERACTION BETWEEN CLIMATE CHANGE AND BIODIVERSITY IN NIGERIA

There is an established dynamic interaction between climate change and biodiversity (ecosystem services and adaptation). Climate could change as a result of natural factors and or human activities. When this occurs, it completely alters biodiversity, agricultural production, food security, and the ecosystem. This has resulted in the migration, extinction and possibly death of endemic species of fauna and flora. The impact of climate change on biodiversity cannot be over-emphasized. Biodiversity reacts in diverse forms in response to a changing climate. However, changes in climatic conditions differ between continental and oceanic environments as well as the effects will differ greatly between different species of plants and animals (Crawfor, 2005). Climate change is already having an impact on biodiversity, and is projected to become a progressively more significant threat in the coming decades. Loss of Arctic sea ice threatens biodiversity across an entire biome and beyond. The related pressure of ocean acidification, resulting from higher concentrations of carbon dioxide in the atmosphere, is also already being observed (UN's Global biodiversity outlook, 2010). Nigerians appreciate nature and biodiversity in different ways. The nation's biodiversity constitutes the source of food, raw materials, wide range of goods and services and genetic materials for agriculture, medicines and health-care support, domestic and commercial products, aesthetics and cultural values. These biodiversity also provides ecosystem services that improve the value and knowledge about life. The value of biodiversity to Nigerians is closely linked to the wide range of the various ecosystems found in areas such as Guinea, Sahel, and Sudan Savanna which are rich in wildlife and timber product, Niger delta with diverse sea food sources, southern Nigerian with rainforest belt, providing a huge base for food resources among others (Nigeria Fifth National Biodiversity Report, 2015). Natural resource scarcity for livelihood support resulting from climate change is evident in many local communities in Nigeria. Biodiversity in Nigeria has been greatly impacted upon by climate change with resultant decline in specie population as they are unable to adapt to the constant change in climatic conditions; hence an increase in biodiversity loss. Areas that were once rich in species diversity and services for life support systems are faced with losses. The interaction between organisms and their local environment has been tampered with, reducing survival and reproduction and posing serious challenge in the distributions of species across geographic regions in the country(Nigeria Fifth National Biodiversity Report, 2015)

5. THE THERAPEUTIC AND SOCIO-ECONOMIC BENEFITS OF NATURE EDUCATION

Lakin (2006) highlighted that outdoor learning activities are fun and stimulating and positively influence students' attitudes, values, and beliefs; thus, these experiences are remembered for a long time. Nature education has been discovered to have positive therapeutic, psychological and socio-economic effects on humans thereby enhancing good health and well being. Nature education further enables us to see how best to preserve our biodiversity and ecological systems. Nature education also goes a long way to enhance climate resilience and biodiversity for sustainable development in Nigeria. Furthermore, Mind(2023) identified that nature can benefit one's mental health in the following ways:

- a) Improve your mood.
- b) Reduce feelings of stress or anger.
- c) Help you take time out and feel more relaxed.

- d) Improve your physical health.
- e) Improve your confidence and self-esteem.
- f) Help you be more active.
- g) Help you meet and get to know new people.
- h) Connect you to your local community.

6. CONCLUSION AND IMPLICATIONS

The impact of climate change is greatly felt on biodiversity and soil fertility in Nigeria (Anabaraonye, Okafor, Ewa & Anukwonke, 2021) which affects the sustainable economic growth of the nation. Most of the forest reserves which are part of nature established by the Nigerian government for conservation of forest resources have been seriously neglected and underdeveloped in terms of investment and management (Pelemo, Akintola, Temowo, Akande, and Akom, 2011). The impacts of climate change are expected to exacerbate the impacts of human pressure on biodiversity. There is therefore an urgent need to educate farmers and fishermen in Nigeria especially in rural areas on the impacts of climate change and ways to adapt and mitigate for sustainable development (Anabaraonye, Okafor & Hope, 2018; Anabaraonye, Okafor, & Ikuelogbon, 2019). Education is an essential element of the global response to climate change. Nature education is therefore recommended as a vital tool in every community, city, campus and company in Nigeria in order to help them appreciate the beauty and wonders of nature as well as the role nature plays in enhancing climate resilience for environmental sustainability.

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