Environmental Education Decolonised?: Legitimising Indigenous Knowledge in Africa for Sustainability

Kariuki Muigua

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Kariuki Muigua[*]

Abstract

This paper critically discusses the role of indigenous knowledge in fostering sustainability in Africa. The paper argues that indigenous knowledge has been a source and means of environmental education in Africa for many centuries enabling African communities to live in harmony with nature. Despite its key role in fostering sustainability, the paper posits that indigenous knowledge in Africa is often ignored and deemed inferior to western systems of environmental education. The paper argues that indigenous knowledge in Africa needs to be effectively harnessed in order to strengthen environmental education for sustainability. It explores ways through which indigenous knowledge in Africa can be legitimized in order to foster sustainability.

1.0 Introduction

The idea of environmental education refers to a process that allows individuals to explore environmental issues, engage in environmental problem solving, and take action to protect and conserve the environment towards sustainability[1]. Environmental education has also been defined as a process that helps individuals, communities and organizations to learn more about the environment, and develop skills and capacities that can help them address environmental problems at local, national, regional and global levels[2]. It has been argued that the purpose of environmental education is to ensure that individuals,

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[*] PhD in Law (Nrb), FCIArb (Chartered Arbitrator),OGW, LL. B (Hons) Nrb, LL.M (Environmental Law) Nrb; Dip. In Law (KSL); FCPS (K); Dip. in Arbitration (UK); MKIM; Mediator; Consultant: Lead expert EIA/EA NEMA; BSI ISO/IEC 27001:2005 ISMS Lead Auditor/ Implementer; ESG Consultant; Advocate of the High Court of Kenya; Professor of Environmental Law and Conflict Management at the University of Nairobi, Faculty of Law; Member of the Permanent Court of Arbitration (PCA) [August, 2025].

[1] United States Environmental Protection Agency., 'What is Environmental Education?' Available at https://www.epa.gov/education/what-environmental-education (Accessed on 13/08/2025)

[2] About Environmental Education and why it Matters., Available at https://naaee.org/about/ee (Accessed on 13/08/2025)

communities and organisations have a working knowledge of environmental systems[3]; have concerns about environmental challenges at all levels[4]; and have capacity to be effectively involved in environmental decision-making proposes towards tackling environmental challenges[5].

Fostering environmental education is vital in the quest towards sustainability. It has been argued that environmental education has the power to influence positive attitudes and motivate action towards protecting the environment for sustainability[6]. Environmental education raises awareness on issues impacting the environment and how individuals, communities and organisations can take action towards addressing environmental challenges for the benefit of present and future generations[7]. Environmental education fosters awareness on the importance of the environment and the need to protect it[8]; knowledge on the environment and its associated problems[9]; positive attitudes that can inspire all stakeholders to protect the environment[10]; skills that enable individuals, communities and organisations to identify and solve environmental challenges[11]; and participation by all stakeholders in environmental decision-making[12]. According to the United Nations Environment Programme (UNEP), environmental education plays a fundamental role in capacity building, increasing access to policy making and facilitating

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[3] Fang. W-T., Hassan. A., & LePage. B., 'Introduction to Environmental Education' Available at https://link.springer.com/chapter/10.1007/978-981-19-4234-1_1 (Accessed on 13/08/2025)
[4] Ibid
[5] Ibid
[6] About Environmental Education and why it Matters., Op Cit
[7] Top 10 Benefits of Environmental Education., Available at https://www.plt.org/educator-tips/top-ten-benefits-environmental-education/#:~:text=Environmental%20education%20(EE)%20connects%20us,educators%2C%20schools%2C%20and%20communities. (Accessed on 13/08/2025)
[8] Fang. W-T., Hassan. A., & LePage. B., 'Introduction to Environmental Education' Op Cit
[9] Ibid
[10] Ibid
[11] Fang. W-T., Hassan. A., & LePage. B., 'Introduction to Environmental Education' Op Cit
[12] Ibid

participation towards a climate neutral, nature positive and pollution free future[13]. Strengthening environmental education is therefore vital for sustainability.

This paper critically discusses the role of indigenous knowledge in fostering sustainability in Africa. The paper argues that indigenous knowledge has been a source and means of environmental education in Africa for many centuries enabling African communities to live in harmony with nature. Despite its key role in fostering sustainability, the paper posits that indigenous knowledge in Africa is often ignored and deemed inferior to western systems of environmental education. The paper argues that indigenous knowledge in Africa needs to be effectively harnessed in order to strengthen environmental education for sustainability. It explores ways through which indigenous knowledge in Africa can be legitimized in order to foster sustainability.

2.0 Indigenous Knowledge and Environmental Education in Africa: Promises and Pitfalls

Indigenous knowledge also known as traditional or local knowledge refers to the specific skills, practices, and technologies associated with ecological resource management and human and animal health, reflecting a unique life experience and cultural harmony with ecosystem services within a particular region[14]. Indigenous knowledge has also been defined as a cumulative, collective body of knowledge, experience, and values held by societies with a history of subsistence[15]. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), indigenous or local knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings[16]. It has been argued that indigenous

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[13] United Nations Environment Programme., 'Youth, education and environment' Available at https://www.unep.org/topics/youth-education-and-environment (Accessed on 13/08/2025)

[14] Indigenous Knowledge., Available at https://www.sciencedirect.com/topics/earth-and-planetary-sciences/indigenous-knowledge (Accessed on 13/08/2025)

[15] Ellis, S.C., "Meaningful consideration? A review of traditional knowledge in environmental decision making," *Arctic* (2005): 66-77, at p. 66.

[16] United Nations Educational, Scientific and Cultural Organization., 'Local and Indigenous Knowledge Systems (LINKS)' Available at https://en.unesco.org/links (Accessed on 13/08/2025)

knowledge is a collective term to represent the many place-based knowledges accumulated across generations within myriad specific cultural contexts[17]. Further, it has been observed that indigenous knowledge is usually accumulated and transmitted across generations within specific cultural contexts[18].

Indigenous knowledge plays a key role in fostering sustainability. This type of knowledge is usually place-based, cumulative and dynamic[19]. Indigenous knowledge emphasizes living in harmony with nature[20]. Indigenous knowledge has enabled indigenous peoples and local communities to foster sound environmental governance for many centuries[21]. For example, it has been observed that global environmental challenges such as environmental degradation, biodiversity loss, pollution, deforestation and depletion of natural resources are less severe in indigenous communities when compared to other parts of the world due to the utilisation of indigenous knowledge in environmental conservation[22]. Further, it has been argued that many indigenous traditional practices offer effective solutions against climate change including sustainable agriculture systems and climate-resilient water management[23]. Indigenous knowledge has been utilised for many centuries to protect vital carbon sinks such forests and protect biodiversity thus enabling humanity to effectively tackle mounting environmental

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[17] Jessen. T et al., 'Contributions of Indigenous Knowledge to ecological and evolutionary understanding' Available at https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2435 (Accessed on 13/08/2025)
[18] Ibid
[19] Indigenous Knowledge., Available at https://www.canada.ca/en/impact-assessment-agency/programs/aboriginal-consultation-federal-environmental-assessment/indigenous-knowledge-policy-framework-initiative.html (Accessed on 13/08/2025)
[20] Ibid
[21] United Nations Environment Programme., 'How indigenous knowledge can help prevent environmental crises' Available at https://www.unep.org/news-and-stories/story/how-indigenous-knowledge-can-help-prevent-environmental-crises#:~:text=Experts%20say%20that%20is%20due,Story (Accessed on 13/08/2025)
[22] Ibid
[23] United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change – here's why' Available at https://climatepromise.undp.org/news-and-stories/indigenous-knowledge-crucial-fight-against-climate-change-heres-why (Accessed on 13/08/2025)

challenges including the triple planetary crisis of climate change, pollution and biodiversity loss[24].

Harnessing indigenous knowledge is therefore key towards strengthening environmental education for sustainability. It has been argued that indigenous knowledge holds a prevailing view that nature is sacred[25]. Indigenous knowledge entails practical ways to live in harmony with nature so that it may continue to provide essential services on which our well-being relies on including clean water, fresh air, fertile soil, food and medicines[26]. Indigenous knowledge and traditional practices are rooted in a deep understanding of and respect for the environment and ecological systems and promote sustainable use of natural resources towards Sustainable Development[27]. Further, it has been argued that traditional knowledge and indigenous practices have a minimal impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems[28]. Consequently, governments, organisations and individuals have been urged to learn from the practices and knowledge systems of indigenous peoples and local communities in order to foster harmony with nature and combat the triple planetary crisis of climate change, pollution and biodiversity loss[29]. Indigenous knowledge plays a key role in connecting local wisdom with international agendas including the 2030 Agenda for Sustainable Development in order to achieve sustainability[30]. Embracing indigenous knowledge as part of environmental education

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[24] Ibid

[25] United Nations Environment Programme., 'How indigenous knowledge can help prevent environmental crises' Op Cit

[26] Ibid

[27] United Nations Development Programme., 'Indigenous Knowledge is Crucial in the Fight against Climate Change – here's why' Op Cit

[28] Ibid

[29] United Nations Environment Programme., 'How indigenous knowledge can help prevent environmental crises' Op Cit

[30] Sandoval-Rivera. J., 'Environmental education and indigenous knowledge: Towards the connection of local wisdom with international agendas in the framework of the Sustainable Development Goals (SDGs)' Available at https://www.tandfonline.com/doi/full/10.1080/15595692.2019.1652588#:~:text=socio%2Decological%20challenges.-

can therefore accelerate progress towards attaining the Sustainable Development Goals (SDGs)[31].

Africa is richly endowed with indigenous knowledge systems and practices. It has been argued that indigenous knowledge in Africa is experiential knowledge based on a worldview and a culture that is basically relational[32]. The African worldview embodies wholeness, community and harmony which are deeply embedded in cultural values[33]. In African communities, a person becomes human only in the midst of others and seeks both individual and collective harmony as the primary task in the process of becoming a true person[34]. Therefore, the acquisition of knowledge in many African communities is collective and community oriented[35]. It has been argued that indigenous/traditional knowledge and values in Africa are important driving forces in the decision-making and development activities of the people of Africa[36]. The African way of knowing is largely communal in terms of discovery and experimentation and the mode of transmission and sharing is often collective rather than individualistic[37]. Indigenous knowledge in Africa affirms that the universe is a spiritual and a material whole in which all beings are interrelated and interdependent[38]. According to Africa's belief systems, land, water, animals and plants and other natural resources are not just production factors with

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,Indigenous%20peoples%2C%20sustainability%20and%20education,how%20they%20can%20be%20managed. (Accessed on 13/08/2025)

[31] Ibid

[32] Owusu-Ansah. F., & Mji. G., 'African indigenous knowledge and research' Available at https://pmc.ncbi.nlm.nih.gov/articles/PMC5442578/#:~:text=Indigenous%20knowledge%20or%20African%20knowledge,is%20collective%20and%20community%20oriented (Accessed on 13/08/2025)

[33] Ibid

[34] Ibid

[35] Ibid

[36] Ibid

[37] Naamwintome. B.A., & Millar. D., 'Indigenous Knowledge and the African Way Forward: Challenges and Opportunities' Available at https://www.scirp.org/journal/paperinformation?paperid=68164 (Accessed on 13/08/2025)

[38] Ibid

economic significance[39]. Indigenous knowledge in Africa posits that all living and non-living organisms have their place within the sanctity of nature[40].

Indigenous knowledge has therefore enabled Africans to live in harmony with nature for many centuries since nature is considered sacred. Harnessing indigenous knowledge in environmental education in Africa is therefore crucial in fostering sustainability. For example, it has been pointed out that various forms of traditional knowledge such as knowledge about traditional medicines, traditional hunting and fishing techniques, knowledge about animal migration patterns and water management have been utilised by indigenous and local communities in Africa for many centuries ensuring their survival while protecting the environment[41]. Over the years, indigenous people in Africa have developed deep and sophisticated indigenous knowledge systems, based on their observations and interactions with the environment over generations that have enabled them to harness ecosystem services to support their livelihoods and survive socioecological changes including climate change[42].

Indigenous knowledge is vital in fostering sustainability in Africa including through tackling the triple planetary crisis of climate change, biodiversity loss and pollution. For example, it has been argued that communities, particularly those in hazard-prone areas, have developed a good understanding and knowledge of disaster prevention and mitigation, early warning, preparedness and response, and post disaster recovery enabling them to become resilient to climate change and its impacts[43]. Consequently, it

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[39] Ibid

[40] Ibid

[41] World Intellectual Property Organization., 'Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions' Available at https://www.wipo.int/edocs/pubdocs/en/wipo_pub_933_2020.pdf (Accessed on 13/08/2025)

[42] Zougmore. R., Segnon. A., & Thornton. P., 'Harnessing Indigenous Knowledge and Practices for Effective Adaptation in the Sahel' Available at https://doi.org/10.1016/j.cosust.2023.101389 (Accessed on 13/08/2025)

[43] United Nations Educational, Scientific, and Cultural Organization., 'Harnessing Indigenous Knowledge for Climate Risk Management' Available at https://www.unesco.org/en/articles/harnessing-indigenous-knowledge-climate-risk-management (Accessed on 13/08/2025)

has been asserted that indigenous and local knowledge systems and practices in Africa can make an important contribution to climate change policy and SDG 13 on climate action through observing changing climatic patterns, evolving methods to convert observation and knowledge into relevant data, adapting to the impacts of climate change and contributing to global mitigation efforts[44]. Some aspects of indigenous knowledge in Africa that can strengthen climate action include observations on the changes to plant and animal behaviour, density, health and vulnerability, local wild food and medicinal knowledge, indigenous grazing systems that protect biodiversity and respond to adverse climatic events including droughts and water scarcity, sustainable practices on livestock management and carrying capacity during unstable climatic conditions, traditional agricultural practices, and indigenous systems of conflict management including mediation during environmental stress[45].

Africa therefore has rich indigenous knowledge systems that can bolster environmental education towards sustainability. It has been argued that the people and communities of Africa easily identify with indigenous knowledge systems, which have enabled them to live sustainably with their environments for generations[46]. These indigenous knowledge systems also function as essential tools in environmental education, conservation and natural disaster management[47]. Indigenous knowledge systems and practices in Africa have a minimal impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems[48].

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[44] Ibid

[45] United Nations Climate Change., 'An Introduction to integrating African Indigenous & Traditional Knowledge in National Adaptation Plans, Programmes of Action, Platforms and Policies' Available at https://unfccc.int/sites/default/files/resource/IPACC_Integrating_African_Indigenous_Traditional_Knowledge_into_NAPs.pdf (Accessed on 13/08/2025)

[46] Africa Policy Research Institute., 'Harnessing Local Knowledge through Community-Based Interventions' Available at https://afripoli.org/harnessing-local-knowledge-through-community-based-interventions (Accessed on 13/08/2025)

[47] Ibid

[48] United Nations Development Programme., 'Indigenous Knowledge is Crucial in the Fight against Climate Change – here's why' Op Cit

Despite the crucial role that indigenous knowledge plays in fostering sustainability in Africa, these knowledge systems are yet to be effectively harnessed in environmental education. For instance, indigenous knowledge systems and practices which have played a key role in environmental governance for many centuries in Africa and the rest of the Global South are usually ignored and deemed inferior , 'uncodified' and 'unscientific'[49]. It has been observed that in the predominantly Western-oriented education systems, policies, academic circles and investigations, the African voice is usually sidelined or suppressed because indigenous knowledge and methods are often ignored or not taken seriously[50]. African knowledge and methods of knowing which have yielded positive results and contributions for both people and the planet for many centuries have been discounted by many and even sometimes by African themselves[51]. In light of these concerns, it is imperative to decolonise environmental education and legitimise indigenous knowledge in Africa for sustainability.

3.0 Legitimising Indigenous Knowledge in Africa for Sustainability

Africa is richly endowed with indigenous knowledge systems and practices. Indigenous knowledge has played a vital role in fostering sustainability in Africa for many centuries including through sound environmental governance, ecosystem management, biodiversity conservation and effective responses to environmental threats including climate change, resource depletion and environmental degradation[52]. Harnessing indigenous knowledge in Africa is therefore key towards ensuring sustainability.

It has been correctly noted argued that knowledge and its methods of investigation, cannot be separated from a people's history, cultural beliefs, context and worldview[53]. People's culture and worldviews form the theoretical framework within which their

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[49] The African Manifesto for Science, Technology and Innovation., Available at https://atpsnet.org/wp-content/uploads/2017/05/the_african_manifesto_for_sti.pdf (Accessed on 13/08/2025)
[50] Owusu-Ansah. F., & Mji. G., 'African indigenous knowledge and research' Op Cit
[51] Ibid
[52] Africa Policy Research Institute., 'Harnessing Local Knowledge through Community-Based Interventions' Op Cit
[53] Owusu-Ansah. F., & Mji. G., 'African indigenous knowledge and research' Op Cit

knowledge is sought, understood, utilised and transmitted[54]. Therefore, it has been argued that all knowledge has cultural relevance and context and must be contextualized in order to fulfil its purpose[55]. The view that one knowledge system is universal is therefore misleading, discriminatory and oppressive to other knowledge systems especially indigenous forms of knowledge[56]. It is therefore necessary to decolonise environmental education and recognise indigenous knowledge in Africa for sustainability.

It has been correctly noted that much of Africa's indigenous scientific knowledge about nature, ecosystems, biodiversity conservation, food security, natural resources management and other aspects of sustainability is locked up in our thousands of indigenous languages, cultures and oral knowledge systems[57]. Indigenous peoples, local communities and people in rural areas are usually the custodians of these knowledge systems[58]. Therefore, it is imperative to change worldviews and perspectives about indigenous knowledge in Africa and recognise indigenous peoples and local communities as key custodians and knowledge-holders whose contribution can enhance the quest towards sustainability[59].

In order to legitimise indigenous knowledge in Africa, it is imperative to respect traditional ecological practices in Africa[60]. Such practices have been carried out by indigenous communities in Africa for many centuries and remain a valued asset in many

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[54] Ibid
[55] Ibid
[56] Ibid
[57] United Nations Climate Change., 'An Introduction to integrating African Indigenous & Traditional Knowledge in National Adaptation Plans, Programmes of Action, Platforms and Policies' Op Cit
[58] Ibid
[59] Ibid
[60] Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Available at Available at https://www.linkedin.com/pulse/harnessing-indigenous-knowledge-climate-change-africa-aatifah-latief/?utm_source=share&utm_medium=member_android&utm_campaign=share_via (Accessed on 13/08/2025)

societies of the world and Africa in particular[61]. There is also need to foster environmental education in Africa through indigenous and local languages. It has been argued that languages especially indigenous languages have throughout history evolved with their environment, meaning that they often have words and concepts specifically adapted within the geographical location of the indigenous or local community[62]. In the environmental context, it has been observed that indigenous languages around the world hold knowledge relevant to global climate resilience and sustainable resource management[63]. The loss of indigenous languages is therefore a loss for humanity since it reduces the diversity of environmental perspectives and adaptive strategies available to address climate change and biodiversity loss among other environmental threats[64]. Teaching in indigenous and local languages can therefore enhance the quality of environmental education while also ensuring that it fits to local needs and circumstances towards sustainability[65].

There is also need to support cultural preservation. It has been argued that cultural preservation is a key measure towards ensuring that indigenous knowledge is not lost and can be passed to future generations for utilization in ecological conservation[66]. It is therefore imperative for governments at national, sub-national and local levels among other stakeholders to promote preservation and transmission of indigenous knowledge

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[61] Sergon. P., Akoth. S., & Dzinekou. J., 'The Role of Indigenous Knowledge: Practices and Values in Promoting Socio-Economic Well-Being and Equity Among Endorois Community of Kenya' Available at https://doi.org/10.1177/11771801221086724 (Accessed on 13/08/2025)

[62] United Nations University's Institute for Environment and Human Security., '5 Ways Languages Contribute to a Safer and More Inclusive World' Available at https://unu.edu/ehs/series/5-ways-languages-contribute-safer-and-more-inclusive-world#:~:text=Languages%20are%20libraries%20of%20information,adaptive%20capacity%20as%20a%20species (Accessed on 13/08/2025)

[63] The Intersection of Indigenous Languages and Climate Change Insights from the Pastoralist Maasai of Tanzania., Available at https://www.culturalsurvival.org/publications/cultural-survival-quarterly/intersection-indigenous-languages-and-climate-change#:~:text=The%20safeguarding%20of%20Indigenous%20languages,scientific%20approaches%20to%20climate%20adaptation. (Accessed on 13/08/2025)

[64] Ibid

[65] United Nations University's Institute for Environment and Human Security., '5 Ways Languages Contribute to a Safer and More Inclusive World' Op Cit

[66] Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Op Cit

through strengthening indigenous education and documenting oral traditions and cultural practices[67]. Through this, it is possible to effectively harness and transmit indigenous knowledge to future generations in order bolster its role in the quest towards sustainability[68].

4.0 Conclusion

There is need to decolonise environmental education. Indigenous knowledge in Africa has played a key role in sustainability for many centuries[69]. Legitimising indigenous knowledge in Africa is therefore key towards decolonising and bolstering environmental education for sustainability.

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[67] United Nations., 'Indigenous People's Traditional Knowledge Must Be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session' Available at https://press.un.org/en/2019/hr5431.doc.htm (Accessed on 13/08/2025)

[68] Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Op Cit

[69] Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Op Cit

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Naamwintome. B.A., & Millar. D., 'Indigenous Knowledge and the African Way Forward: Challenges and Opportunities' Available at https://www.scirp.org/journal/paperinformation?paperid=68164

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