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Benjamin Anabaraonye
Institute of Climate Change,
Energy and Environment
Studies, University of Nigeria,
Nsukka, Nigeria

Okon E Okon
Department of Arts
Education, Faculty of
Education, University of
Nigeria, Nsukka, Nigeria

Samuel IC Dibia
Department of Human
Kinetics and Health
Education, University of
Nigeria, Nsukka, Nigeria

Uloma Onwuzurike
Department of Social Science
Education, University of
Nigeria, Nsukka, Nigeria

Nzemeka C Olisah
Department of Physics and
Industrial Physics, Nnamdi
Azikiwe University, Awka,
Nigeria

Beatrice O Ewa
Institute of Climate Change,
Energy and Environment
Studies, University of Nigeria,
Nsukka, Nigeria

Corresponding Author:
Benjamin Anabaraonye
Institute of Climate Change,
Energy and Environment
Studies, University of Nigeria,
Nsukka, Nigeria

Climate change education and multi-stakeholder partnership projects to scale up climate resilience in Africa

Benjamin Anabaraonye, Okon E Okon, Samuel IC Dibia, Uloma Onwuzurike, Nzemeka C Olisah and Beatrice O Ewa

Abstract

There is growing evidence that many developing countries in sub-saharan Africa are experiencing climate disasters that threaten the well-being of people and the environment. The resulting climate shocks and environmental changes are adversely impacting the economic livelihoods, health and water and food security of the region's most vulnerable populations. There is therefore great need to educate, finance and scale up climate resilience projects in Africa through multi-stakeholder partnerships. Multi-stakeholder partnerships are increasingly being utilized by universities and various institutions for educating communities, pooling the economic and technical resources needed to finance and scale up innovative climate resilience projects in developing countries in Africa. This study examines some innovative climate resilience projects being carried out by universities and various other educational institutions through multi-stakeholder partnerships in Africa. It further recommends the need for more intense research by various universities in Africa and climate change education across communities and institutions in Africa in order to achieve sustainable development nationally, regionally and globally.

Keywords: Africa, climate change, education, partnerships, resilience, sustainable development

Introduction

The Intergovernmental Panel on Climate Change defines climate change as statistical variations that persist for an extended period, typically decades or longer. The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as the "adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (IPCC 2001) [19]. Climate mitigation is any action taken to eliminate or reduce the long-term risk and hazards of climate change to human life, property and the society. The International Panel on Climate Change defines mitigation as: "An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases" (IPCC 2001; GGW, 2018) [19, 20]. Climate change poses an immediate and long-term threat to our environment, our people and our planet. Waste recycling, tree planting activities and the use of renewable energy would be a promising solution for promoting sustainable development, as well as for addressing climate change, by reducing environmental impacts, enhancing energy security, and providing various developmental co-benefits, such as job creation and capital investment in green industry (Anabaraonye, Amaechi, Okolo, Adeniyi & Nwobu, 2022; ADB, 2014) [2, 8]. Climate resilience is the capacity for a socio-ecological system to absorb pressures and maintain function in the face of external stresses imposed upon it by climate change (Folke *et al.*, 2010; Moench, 2014; Shamsuddin, 2020) [17, 21, 29]. It also includes the ability and capacity of an ecosystem to adapt, reorganize, and evolve into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate impacts (Carpenter *et al.*, 2001; Folke, 2006) [12, 16]. There is growing evidence that large swaths of sub-Saharan Africa are experiencing climate disasters that threaten the wellbeing of people and the environment (Barrios *et al.*, 2006; Coulibaly *et al.*, 2020; Rigaud *et al.*, 2018) [11, 13, 27]. Extreme floods, sea-level rise, and accelerated desertification are among the myriad climate risks spread across the region (Hedlund *et al.*, 2018; White, 2012) [18, 36].

The resulting climate shocks and environmental changes are adversely impacting the economic livelihoods, health, and water and food security of the region's most vulnerable populations (Baarsch *et al.*, 2020; Tumushabe, 2018) ^[9, 31]. Furthermore, as a region comprising mostly developing countries, these extreme weather events have the potential to set back socio-economic development and climate adaptation progress experienced by some African nations in the last decade (Schipper *et al.*, 2020) ^[28]. In response to these challenges, several stakeholders are working together strategically to enhance climate change education and climate resilience from the grass roots to the transcontinental level.

Methodology

Data used for this study is derived from published works including academic journal articles, conference papers, textbooks and internet materials. The researchers gathered a lot of materials for the research but summarized the characteristics of the papers that centered more on "climate change education and multi-stakeholder partnership projects to scale up climate resilience in Africa". This enabled the researchers to generate the synthesis of various researchers' views on the subject matter.

Understanding climate change education for sustainable development in Africa

The term 'Sustainable Development' has been popularized by the World Commission on Environment and Development (WCED), in its 1987 report entitled, 'Our Common Future'. The commission defined sustainable development as 'the development that meets the needs of the present without compromising the ability of future generation to meet their own needs' (WCED, 1987) ^[35]. Sustainable Development Goals (SDGs), which replaced the Millennium Development Goals (MDGs) were launched in September 25, 2015. The SDGs are 17 and have 169 targets, of which SDG 4 is on quality education which is critical to this study. This is because achieving quality education will serve as an enabler and a link to the achievement of other SDGs (Offorma & Chukwuma, 2017) ^[24]. Education at all levels and in its entirety, constitutes an important instrument for tackling virtually all global issues (Edor, 2014) ^[14]. Education being an agent of change is a vital tool for the objectives of SDGs, especially, quality education and lifelong learning in Africa. Lifelong learning which springs from the quest for continuous education can be formal or informal, online or offline. Lifelong learning is about meeting the diverse and context specific learning needs of all age groups including the acquisition of basic literacy technical skills through both formal education and effective alternative pathways to learning (Offorma & Chukwuma, 2017) ^[24]. Climate change is a global problem, and it requires solutions on a global scale. Appropriate and urgent actions must be taken both by individuals, institutions and the government to deal with climate change issues in order to ensure a sustainable future for her citizens in Africa (Anabaraonye, Okafor & Eriobu, 2019) ^[4]. Education is an essential element of the global response to climate change. Climate change education is therefore vital in every community in order to prepare us for climate change impacts and to learn how to adapt and mitigate effectively (Anabaraonye, Nji & Hope, 2018; Anabaraonye, Okafor & Hope, 2018) ^[3, 1]. Through its Climate Change Education for

Sustainable Development programme, the United Nations Educational, Scientific and Cultural Organization (UNESCO) aims to make climate change education a more central and visible part of the international response to climate change. The programme aims to help people understand the impact of global warming today and increase "climate literacy" among young people. It does this by strengthening the capacity of its Member States to provide quality climate change education; encouraging innovative teaching approaches to integrate climate change education in schools and by raising awareness about climate change as well as enhancing non-formal education programme through media, networking and partnerships (UNESCO, 2015) ^[33]. Young people at every stage of their education should be informed about the dangers of environmental degradation and excessive use of fossil fuels as well as the prospects of renewable energy. Educators are therefore urged to include climate change education, environment and energy-related topics in the primary and secondary school curricula (UNICEF, 2015) ^[34]. Climate change education will go a long way to help scale up climate resilience in Africa and this is presently being achieved through multi-stakeholder partnerships. These collaborations create opportunities and synergies for sharing information, developing ideas, problem solving, and the finances needed to implement, scale up, and sustain climate-smart initiatives nationally and regionally (Mulgan *et al.*, 2007) ^[23]. Therefore, multi-stakeholder partnerships represent an important strategy in building climate resilience, especially in severely impacted geographies that might also be experiencing structural constraints. Relatively successful multi-stakeholder partnerships for building climate resilience can be found in different countries around the world, both in industrialized and developing ones (Bäckstrand, 2006; Elia *et al.*, 2020) ^[10, 15].

Multi-stakeholder partnership projects to scale up climate resilience in Africa

Multi-stakeholder partnerships are increasingly being utilized for pooling the economic and technical resources needed to finance and scale up innovative climate resilience projects in developing countries (Morsink *et al.*, 2011; Palazzo *et al.*, 2017) ^[22]. A good example of the multi-stakeholder partnership projects to scale up climate resilience in Africa is the world environment day events being held across states and countries in Africa and around the world in June annually. The World Environment Day is usually commemorated with a plethora of events and activities such as seminars, tree planting activities, musicals and poetry recitations, street walk, awareness creation on environmental issues, etc. all through the week long. It is a global platform for inspiring positive change especially as it relates to the issues of climate change and the environment (UNEP, 2022) ^[32]. With over 150 countries participating, this UN international day engages governments, businesses, civil society, schools, celebrities, cities and communities, raising awareness and celebrating environmental action. Partnerships also thrive where there are specific and welldefined project aims, objectives, location, and deliverability timeframes, and when expected outcomes are at least proportional to the amount of resources invested. In such situations, stakeholders are better able to monitor and evaluate project achievements, adjust resources where necessary, build trust, and mitigate coordination challenges

(Sun *et al.*, 2020) [30]. The United Nations also recognizes that Individuals can be drivers of change through their support for businesses and governments in their quest to achieve environmental sustainability. Each year, World Environment Day is hosted by a different country where the official celebrations take place (UNEP, 2022) [32]. The United Nations Environment having declared the theme “Time for Nature” for World Environment Day 2020 presented a challenge and an inspiration. The theme challenges us to treasure the beauty of nature, take action using both science and arts to inspire global actions towards environmental sustainability. Thus, the Benjy Poetry And Music Global Concepts organized an event on the 5th of June, 2020 being the World Environment Day 2020 featuring the recitation of inspiring climate change poetry by outstanding poets, seminars by climate change professionals and networking opportunities for the youths in Anambra State, Nigeria (Anabaraonye, 2020) [5]. The impact of the World Environment Day 2020 event was profound as many of the participants attested through their testimonials which were published online. The Benjy Poetry and Music Global Concepts is notably one of the new companies in Nigeria which among other things is very passionate about climate change education, adaptation and mitigation for global sustainability (Anabaraonye, Nji & Hope, 2018) [3]. This passion to see the environment kept clean and green has led to a lot of study and research work on climate change education, adaptation and mitigation. This passion has also inspired multi-stake holder partnerships with various institutions and investors towards scaling up climate resilience in Nigeria and in Africa. Furthermore, The United Nations Environment having declared the theme “Only One Earth” for World Environment Day 2022 presented a greater challenge and an unprecedented opportunity for the youths all around the world. Thus, the Benjy Poetry And Music Global Concepts in multi-stake holder partnership with the Institute of Climate Change Studies, Energy and Environment, University of Nigeria, Nsukka; and Hamburg University of Applied Sciences, Germany organized an educational event on the 8th of June, 2022 to commemorate the World Environment Day 2022 featuring the recitation of inspiring world environment day poetry, seminars by climate change professionals and networking opportunities for the youths from around the world (Anabaraonye, 2022a; Anabaraonye, 2022b) [6, 7].

Case study: Testimonial of a two day climate change seminar event at unn by Dr. Okon. E. Okon (JP)

On the 24th and 25th October, 2018, A Two Day Seminar event on the Theme: “*Climate Change Education for Sustainable Development in Nigeria*”, was held at the University of Nigeria, Nsukka, Nigeria. This event was organized by Galaxy Education and Research Group (GERG) in collaboration with a reputable world class Environmental expert, Benjy Poetry and Music Global Concepts Group. The Programme began with a welcome address by the Vice-Chancellor of the Nigeria’s First Indigenous University (University of Nigeria, Nsukka), Prof. Benjamin Ozumba represented by the Deputy Vice-Chancellor (Administration) Prof. Charles Igwe. It was followed by an address by the co-coordinator of the programme – Prof Queen Joy Nwoji. The Vice Chancellor appreciated the efforts of the research group in organizing the seminar which is meant to create awareness on climate

change and global warming. He added that the seminar topic was very apt and would not have come at a better time than now. The Vice-Chancellor then pledged his support for the group in its attempt to create a better, healthy environment for global sustainability. Then came the paper presentation segment with the first paper titled: Climate Change Education for Sustainable Development in Nigeria, by Prof. Unachukwu Godwin and moderated by Prof. Ann Okolo. Prof. Unachukwu Godwin, is currently director ” Centre for Climate Change” and was the director of Energy Centre at the University of Nigeria, Nsukka for years and his performance at the centre is legendary. A world class Energy and Environmental activist, scholar and researcher, Prof. Unachukwu went down memory lane to how the environment was bastardized, the pathetic situation we have found ourselves and the remedy/way forward for a better and healthy world (Okon, 2019) [25].

Next paper titled

The Benefits and Opportunities in waste & Plastic Recycling Development, was presented by Mr. Alex Akhigbe – the Chief Environmental Officer of African Clean-up initiative, Lagos. The paper was moderated by a Professor of Science Education, Prof. Florence Ezeudu. Mr. Alex was so down to earth with facts in his paper presentation that showed enormous benefits in the recycling chain of plastics and other wastes. He cited companies and individuals that have broken-even just by venturing into recycling. He reiterated that two main things will happen if one ventures into recycling. One, you save our environment from impact of climate change. Two, you are financially empowered, even with minimal efforts.

The third paper titled

Climate Change; mitigation and Human Health in Nigeria, was presented by a medical doctor and public health officer, Dr. Chisom Okoye. The paper was moderated by Prof. Queen Joy Nwoji. Dr. Chisom Okoye vividly x-rayed the effects of climate change on our health and its impact on man and the environment. She proffered several solutions to mitigate the impact of global warming in Nigeria and the world which include reduction in emission of fumes and use of afforestation. Dr. Chisom Okoye demonstrated her prowess in public health vis-à-vis her social community activism, considering her training in the United States (Okon, 2019) [25]. Day Two had the presentation by Dr. Chioma Ajator, titled: Climate change, adaptation and Human Health in Nigeria. Dr. Ajator is a public health practitioner and is the President of women physicians in Anambra State. She spoke extensively on the climate change, the need for adaptation and its consequences on human health. Her wealth of experience as a leading public health practitioner was brought to bear as she used very practical examples in illustrating her views.

The next paper was presented by Ambassador Benjamin Anabaraonye, titled: Children and Climate Change Education in Nigeria. The paper was moderated by Prof. Florence Ezeudu. Being a poet, musicologist and environmental activist, Dr. Benjamin x-rayed the concept of climate change in Nigeria, Africa and the globe, and narrowed it down to its effects on children. In trying to illustrate his points to the very enthusiastic academic audience, Dr. Benjamin highlighted the effects of global warming to include prevalence of several diseases like

cholera, water- borne diseases, malnutrition, starvation and the ever increasing mortality rate which Nigeria is second in the world. The Poet and environmentalist therefore admonished all participants to be agents of change and engage vigorously in this “emergency” in trying to salvage the earth, children and its people from the claws of climate change (Okon, 2019)^[25].

The final paper was presented by Mrs. Beatrice Ewa of the Energy centre, University of Nigeria, Nsukka. The paper was titled: *Flooding and food security in Nigeria*. The paper was moderated by Dr. Okon, Professors Queen Nwoji and Ann Okolo. Mrs. Ewa spoke extensively on the impact of flooding and how it affects our food supply system. The recent flooding in Nigeria that claimed several lives, displaced millions of Nigerians and swept away food items, farmlands, submerged residential, public buildings and worship centres was highlighted (Okon, 2019)^[25].

There was also a fabulous poetry presentation by Ambassador Benjamin Anabaraonye along with a beautiful presentation by Ohaju Obed Ifeanyi, a student and environment expert from University of Benin, Edo State. After all the presentations, there was a “question and answer” session. Contributions were also made by the participants who discussed the sub-themes in groups. A communiqué was raised at the end of the seminar. The seminar was truly a huge success. A big congratulations to the organizers for the great work done!!! (Okon, 2019)^[25].

Recommendations

1. It is our recommendation that the immense benefits of multi-stakeholder partnerships should be well recognized and used as valuable tools in scaling up climate resilience for sustainable development in Africa.
2. Climate change education should be included in the curricula for both primary schools, secondary schools and even our Universities in Africa because of the many benefits which we have listed above.
3. Climate change poems and songs should be regularly featured in special radio and television programmes, jingles, social media like youtube, linkedin, facebook and twitter, etc. Apart from providing entertainment, they also provide education on environmental issues to individuals and communities in Africa.
4. Through multi-stakeholder partnerships, environmental leadership summits and specialized climate change seminars can be hosted regularly by climate change professionals and environmentalists across various communities in Africa. This can be done monthly or annually which will in turn enable us to achieve our sustainable development goals.
5. Our youths should be encouraged towards creativity and excellence in acquiring relevant artistic skills in poetry and music which can be channeled towards climate change education, adaptation and mitigation for sustainable development.
6. Through the impact of multi-stakeholder partnerships, unemployed and underemployed youths in Africa should be trained and financially empowered through giving of loans and grants to enable them to leverage on the green entrepreneurial opportunities in climate change adaptation and mitigation for global sustainability.
7. There is need for more intense research in the field of climate change education and multi-stakeholder partnerships across communities and institutions in Africa in order to achieve sustainable development.

Conclusion

Through this study, it is clearly observed that multi-stakeholder partnerships are increasingly being utilized for educating communities and institutions on climate change issues; pooling the economic and technical resources needed to finance and scale up innovative climate resilience projects in developing countries in Africa.

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