

Community-led Conservation of Forest Ecosystems: Legitimising Indigenous Knowledge and Local Governance Frameworks

Kariuki Muigua

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Community-led Conservation of Forest Ecosystems: Legitimising Indigenous Knowledge and Local Governance Frameworks

Kariuki Muigua*

Abstract

This paper discusses how community-led conservation efforts can be harnessed to protect forest ecosystems. The paper observes that community-led conservation is an appropriate approach in safeguarding forest ecosystems since it leverages on indigenous and local knowledge towards harmony with nature. Despite its viability, the paper notes that community-led conservation of forest ecosystems is yet to be fully utilised globally undermining effective protection of our forests. It discusses some of the key barriers hindering the use of community-led conservation of forest ecosystems. In light of these concerns, the paper examines how community-led conservation of forest ecosystems can be strengthened by legitimising indigenous knowledge and local governance frameworks for sustainability.

1.0 Introduction

Forests are among the most important ecosystems on the planet. It has been observed that forest ecosystems comprise of a complex web of life including plant species such as trees, animal species, fungi and bacteria interacting with each other¹. These complex interactions provide numerous ecosystems services that support both humanity and nature. For instance, it has been observed that forests provide clean air, purify water systems, provide food, support livelihoods and help in confronting climate change². Due

* PhD in Law (Nrb),SC, FCI Arb (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) [December, 2025].

¹ Forest Ecosystems., Available at <https://www.green.earth/blog/5-types-of-ecosystems#:~:text=Forest%20ecosystems%20are%20an%20incredibly,mammals%20to%20insects%20and%20birds>. (Accessed on 18/12/2025)

² UN Environment Programme World Conservation Monitoring Centre., 'Exploring the Vital Role of Our Forests' Available at <https://www.unep-wcmc.org/en/news/exploring-the-vital-role-of-our-forests> (Accessed on 18/12/2025)

to the vital ecosystem services that they provide, it has been argued that forests make the planet habitable³.

Forest ecosystems are therefore integral in the Sustainable Development agenda. The United Nations Environment Programme (UNEP) notes that forests are our best natural ally in reducing greenhouse gas emissions while enhancing biodiversity and ecosystem benefits⁴. In particular, it has been pointed out that healthy forests play a crucial role in confronting climate change by acting as carbon sinks, absorbing and storing billions of metric tonnes of carbon annually⁵. Further, it is estimated that forests support more than three-quarters of the world's terrestrial biodiversity⁶. It has been observed that forests harbour and provide habitats for most of the Earth's terrestrial biodiversity including plant and tree species, mammals, amphibians and birds⁷. In addition, forests also support millions of livelihoods globally especially for the rural poor, women, indigenous peoples and local communities who depend on these vital ecosystems for food, water, fuel and medicines⁸. It has also been observed that by reducing the risk of natural disasters such as floods, droughts, landslides and other extreme events, forests enhance human health and well-being⁹. The clean air, water and natural medicines provided by forest ecosystems also support human health and well-being¹⁰.

³ United Nations Environment Programme., 'Forests' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/forests> (Accessed on 18/12/2025)

⁴ United Nations Environment Programme., 'Forests' Available at <https://www.unep.org/topics/forests> (Accessed on 18/12/2025)

⁵ United Nations Development Programme., 'Forests can help us limit climate change - here is how' Available at <https://climatepromise.undp.org/news-and-stories/forests-can-help-us-limit-climate-change-here-how> (Accessed on 18/12/2025)

⁶ Forest Restoration., Available at <https://greenpop.org/forest-restoration/> (Accessed on 18/12/2025)

⁷ United Nations Environment Programme., 'Earth's Biodiversity depends on the World's Forests' Available at <https://www.unep-wcmc.org/en/news/earths-biodiversity-depends-on-the-worlds-forests> (Accessed on 18/12/2025)

⁸ United Nations., 'Forests' Available at <https://sustainabledevelopment.un.org/topics/forests> (Accessed on 18/12/2025)

⁹ Ibid

¹⁰ United Nations Environment Programme., 'Forests' Op Cit

Despite the crucial role that forests play in fostering Sustainable Development, it has been observed that these important ecosystems are facing several threats including deforestation and forest degradation¹¹. It is estimated that nearly half of the world's tropical forests have been degraded in the past few decades with millions of hectares of forests being destroyed currently through deforestation and forest degradation¹². It has been observed that the world is losing about 4.7 million hectares of tropical forest every year¹³. This has been attributed to human and environmental factors including agricultural expansion, infrastructural development, human settlement, urbanisation, over extraction and unsustainable extraction of resources and climate change¹⁴. Deforestation and forest degradation undermine sustainability since they affect both the quality and quantity of vital ecosystems services such as food, clean air, water, energy and medicines¹⁵. These challenges also fuel biodiversity loss due to destruction of habitats while contributing to climate change by releasing the carbon stored in forests¹⁶. For example, it is estimated that deforestation and forest degradation currently account for approximately one fifth of global greenhouse gas emissions responsible for the climate crisis¹⁷.

In light of the foregoing challenges, conserving forest ecosystems is crucial in achieving Sustainable Development. Sustainable Development Goal (SDG) 15 seeks to inter alia protect, restore and promote sustainable use of terrestrial ecosystems including forests for sustainability¹⁸. SDG 15 urges all countries to sustainably manage forests, halt

¹¹ International Union for Conservation of Nature., 'Deforestation and Forest Degradation' Available at <https://iucn.org/resources/issues-brief/deforestation-and-forest-degradation> (Accessed on 18/12/2025)

¹² Ibid

¹³ United Nations Environment Programme., 'Forests' Op Cit

¹⁴ Ibid

¹⁵ United Nations Development Programme., 'Forests can help us limit climate change – here is how' Op Cit

¹⁶ Ibid

¹⁷ Ibid

¹⁸ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 18/12/2025)

deforestation, restore degraded forests and increase afforestation and reforestation activities in order to effectively protect and conserve forests for Sustainable Development¹⁹.

This paper discusses how community-led conservation efforts can be harnessed to protect forest ecosystems. The paper observes that community-led conservation is an appropriate approach in safeguarding forest ecosystems since it leverages on indigenous and local knowledge towards harmony with nature. Despite its viability, the paper notes that community-led conservation of forest ecosystems is yet to be fully utilised globally undermining effective protection of our forests. It discusses some of the key barriers hindering the use of community-led conservation of forest ecosystems. In light of these concerns, the paper examines how community-led conservation of forest ecosystems can be strengthened by legitimising indigenous knowledge and local governance frameworks for sustainability.

2.0 Community-led Conservation of Forest Ecosystems: Opportunities and Challenges

Community-led forest conservation and management has been described as a participatory approach which involves harnessing the contribution of people and community and local levels to protect forest ecosystems for improved livelihoods, sustainable resource use, ecosystem resilience and biodiversity conservation²⁰. It has been described as a powerful approach that incentivizes local communities and indigenous peoples to sustainably manage forests for the benefit of both humanity and nature²¹. It has been argued that community-led conservation of forest ecosystems fosters the rights

¹⁹ Ibid

²⁰ Food and Agriculture Organization of the United Nations., 'Five types of Measures for Mitigating Climate Change in Indigenous and Tribal Territories' Available at <https://openknowledge.fao.org/server/api/core/bitstreams/27b4e6b5-30b2-4e47-aaab-0505afa387d7/content/src/html/community-forest-management.html#:~:text=Community%20forest%20management%20is%20the,come%20from%20the%20forests%20themselves>. (Accessed on 19/12/2025)

²¹ Ibid

of indigenous peoples and local communities and harnesses their contribution towards tackling threats to forest ecosystems including deforestation and forest degradation²².

It has been observed that in community-led forest conservation, indigenous peoples and local communities have the right to be meaningfully involved in decision-making processes on how forest ecosystems are used, managed, and conserved²³. Indigenous peoples and local communities usually exercise this right through community forest associations²⁴. It has been noted that community forest associations play an important role in protecting, conserving and managing forests since they emphasize on sustainable resource extraction, sustainable land management practices, and forest restoration activities including afforestation, reforestation and agroforestry²⁵. Community-led forest conservation has been described as an ideal approach in conserving forest ecosystems since indigenous peoples and local communities who live near forests usually have the responsibility to protect these vital ecosystems which sustain their lives and livelihoods²⁶. Embracing community-led conservation of forest ecosystems is therefore a powerful approach towards harnessing the unique and important contribution of indigenous peoples and local communities towards sustainably managing forests. For example, it has been observed that indigenous peoples and local communities are stewards of unique knowledge systems, innovations and practices that have been passed down from generation to generation which have allowed them to live sustainably for many centuries, emphasizing the balance between humanity and nature²⁷. The traditional practices and

²² Community Forest Management., Available at <https://www.foei.org/what-we-do/forests-and-biodiversity/community-forest-management/> (Accessed on 19/12/2025)

²³ Community Forest Management., Available at <https://scripts.farmradio.fm/radio-script/community-forest-management/> (Accessed on 19/12/2025)

²⁴ Ibid

²⁵ Role of the Community Forest Associations in Kenya., Available at <https://blog.afro.co.ke/community-forest-association/#:~:text=Community%20Forest%20Associations%20play%20an,provisions%20of%20the%20Societies%20Act.> (Accessed on 19/12/2025)

²⁶ Community Forest Management., Op Cit

²⁷ 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 19/12/2025)

ways of life of indigenous peoples and local communities are rooted in a deep understanding of and respect for the environment and ecological systems and promote sustainable use of natural resources²⁸. The environment and its natural resources are viewed as sacred by indigenous peoples and local communities all over the world placing a spiritual and moral responsibility on humanity to live in harmony with nature²⁹. Consequently, indigenous and local knowledge has been utilised for many centuries by indigenous peoples and local communities to protect vital ecosystems such as forests and conserve biodiversity therefore enabling humanity to effectively tackle mounting environmental challenges including climate change, deforestation, forest degradation and biodiversity loss³⁰.

Fostering community-led forest conservation is therefore vital in harnessing indigenous and local knowledge for Sustainable Development. It has been argued that community-led forest conservation is both a spiritual and cultural practice that fosters harmony between humanity and nature³¹. It is based on the view that nature is sacred thus placing an obligation on indigenous peoples and local communities to sustainably manage forests alongside related resources such as land and water³². It has been argued that the knowledge and practices of indigenous peoples and local communities provide a deep understanding of forest ecosystems, ecological dynamics, seasonal variations, and the intricate relationships that connect humanity with nature thus providing a valuable resource towards sustainably managing and conserving forests³³. Further, it has been observed that there is an intricate connection between indigenous and local knowledge

²⁸ Ibid

²⁹ Harnessing Indigenous Knowledge Systems for Global Knowledge Cooperation., Available at https://www.idos-research.de/fileadmin/user_upload/pdfs/publikationen/aktuelle_kolumne/2024/German_Institute_of_Development_and_Sustainability_EN_Segueda_Banerjee_28.10.2024.pdf (Accessed on 19/12/2025)

³⁰ United Nations Development Programme., 'Indigenous Knowledge is Crucial in the Fight against Climate Change - here's why' Op Cit

³¹ Community Forest Management., Op Cit

³² Ibid

³³ Akalibey. S et al., 'Integrating indigenous knowledge and culture in sustainable forest management via global environmental policies' *Journal of Forest Science.*, Volume 70, Issue 6 (2024), pp 265-280

and sustainable forest management³⁴. These knowledge systems provide invaluable traditional insights and practices that have helped preserve and ensure the responsible use of forest ecosystems since time immemorial³⁵.

Community-led conservation of forest ecosystems is therefore a powerful and appropriate towards harnessing indigenous and local knowledge for sustainable management of forests. Despite its viability, this approach is underutilised undermining the global quest for sustainable forest management. For example, it has been observed that community forest associations face registration and operational challenges due to lengthy, expensive and bureaucratic procedures in some countries and frequent legal and policy changes³⁶. Further, most of these associations are underfunded while also lacking access to adequate information and current scientific knowledge that can bolster forest conservation efforts³⁷. Further, lack of recognition of the rights of indigenous peoples and local communities over their lands and territories undermines the use of indigenous and local knowledge for sustainable forest management³⁸. Consequently, indigenous peoples and local communities are usually excluded from decision-making processes with ongoing land-use changes, mining activities and infrastructural development happening on their lands and territories leading to deforestation and forest degradation which threatens their lives, livelihoods and cultural and spiritual well-being³⁹.

In light of the foregoing, it is imperative to bolster community-led conservation of forest ecosystems for sustainability.

³⁴ Ibid

³⁵ Ibid

³⁶ Food and Agriculture Organization of the United Nations., 'Five types of Measures for Mitigating Climate Change in Indigenous and Tribal Territories' Op Cit

³⁷ Ibid

³⁸ Community Forest Management., Op Cit

³⁹ Ibid

3.0 Legitimising Indigenous Knowledge and Local Governance Frameworks for Effective Conservation of Forest Ecosystems

Conserving forests is vital in the pursuit of Sustainable Development. These vital ecosystems provide crucial ecosystem services for both humanity and nature including food, clean air, fuel, medicines, water, biodiversity conservation, resilience to natural disasters and climate mitigation⁴⁰. However, the mounting threats of deforestation and forest degradation are devastating forest ecosystems with severe consequences for people and planet⁴¹. These challenges fuel biodiversity loss due to destruction of ecosystems and habitats, lead to loss of livelihoods, worsen climate change and its impacts and undermine human health, resilience and well-being⁴².

Community-led conservation of forest ecosystems provides a suitable and ideal approach towards safeguarding our forests for sustainability. Through this approach, it is possible to harness indigenous knowledge and local governance frameworks including community forest associations for effective conservation measures⁴³. It is therefore imperative to legitimise indigenous knowledge and local governance systems for sound conservation of forest ecosystems. It has been correctly noted that the integration of indigenous and local knowledge into mainstream forest conservation policies, decisions, and practices is a promising avenue to improve the sustainability of forest ecosystems⁴⁴. Harnessing the wisdom and practices of indigenous peoples and local communities alongside modern science and conservation practices can enhance the resilience of forest ecosystems, ensure rich and thriving biodiversity and support climate action among other ecosystem services provided by forests⁴⁵.

⁴⁰ United Nations Environment Programme., 'Forests' Op Cit

⁴¹ Ibid

⁴² Ibid

⁴³ Community Forest Management., Op Cit

⁴⁴ Akalibey. S et al., 'Integrating indigenous knowledge and culture in sustainable forest management via global environmental policies' Op Cit

⁴⁵ Ibid

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Indigenous knowledge should therefore be legitimised and integrated into forest conservation efforts for effective solutions towards sustainability. The knowledge and practices of indigenous peoples and local communities have a minimal adverse impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems including forests⁴⁶. Legitimising and utilising indigenous and knowledge can therefore bolster forest conservation efforts. In addition, there is need to uphold the land rights of indigenous peoples and local communities. It has been observed that for many centuries, challenges such as colonialism, forced resettlement, strong external development pressures and exclusion from natural resource decisions have undermined indigenous peoples' agency and ability to manage their lands, forests and waters among other natural resources⁴⁷. When the land rights of indigenous peoples and local communities are violated, they lose their traditional knowledge and indigenous practices thus undermining sound ecosystem management⁴⁸. On the other hand, it has been observed that when the land rights of indigenous peoples and local communities are protected, nature thrives⁴⁹. It is therefore vital to protect indigenous land rights for effective conservation of forest ecosystems.

Strengthening local governance frameworks is also crucial in enhancing the efficacy of community-led conservation of forest ecosystems. For example, when community forest associations are supported through adequate funding, capacity building, meaningful decision making-processes and effective laws and policies, they can be well-equipped to

⁴⁶ UN-REDD Programme., 'Indigenous Peoples see the importance of protecting forests but can the rest of the world follow?' Available at <https://www.un-redd.org/post/indigenous-peoples-see-importance-protecting-forests-can-rest-world-follow#:~:text=Why%20are%20Indigenous%20Peoples%20vital,biodiversity%2C%20according%20to%20the%20UNEP> (Accessed on 19/12/2025)

⁴⁷ The Nature Conservancy., 'Indigenous Peoples and Local Communities' Available at <https://www.nature.org/en-us/about-us/who-we-are/how-we-work/community-led-conservation/> (Accessed on 19/12/2025)

⁴⁸ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Available at <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> (Accessed on 19/12/2025)

⁴⁹ Ibid

implement sound conservation strategies that take into account indigenous and local knowledge and practices⁵⁰. It is therefore imperative to legitimise and empower local governance frameworks including community forest associations for effective forest conservation strategies.

4.0 Conclusion

Community-led conservation of forest ecosystems is a powerful approach towards protecting our forests for people and planet. It is necessary to embrace this approach by legitimising indigenous knowledge including through integrating it in forest conservation efforts and upholding the land rights of indigenous peoples and local communities⁵¹. Further, it is vital to legitimise local governance frameworks including through empowering and supporting community forest associations⁵². Embracing community-led conservation of forest ecosystems is therefore a viable and practical approach towards safeguarding our forests for Sustainable Development.

⁵⁰ Community Forest Management., Op Cit

⁵¹ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Op Cit

⁵² Community Forest Management., Op Cit

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