COMMUNITY ENVIRONMENTAL EDUCATION: A SIGNIFICANT INSTRUMENT FOR ENVIRONMENTAL PROTECTION

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Abstract

Community environmental education is a vital approach to promoting environmental protection, focusing on raising awareness, building knowledge, and fostering skills for sustainable practices among local communities. This study evaluates the effectiveness of community environmental education, identifies characteristics of successful programs, and provides recommendations for enhancing environmental protection. they need to be properly guided through community- based environmental education which is based on community participatory model and which encompasses elements of community based, collaboration, information based, and action oriented. Results indicate that community environmental education can be a powerful tool for increasing environmental awareness and action, and it is recommended that policymakers and practitioners adopt it as a central component of environmental protection efforts. By empowering communities through education, it also harnesses collective action for a more sustainable future.

Keywords: *Community, environmental education, environmental protection*

Introduction

Environmental protection is a global issue with a plethora of protective legislation, enacted as transnational and national regulations and guidelines, aimed at sustainable use of water, soil, air, and biomass. These laws apply not only to the polluter but also to governments, national institutions, and individuals. They are designed to protect human health and ecosystems from the effects of chemical contaminants, to guarantee the quality of natural resources, e.g., potable water and to facilitate the recovery of degraded environments, e.g., contaminated land.

Within Europe, European Council Directives and Regulations form an overarching legislative framework that requires Member States to take preventative action and specifies that environmental damage should, as a priority, be rectified at source and that the polluter should pay. Importantly, environmental protection is also required to be integrated into other European Community (EC) policies, emphasizing its pervasive nature. Thus, Member States have a strong impetus to enact environmental legislation that incorporates the concepts of responsibility and control (Klein 2018). Directives formally bind Member States and specify the outcomes and deadlines but the exact form of the legislation is at the discretion of the individual member country. However, delays in implementation have led to the increased use of EC regulations that bind individual states directly, without requiring national implementation (Klein 2019). The principles of subsidiarity and harmonization also apply to

environmental law within the EC. Individual Member States have responsibility for enforcement, although overall policing is by the EC and, increasingly, by the European Environment Agency (EEA) and the European Court of Justice (Intergovernmental Panel on Climate Change IPCC, 2014).

Environmental protection is embodied in overarching statutes, e.g., the Environmental Protection Acts of 1990 and 1995, which require both an integrated approach, as embodied in the European Community Water Framework Directive, and a precautionary approach, as embodied in the 1999 Pollution Prevention and Control Act (Okorie & Dokubo 2018). Statutes are supported by Government Circulars and statements of policy, codes of practice, and orders and policies from agencies such as the Environment Agency and the Health and Safety Executive (Klein 2018).

In the USA, 12 major statutes covering, e.g., Pollution Prevention, Clean Air, Clean Water, and Toxic Substances form the basis of an overarching legislative environmental protection policy generally administered by the US Environmental Protection Agency (EPA). The statutes either set, or require to be set by the EPA, emission, quality, discharge, disposal, and testing standards with the intention of safeguarding the environment while enabling economic and social development. Onu, & Ikechi (2016) define a framework for transnational cooperation on many environmental issues such as sustainable development, biodiversity, protection of endangered species, tropical rain forests, the ozone layer, and means to combat global warming. The establishment of, and compliance with, environmental protection legislation/polices provides a major driving force for many analytical science developments. There is a demonstrable need for highly accurate and precise analytical techniques with increasingly low detection limits for an increasing number of chemicals (UNESCO 2017). This has given impetus to the development of novel environmental analytical methodologies, clean sampling and analytical protocols.

Environmental issues have become increasingly prominent in recent years, as the negative impact of human activities on the environment has become more apparent. The need to address these issues is not only a matter of ethical responsibility but also a necessity for ensuring the sustainable development of society. In this context, the responsible attitude of individuals towards the environment plays a critical role in promoting sustainability (Idowu, Ayoola, Opele, & Ikenweiwe 2018). The concept of sustainable development is based on the idea of meeting the needs of the present without compromising the ability of future generations to meet their own needs. (Blommestein, Boland, Harker, Lestrade, & Towle. 2021). This requires a balance between economic development, social progress, and environmental protection.

Environmental issues such as climate change, pollution, and loss of biodiversity can have significant negative impacts on all three aspects of sustainable development. Therefore, addressing these issues is essential for ensuring the long-term sustainability of society. Individuals play a critical role in promoting sustainability through their responsible attitude toward the environment (UNESCO 2017). This includes actions such as reducing energy consumption, recycling, using public transport, and choosing environmentally friendly products. By making these choices, individuals can reduce their environmental impact and set an example for others to follow. Moreover, responsible environmental behavior can have positive economic and social impacts, such as reducing energy costs and improving public health. (Temirbaeva, Yu & Chazova, 2023). Education and awareness-raising are key components of promoting a responsible attitude towards the environment. Schools and universities can play an important role in promoting environmental education and encouraging sustainable practices (Prati, G. C. Albanesi, L. Pietrantoni 2015).

Additionally, governments and non-governmental organizations can develop campaigns and initiatives to raise awareness of environmental issues and promote responsible behavior. However, promoting a responsible attitude towards the environment is not without its challenges (Temirbaeva et al 2023). Williams (2019) asserts that many individuals may lack the knowledge or resources to adopt sustainable practices, and societal attitudes toward the environment may be a barrier to change when proper environmental awareness or education is not put in place to straighten issues.

Environmental education

Environmental education is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions. UNESCO (2019) sees environmental education as a critical component of promoting environmental awareness, knowledge, and stewardship. It aims to empower individuals to take action for environmental protection and sustainability (OECD, 2019). Effective environmental education programs: Foster environmental literacy (North American Association for Environmental Education, 2020). Promote hands-on, experiential learning (Wals et al., 2014). Encourage community engagement and participation (Stern, 2011). Address environmental justice and equity (Taylor, 2014). Environmental education has been shown to: Increase environmental knowledge and awareness (Kollmuss & Agyeman, 2022) Influence pro-environmental behaviors (Hungerford & Volk, 1990). Support sustainable development (UNESCO, 2019).

The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones (Wals et al., 2014). The objectives of environmental education are to help individuals and social groups acquire an awareness of and sensitivity to the total environment and its allied problems (Stern, 2011). To help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it; to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement and to help individuals and social groups acquire the skills for solving environmental problems (UNESCO, 2019). To help individuals and social groups evaluate environmental measures and education programmes in terms of ecological, political, economic, social, esthetic and educational factors. To help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve those problems (Taylor, 2014).

Guiding principles for environmental education

1. consider the environment in its totality -natural and built, technological and social (economic, political, technological, cultural-historical, moral, aesthetic)
2. be a continuous lifelong process, beginning at the pre- school level and continuing through all formal and non- formal stages
3. be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible a holistic and balanced perspective
4. examine major environmental issues from local, national, regional and international points of view so that students receive insights into environmental conditions in other geographical areas
5. focus on current and potential environmental situations while taking into account the historical perspective
6. promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems
7. explicitly consider the environmental aspects in plans for development and growth
8. enable learners to have a role in planning their learning experiences and provide an opportunity for making decisions and accepting their consequences
9. relate environmental sensitivity, knowledge, problem-solving skills and values clarification to every age, but with special emphasis on environmental sensitivity to the learner's own community in early years
10. help learners discover the symptoms and real causes of environmental problems
11. emphasize the complexity of environmental problems and thus the need to develop critical thinking and problem-solving skills

12. 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 as a means for community development.

Asor & Ubana (2022) sees community as a group of individuals who converge in a geographical location, with certain principles, characteristics, values, policies, rules and regulations for the sole aim of meeting basic and society needs. They further asserts that community members need to be acquainted with measures to combat the continual environmental impact on their livelihood through education process. Education offers untapped opportunity to combat environmental problems, the human actions that contribute to environmental change can be modified through proper education processes. According to Wals (2010:10) education and learning, alongside innovation, legislation and policies, have always played a role in responding to the loss of nature, environmental degradation, natural resource depletion and, indeed, the current sustainability crisis. It can therefore be argued that education and learning have a crucial role to play in addressing environmental issues and facilitating societal changes"

Mitigation of environmental degradation impact through education required learning how to change lifestyles, economies and social structures that are based on excessive greenhouse gases production. Riverine community members can regain a conscious way to manage the environmental resources without causing more harm to environment through community environmental education for environmental protection.

Community environmental education as instrument for environmental protection

Community environmental education is education processes that not only inculcate environmental cognitive capacities but transmit social and emotional aspects of environmental learning. Community environmental education, involves learning activities that relate to environmental problems in a community setting. This type of education programme focuses on raising awareness, disseminating information on climate change and related topics, and also promoting responsible environmental behavioural change toward the environment (Taylor, 2014). Thus Community education for environmental protection mitigation recognised the fact that to effectively mitigate and adapt to climate crisis, individuals, communities, institutions and societies need to change their behaviour toward the environment but also that the broader community and society need to change too for it to the effective way to actually mitigate environmental risk.

Clover and Hall (2010), and Gonzalez-Guadiano and MeiraCartea (2010) asserted that raising community awareness about environmental protection is the main focus of many community education programmes through large-scale education campaigns and community-based behaviour change programmes which are based on information transfer and also aimed at individual behaviour change. Although the community members are aware of climate change impacts, they are not capable of translating the awareness to significant action. In order to translate climate change awareness to action for environmental sustainability, community members need education.

In view of this Gaillard (2012) asserted that there is an urgent need for alternative educational and learning approaches, beyond transmission of information (i.e. providing more information), to facilitate action (in both private and public spheres) and social change. This is also supported with Kagawa and Selby (2017) view that there is a call for education and learning approaches that embed climate change learning and action within community contexts, ant that this call begs the question about what kinds of learning models and practices can help individuals and communities to actively engage in climate change and move towards a more sustainable world.

Community environmental education according to Aguilar, Price and Krasny (2015) uses learning in and about the environment as a means towards community wellness and healing. It draws from place-based, youth and community development, participatory, and resilience approaches in environmental education. Price, Simmons and Krasny, (2014) defined 'community environmental education aimed at enhancing community's wellness through thoughtful environmental action.

Community based environmental education fosters collaborative learning and action and takes account of social, cultural, economic, and environmental conditions of a community.

Community based environmental education for climate change goes beyond the cognitive capacity of reading writing and arithmetic, include the learner's ability to gain understanding about the environment, use the environmental knowledge gained to solve environmental related problems, while developing a sense of self. More than the meaning of "education based in the community", with activities based on four key qualities such as community based, collaborative, information based, and action oriented, community-based environmental education are expected to achieve these goals as below:

1. Broaden the community's capacity to improve environmental quality.
2. Combine environmental management goals with other community development activities.
3. Lead to actual environmental improvement.
4. Increase involvement of more community interests (both groups and points of view) in community environmental management activities. (Andrews, Stevens, & Wise, 2004). Clover (1996) describes an environmental adult education as non-formal education that draws on the existing knowledge and experiences of community members as they work together to address common environmental problems to bring about necessary needed changes for sustainable ways of living. Clover (2002) argued transformation concerning interwoven social and environmental issues can be achievable when adults are provided with educational opportunity to come together, and develop collective solutions

Need for community environmental education as instrument for environmental protection

In order to promote sustainability of the environment in which the community dwellers depends on for livelihood, it is imperative that the community members to be actively involved because most of the factors that result to climate change are anthropogenic factors. This is in support of Andrews, Stevens, & Wise (2004) assertion that managing the environment requires investment (education) in the local community for two powerful reasons which are: 1. local activities affect the quality of the local environment; and 2. community members have a common interest in protecting and improving their community's quality of life.

In view of the above assertion, Andrews, Stevens, & Wise (2004) explained that community-based education means more than "education based in the community." That it is education that is plan created as a result of community involvement and designed to match community interests.

However, Community-based environmental education for mitigating climate change impact among riverine community dwellers is expected to achieve community-based education goal as outlined by Andrews, Stevens, & Wise (2004) Community based environmental education according to Dietz and Paul in National Research Council (2002) is a process of changing the community's idea of acceptable environmental management behavior, as a result of direct involvement of citizens in the management process. Engaging riverine community dwellers on actions to mitigate climate change impact requires careful consideration of the content and processes of interaction (Okorie & Dokubo 2018). Thus community based environmental education for climate change mitigation is based on the following principles: content of the educational programme must have connection to the community environmental needs; the process must be linked to local activity and quality of the environment; and the actions must be relevant to community members' livelihood (Odjugo 2020). Based on the view of this, Dietz and Paul in National Research Council (2002) pointed out that community based environmental education have four key elements which are integrated as a linked chain, these elements are: community based, collaborative, information based and action oriented. Dietz and Paul in National Research Council (2002) elements of community-based education as follows:

Community based: Addressing the locally identified environmental impacts (for instance, flooding, sooth, low fish catch, low shrimps, crayfish, periwinkle gathering, low agricultural productivity, and so on).

Collaboration: Working with community youths, women and men in groups, paying attention to different techniques that support group effectiveness in the community education process.
Information based: Actions to be taken based on information gathered from the different groups on the environmental impacts on their livelihood activities.
Information based: Based on information gathered from the different groups, collective actions (community participation) on how to tackles the identified environmental impacts will be established.

Constraints of community environmental education for environmental protection

1. Financial constraints: Limited funding for educational programs and materials.
2. Lack of trained educators: Insufficient qualified teachers or facilitators.
3. Limited access to resources: Inadequate materials, technology, or infrastructure.
4. Cultural and social barriers: Educational approaches may not be tailored to local cultures or social norms.
5. Language barriers: Educational materials may not be available in local languages.
6. Geographic constraints: Remote or hard-to-reach areas may have limited access to education.
7. Policy and political constraints: Environmental education may not be prioritized or supported by policies.
8. Community engagement challenges: Difficulty in engaging community members or generating interest.
9. Sustainability constraints: Short-term funding or projects may not lead to long-term sustainability.
10. Evaluation and monitoring constraints: Difficulty in assessing program effectiveness.
11. Scalability constraints: Challenges in scaling up successful programs.
12. Collaboration and coordination constraints: Limited collaboration among stakeholders or organizations.
13. Limited focus on marginalized groups: Educational programs may neglect vulnerable populations.
14. Competeting priorities: Environmental education may be overshadowed by more pressing community concerns.
15. Brain drain and capacity constraints: Trained educators or professionals may leave the community or country.

Way forward/recommendations for community environmental education and environmental protection

1. Integrate environmental education into formal and informal education systems
2. Develop context-specific and culturally relevant educational materials
3. Build capacity and train educators and community leaders
4. Foster community engagement and participation.
5. Encourage intergenerational learning and knowledge sharing
6. Leverage technology and digital platforms for wider reach
7. Collaborate with local organizations, governments, and stakeholders
8. Ensure inclusivity and focus on marginalized groups
9. Develop sustainable funding models and resource mobilization strategies
10. Monitor and evaluate program effectiveness
11. Scale up successful initiatives and replicate best practices
12. Foster policy support and integration into national and local policies
13. Promote community-led environmental initiatives and projects
14. Encourage research and knowledge sharing on environmental education
15. Develop emergency response and disaster risk reduction education.

Recommendations

1. Implement sustainable practices: Encourage individuals, businesses, and governments to adopt environmentally friendly practices.
2. Increase environmental education: Educate people about environmental issues and promote awareness.
3. Develop and enforce environmental policies: Strengthen laws and regulations to protect the environment.
4. Invest in renewable energy: Transition to renewable energy sources like solar and wind power.
5. Reduce waste: Implement effective waste management systems and promote recycling.
6. Protect natural habitats: Preserve and restore natural ecosystems like forests, wetlands, and oceans.
7. Promote eco-friendly technologies: Encourage innovation and use of environmentally friendly technologies.
8. Support conservation efforts: Collaborate with organizations and governments to protect endangered species and ecosystems.
9. Encourage community involvement: Engage local communities in environmental decision-making and action.
10. Monitor and enforce environmental compliance: Regularly monitor and enforce environmental regulations.
11. Address climate change: Implement measures to reduce greenhouse gas emissions and mitigate climate change impacts.
12. Support research and development: Continuously fund and conduct research to improve environmental protection strategies.
13. Foster international cooperation: Collaborate globally to address transboundary environmental issues.
14. Incorporate environmental economics: Consider environmental costs and benefits in economic decision-making.
15. Develop green infrastructure: Invest in green spaces, green roofs, and urban planning that supports environmental sustainability.

Summary/conclusion

Community environmental education is crucial for environmental protection. It raises awareness, builds knowledge, and fosters skills for sustainable practices. Effective community environmental education addresses local needs, involves community members, and leverages local resources. Despite challenges like funding constraints and limited access to resources, community environmental education can be enhanced through capacity building, technology integration, and policy support. Community environmental education is a vital tool for promoting environmental protection and sustainable development, by empowering communities with knowledge and skills, it addresses environmental challenges and foster a culture of sustainability. To achieve this, it must prioritize community-led initiatives, support policy integration, and ensure inclusive and context-specific approaches. Together, it harnesses the power of community environmental education to protect our planet and ensure a sustainable future for all.

In environmental education, the orientation of the education system to the future is important, which is reflected in the concept of advanced education. Advanced education involves the non-linearity of the presentation of the material, the introduction of new material in small portions into the context of what is being studied (submission of some topics that will be studied in the future, and which are in a certain way related to the material being studied at present). The rejection of the linear sequence of studying topics allows a more holistic understanding of the subject. Advanced education is necessary to have time to prepare people for life and professional activities in the new conditions of the digital age,

ensure the continuity of environmental knowledge, overcome fragmentation in the assessment of reality, and expand understanding of the global nature of environmental problems.

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