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Nurturing our Wetlands for Biodiversity Conservation

By: ***Kariuki Muigua****

Abstract

Wetlands have a vital role in not just delivering ecological services to meet human needs, but also in biodiversity conservation. Wetlands are vital habitat sites for many species and a source of water, both of which contribute to biodiversity protection. This paper examines the role of wetlands in biodiversity conservation and how these wetland resources might be managed to improve biodiversity conservation.

1. Introduction

Biodiversity conservation is frequently related with a biocentric perspective, in which all life on Earth has intrinsic value.[1] This paper is based on both ecocentric and anthropocentric reasons for taking care of wetlands, for purposes of meeting human needs as well as protecting biodiversity resources therein. This is because wetlands' ecological services are linked to an anthropocentric viewpoint in which biodiversity has instrumental value since it contributes to services that benefit human well-being.[2] Wetlands are split into two types: coastal/tidal and inland/non-tidal, and both provide essential habitat for a range of aquatic and terrestrial species.[3]

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[1] Reyers, B., Polasky, S., Tallis, H., Mooney, H.A. and Larigauderie, A., 'Finding Common Ground for Biodiversity and Ecosystem Services' (2012) 62 BioScience 503.

[2] Ibid.

[3] 'Wetland Conservation and Its Impact on Biodiversity' (Planet Forward) *<https://www.planetforward.org/idea/wetland-conservation-biodiversity>* accessed 28 December 2021.

The United Nations Charter for Nature (1982) promotes an ecocentric approach to biodiversity protection, stating that "every form of life is unique, deserving of respect regardless of its value to man....In accordance with national legislation, all persons shall have the opportunity to participate, individually or in groups, in the formulation of decisions directly affecting their environment, and shall have access to measures of redress if their environment has been damaged or degraded."[4] This paper adopts both ecocentric and anthropocentric reasons for nurturing our wetlands as a step towards biodiversity conservation and this is justified by the notion that 'where mutually beneficial relationships between biodiversity and ecosystem services exist (win–win), there will be much larger and more powerful sets of potential partners in conservation'.[5]

This page provides a crucial argument on the link between nurturing wetlands resources and supporting successful biodiversity conservation as a means of guaranteeing the future, both for humans and all other living things that inhabit wetlands.

2. Wetlands, Biodiversity Conservation and Sustainable Development Agenda

Wetlands play an important role in hydrological and biogeochemical cycles because they provide a wide range of ecosystem goods and services to humans, including the ability to retain water during the dry season and keep the water table high and moderately stable, the ability to regulate a microclimate, and many ecosystem services that are critical to reducing community vulnerability to climate change and extreme weather events in particular.[6] As a result, they serve a key ecological function that is essential

[4] UN General Assembly, *World Charter for Nature.*, 28 October 1982, A/RES/37/7, Preamble; Principle 23.

[5] Reyers, B., Polasky, S., Tallis, H., Mooney, H.A. and Larigauderie, A., 'Finding Common Ground for Biodiversity and Ecosystem Services' (2012) 62 BioScience 503.

[6] Dinsa TT and Gemeda DO, 'The Role of Wetlands for Climate Change Mitigation and Biodiversity Conservation' (2019) 23 Journal of Applied Sciences and Environmental Management 1297, at 1297; see also 'Wetland Conservation and Its Impact on Biodiversity' (Planet Forward) *<https://www.planetforward.org/idea/wetland-conservation-biodiversity>* accessed 28 December 2021.

for biological survival and human development.[7] They also offer a wide range of leisure activities, including fishing, hunting, photography, and animal observation.[8]

The *Convention on Wetlands of International Importance especially as Waterfowl Habitat*[9] (Ramsar Convention on Wetlands) acknowledges the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna, especially waterfowl in its preamble.

Biodiversity is an important part of the efforts towards achieving Sustainable Development agenda as it is the source of all life and all raw materials required to meet human needs. Any efforts to secure human life for both the present and future generations must, therefore, include conservation of biodiversity as a matter of necessity. Conserving Biodiversity for a Better Future is thus an idea that we must deeply reflect on as a matter of urgency.

Apart from the moral and legal grounds for respect for human rights in conservation efforts, it has been opined that practically, conservation will often be more effective if people's rights are respected and fulfilled: Local people who benefit from conservation and who are better able to meet their needs and achieve their development objectives are more likely to change any behaviour that may damage the environment through overexploitation; local and indigenous people often have knowledge, skills and organisational capacities that are useful and relevant in resource management; people are more likely to follow resource management agreements and rules if they have had input into these agreements. Participation in decision-making makes it more likely that the agreements will meet their needs and will reflect

[7] Ibid.
[8] 'Why Are Wetlands Important? - Wetlands (U.S. National Park Service)' <*https://www.nps.gov/subjects/wetlands/why.htm*> accessed 30 December 2021.
[9] United Nations, *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, Ramsar, Iran, 2.2.1971 as amended by the Protocol of 3.12.1982 and the Amendments of 28.5.1987.

what is achievable.[10] It is imperative that all stakeholders join hands in conservation of biodiversity.

It is also important to point out that in addition to mitigation, biodiversity and ecosystem services play an important role in adapting to the impacts of climate change, and reducing the risk of climate-related and non-climate-related disasters.[11]

Unless challenges threatening wetlands and biodiversity resources within these wetlands are addressed, the dream of achieving sustainable development goals will remain a mirage.

3. Threats to Wetlands Conservation

Human development, urbanization, and poor management have all been blamed for the disappearance of wetlands.[12] Due to changes in land-use patterns, such as conversion of wetlands into farmlands, human settlements, urban centers, and infrastructure development, it is estimated that the area of wetlands has decreased by more than half since 1900.[13]

These are exacerbated by current challenges to biodiversity protection, such as habitat loss and degradation, climate change, chemical and biochemical pollution, logging and poaching, invasive species, illness, and the loss of plant pollinators, among others.[14] That wetlands in Kenya also suffer from

[10] BirdLife International, International B, 'An Introduction to Conservation and Human Rights for BirdLife Partners', 11.
[11] OECD (2019), *Biodiversity: Finance and the Economic and Business Case for Action*, report prepared for the G7
Environment Ministers' Meeting, 5-6 May 2019, 31.
[12] 'Wetland Conservation and Its Impact on Biodiversity' (Planet Forward) *<https://www.planetforward.org/idea/wetland-conservation-biodiversity>*
accessed 28 December 2021.
[13] Mwangi B, "Threats of Land Use Changes on Wetland and Water Areas of Murang'a County, Kenya." *Applied Ecology and Environmental Sciences*, vol. 9, no. 6 (2021): 585-590. doi: 10.12691/aees-9-6-2.
[14] Ralf C Buckley, 'Grand Challenges in Conservation Research' (2015) 3 Frontiers in Ecology and Evolution 128
<https://www.frontiersin.org/article/10.3389/fevo.2015.00128>
accessed 28 December 2021.

over-exploitation of their natural resources is one major threat. Others are encroachment, habitat degradation and biodiversity loss.[15]

It has been contended that because wetlands produce a wide range of plant, animal, and mineral products that are used and valued by people all over the world, whether in local, rural communities or far-off cities in foreign countries, wetlands have attracted significant portions of human populations who survive by exploiting their resources through various resource utilization activities, often driven by economic and financial considerations. Such reliance on natural resource exploitation for survival always puts the resources in jeopardy, especially if the value of the resources is unknown or undervalued by the stakeholders.[16]

4. Looking into the Future: Nurturing Wetlands and Biodiversity Conservation

Wetlands are ecologically diverse and highly productive ecosystems that improve water quality, regulate erosion, sustain stream flows, store carbon, and offer habitat for at least one-third of all threatened and endangered species.[17] Kenyan wetlands are believed to cover up to 4% of the entire landmass, approximately 14,000 km^2 of the land surface, with a peak of roughly 6% during the rainy season.[18]

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[15] 'Wetlands and Biodiversity – Nature Kenya' <*https://naturekenya.org/2020/01/29/wetlands-and-biodiversity/*> accessed 30 December 2021.

[16] Oduor FO, Raburu PO and Mwakubo S, "To conserve or convert wetlands: evidence from Nyando wetlands, Kenya." *Journal of Development and Agricultural Economics* 7, no. 2 (2015): 48-54, at 48-49.

[17] 'Why Are Wetlands Important? - Wetlands (U.S. National Park Service)' <*https://www.nps.gov/subjects/wetlands/why.htm*> accessed 30 December 2021.

[18] Mwangi B, "Threats of Land Use Changes on Wetland and Water Areas of Murang'a County, Kenya." *Applied Ecology and Environmental Sciences*, vol. 9, no. 6 (2021): 585-590, at 586. doi: 10.12691/aees-9-6-2; see also Francis O Oduor, Phillip O Raburu and Samuel Mwakubo, 'To Conserve or Convert Wetlands: Evidence from Nyando Wetlands, Kenya' (2015) 7 Journal of Development and Agricultural Economics 48, 48 <*https://academicjournals.org/journal/JDAE/article-abstract/82B41C449827*> accessed 30 December 2021.

The High Court correctly pointed out in *Mohamed Ali Baadi and others v Attorney General & 11 others [2018] eKLR* that access to information is a key pillar in our Constitution's environmental governance scheme because effective Public Participation in decision-making requires full, accurate, and up-to-date information.[19] With enhanced literacy levels, it is possible to carry out civic education regarding various challenges that arise from given projects and also for communities to fully appreciate the merits and demerits of certain projects and environmental resources, including wetlands, and also appreciate the compromises that they need to make, if any.[20] There is a need for a more active and meaningful involvement of communities living around wetlands to help them appreciate the importance of wetlands to both their livelihoods and biodiversity conservation. It has been suggested that in order to enhance effective public participation, the duty bearers should do the following: ensuring that as duty bearers (leaders) they are accessible to and represent citizens; ensuring existence of forums and opportunities for citizens to participate and engage in matters affecting their lives; providing civic education; developing effective communication channels with citizens; providing timely information to citizens on critical and emerging issues; and providing resources to facilitate public participation.[21]

In addition to the foregoing, the United Nations Environmental Assembly (UNEA) asserts that this development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on nature.[22] There is no better way to apply this than in enhancing protection of wetlands.

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[19] *Mohamed Ali Baadi and others v Attorney General & 11 others [2018] eKLR*, Petition 22 of 2012.

[20] 'The Role of Civic Education' <*https://civiced.org/papers/articles_role.html*> accessed 24 July 2021.

[21] Uraia, 'What is Public Participation?' *https://uraia.or.ke/wp-content/uploads/2016/11/Citizen-Participation-BOOKLET.pdf* accessed 21 July 2021.

[22] 'What Is an "Inclusive Green Economy"? | UNEP - UN Environment Programme' <*https://www.unenvironment.org/explore-topics/green-economy/why-does-green-economy-matter/what-inclusive-green-economy*> accessed 24 December 2020.

It is proposed that, because management decisions have not adequately considered the economic importance wetland goods and services provide to local communities and the national economy, a valuation of wetlands goods and services would assist policymakers in making decisions regarding wetlands conservation and exploitation in the country.[23] Arguably, this would enhance the participation of these communities as they appreciate the actual benefits they can get from these wetlands.

SDG Goal 1 seeks to ensure that State Parties end poverty in all its forms everywhere by the year 2030.[24] "More than one billion people in the globe

[23] Oduor FO, Raburu PO and Mwakubo S, "To conserve or convert wetlands: evidence from Nyando wetlands, Kenya." *Journal of Development and Agricultural Economics* 7, no. 2 (2015): 48-54, at 49.

[24] SDG Goal 1, United Nations, *Transforming our world: the 2030 Agenda for Sustainable Development*, Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1.

The related targets include:

> *1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.*
>
> *1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.*
>
> *1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.*
>
> *1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.*
>
> *1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.*

live in abject poverty on less than $1.25 a day," according to estimates, "while the richest 1% own nearly half of the world's wealth," implying "a huge gap and inequality in the distribution of the world economy."[25] Despite the fact that Africa as a continent is endowed with tremendous natural and human resources as well as great cultural, ecological, and economic diversity, high rates of poverty are more pronounced in developing countries, particularly on the African continent.[26] Some of the causes of poverty in Africa include, *inter alia*, population growth, war and crises, climate change,

> *1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.*
>
> *1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.*

[25] 'Poverty Is a Human Rights Violation | Apolitical' (17 June 2020) <*https://apolitical.co/en/solution_article/poverty-is-a-human-rights-violation*> accessed 24 December 2020.

[26] 'Poverty in Africa Is Now Falling—but Not Fast Enough' <*https://www.brookings.edu/blog/future-development/2019/03/28/poverty-in-africa-is-now-falling-but-not-fast-enough/*> accessed 25 December 2020; Chandy L, 'Why Is the Number of Poor People in Africa Increasing When Africa's Economies Are Growing?' (*Brookings*, 30 November 1AD) <*https://www.brookings.edu/blog/africa-in-focus/2015/05/04/why-is-the-number-of-poor-people-in-africa-increasing-when-africas-economies-are-growing/*> accessed 25 December 2020; 'On the Poorest Continent, the Plight of Children Is Dramatic' (*SOS-US-EN*) <*https://www.sos-usa.org/SpecialPages/Africa/Poverty-in-Africa*> accessed 25 December 2020; 'Poverty and Development in Africa' <*https://www.globalpolicy.org/social-and-economic-policy/poverty-and-development/poverty-and-development-in-africa.html*> accessed 25 December 2020; 'Poverty and Development in Africa' <*https://www.globalpolicy.org/social-and-economic-policy/poverty-and-development/poverty-and-development-in-africa.html*> accessed 25 December 2020; Muigua K, *Utilizing Africa's Natural Resources to Fight Poverty* (2014) <*http://kmco.co.ke/wp-content/uploads/2019/06/Utilizing-Africas-Natural-Resources-to-Fight-Poverty-26th-March2014.pdf*> accessed 25 December 2020.

illnesses, inadequate agricultural infrastructure, and unjust trade structures.[27] These need to be addressed as a step towards protecting wetlands as poverty arguably contributes to environmental degradation.[28]

To address biodiversity loss issues, all parties, including private actors, must work together to reduce actions that jeopardize the future of the planet. To that end, the *United Nations Guiding Principles on Business and Human Rights* were drafted and endorsed in recognition of: States' existing obligations to respect, protect, and fulfill human rights and fundamental freedoms; the role of business enterprises as specialized organs of society performing specialized functions, required to comply with all applicable laws and respect human rights; and the need for rights and obligations to be matched to appropriate and effective remedial measures.[29]

One way of ensuring that all human activities foster biodiversity conservation is introducing pricing of biodiversity and actively assessing biodiversity's contribution to economic growth. However, it has been pointed out that while establishing the value of biodiversity to economies is important, as it may partly help policymakers in all countries to appreciate that there is a cost to losing nature, at the same time, an economic assessment must take into account the perspectives of the humanities, of developing countries and of members of indigenous communities. [30] Notably, undervaluing the economic and societal values of biodiversity is believed to

[27] 'On the Poorest Continent, the Plight of Children Is Dramatic' (*SOS-US-EN*) <*https://www.sos-usa.org/SpecialPages/Africa/Poverty-in-Africa*> accessed 25 December 2020.

[28] See generally, Kanetasya Sabilla, 'Environmental Degradation and Poverty Nexus: Evidence from Coral Reef Destruction in Indonesia' (2017) 7 Journal of Indonesian Social Sciences and Humanities 81 <*http://jissh.journal.lipi.go.id/index.php/jissh/article/view/143*> accessed 30 December 2021; Zabala A and Sullivan CA, 'Multilevel Assessment of a Large-Scale Programme for Poverty Alleviation and Wetland Conservation: Lessons from South Africa' (2018) 61 Journal of Environmental Planning and Management 493.

[29] UN Guiding Principles on Business and Human Rights, Resolution 17/4, 16 June 2011.

[30] 'The Value of Biodiversity Is Not the Same as Its Price' (2019) 573 Nature 463; Costanza, R., d'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'neill, R.V., Paruelo, J. and Raskin, R.G., 'The Value of the World's Ecosystem Services and Natural Capital' (1997) 387 Nature 253.

pose a threat to biodiversity and investment in conservation, and while the value of conventional natural resources such as forestry, fisheries, and wildlife is well appreciated the wider ecological services that biodiversity provides which include water catchments, a natural cleansing of the air, water and soils we pollute, carbon sequestration and, in developing economies such as Kenya, the biomass energy that fuels the lives of most Kenyans in the form of wood and charcoal, are seldom valued.[31]

The government should continue to establish effective systems of Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), Strategic Environmental and Social Assessment (SESA), Environmental Audit and Monitoring, and Environmental Security Assessment (ESA), and ensure that they are reviewed on a regular basis to ensure that they remain effective. Without extensive environmental evaluation processes, development initiatives targeting wetland areas should be avoided. There is a need to ensure that these EIA processes are not only formal but also reflective of what is happening on the ground, and that there is a follow-up mechanism in place to ensure that companies engage with communities throughout and continue to carry out their obligations in accordance with the law and assessment reports.[32]

Biodiversity Impact Assessment should be included in these impact assessment processes (BIA). BIA is a subset of EIA that entails finding,

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[31] Wakhungu, J.W., Waruingi, L., Agwanda, B., Awori, P., Isiche, J., Itela, S. and Njumbi, S., 'Towards a National Biodiversity Conservation Framework: Policy Implications of Proceedings of the International Conference on Biodiversity, Land-Use and Climate Change', 5.

[32] 'Chapter 3: EIA Process' <*http://www.fao.org/3/V8350E/v8350e06.htm*> accessed 24 July 2021; '1.7 Overview of the Stages of the EIA Process' <*https://www.soas.ac.uk/cedep-demos/000_P507_EA_K3736-Demo/unit1/page_14.htm*> accessed 24 July 2021; 'Our Role in Securing Public Participation in the Kenyan Legislative and Policy Reform Process' (*Natural Justice*, 23 July 2020) <*https://naturaljustice.org/our-role-in-securing-public-participation-in-the-kenyan-legislative-and-policy-reform-process/*> accessed 24 July 2021; 'Accountability, Transparency, Participation, and Inclusion: A New Development Consensus? - Carnegie Endowment for International Peace' <*https://carnegieendowment.org/2014/10/20/accountability-transparency-participation-and-inclusion-new-development-consensus-pub-56968*> accessed 24 July 2021.

measuring, quantifying, valuing, and internalizing the unintended consequences (on biodiversity) of development activities.[33] Arguably, EIA processes should entail BIA, and specifically, ecological impact assessment to the extent that ecological diversity is one aspect of biodiversity, in order to determine how and to what extent, development interventions and projects are affecting biodiversity — composition, structure and function.[34] While neither the Constitution of Kenya 2010 nor EMCA expressly mentions BIA, the same can be adopted in line with the provisions of Article 69 of the Constitution as well as sections 57A, 58, 62, and 112 on conservation of environmental resources, including biodiversity.

On a global level, the inclusion of BIA in EIA activities is also supported by Article 14 of the Convention on Biological Diversity, which states that each Contracting Party shall: (a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures; (b) Introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account; (c) Promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biological diversity of other States or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate; (d) In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, notify immediately the potentially affected States of such danger or damage, as well as initiate action to prevent or minimize such danger or damage; and (e) Promote national arrangements for emergency responses to activities or events, whether

[33] Wale E and Yalew A, 'On Biodiversity Impact Assessment: The Rationale, Conceptual Challenges and Implications for Future EIA' (2010) 28 Impact Assessment and Project Appraisal 3, 3.
[34] Ibid, 3.

caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage international cooperation to supplement such national efforts and, where appropriate and agreed by the States or regional economic integration organizations concerned, to establish joint contingency plans.[35] The Conference of the Parties is to examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.[36]

It is, therefore, worth pointing out that Article 14 does not impose a direct obligation that is enforceable by other states to conduct EIAs before undertaking activities that pose risks to biological diversity.[37] This is also captured in *COP 8 Decision VIII/28, Impact Assessment: Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment* which 'emphasizes that the voluntary guidelines on biodiversity-inclusive environmental impact assessment are intended to serve as guidance for Parties and other Governments, subject to their national legislation, and for regional authorities or international agencies, as appropriate, in the development and implementation of their impact assessment instruments and procedures'.[38]

It has been acknowledged that natural habitat loss and fragmentation, as a result of development projects, are major causes of biodiversity erosion, and while Environmental impact assessment (EIA) is the most commonly used site-specific planning tool that takes into account the effects of development projects on biodiversity by integrating potential impacts into the mitigation hierarchy of avoidance, reduction, and offset measures, the extent to which

[35] Article 14(1), Convention on biological Diversity; see also generally, Craik N, 'Biodiversity-Inclusive Impact Assessment', *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing Limited 2017).
[36] Convention on biological Diversity, Article 14 (2).
[37] Craik N, 'Biodiversity-Inclusive Impact Assessment', *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing Limited 2017), 2.
[38] Unit B, 'Impact assessment: Voluntary guidelines on biodiversity-inclusive impact assessment' <*https://www.cbd.int/decision/cop/?id=11042*> accessed 10 September 2021.

EIA fully address the identification of impacts and conservation stakes associated with biodiversity loss has been criticized as inadequate.[39]

The *COP 8 Decision VIII/28, Impact Assessment: Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment* provides, *inter alia*, that the Conference of the Parties to the Convention on Biological Diversity:- notes that the Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessments regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or used by Indigenous and Local Communities (decision VII/16 F, annex) should be used in conjunction with the voluntary guidelines on biodiversity-inclusive environmental impact assessment contained in the annex below and the draft guidance on biodiversity-inclusive strategic environmental assessment contained in annex II to the note by the Executive Secretary on voluntary guidelines on biodiversity-inclusive impact assessment.[40]

The *Voluntary Guidelines On Biodiversity-Inclusive Environmental Impact Assessment* identifies some biodiversity issues at different stages of environmental impact assessment.[41] The guidelines identify different stages in this process: *Screening*- used to determine which proposals should be subject to EIA, to exclude those unlikely to have harmful environmental impacts and to indicate the level of assessment required. Screening criteria have to include biodiversity measures, or else there is a risk that proposals with potentially significant impacts on biodiversity will be screened out; *Scoping*: used to define the focus of the impact assessment study and to identify key issues, which should be studied in more detail. It is used to derive terms of reference (sometimes referred to as guidelines) for the EIA study and to set out the proposed approach and methodology. Scoping also enables the competent authority (or EIA professionals in countries where

[39] Bigard C, Pioch S and Thompson JD, 'The Inclusion of Biodiversity in Environmental Impact Assessment: Policy-Related Progress Limited by Gaps and Semantic Confusion' (2017) 200 Journal of environmental management 35, 35.
[40] Unit B, 'Impact assessment: Voluntary guidelines on biodiversity-inclusive impact assessment' <*https://www.cbd.int/decision/cop/?id=11042*> accessed 10 September 2021.
[41] Ibid.

scoping is voluntary) to: (a) Guide study teams on significant issues and alternatives to be assessed, clarify how they should be examined (methods of prediction and analysis, depth of analysis), and according to which guidelines and criteria; (b) Provide an opportunity for stakeholders to have their interests taken into account in the EIA; and (c) Ensure that the resulting Environmental Impact Statement is useful to the decision maker and is understandable to the public[42]; *Assessment and evaluation of impacts, and development of alternatives*; *Reporting: the environmental impact statement (EIS)*; *Review of the environmental impact statement*; *Decision-making;* and, *Monitoring, compliance, enforcement and environmental auditing*.[43]

COP 8 Decision suggests that, taking into account the three objectives of the Convention, fundamental questions which need to be answered in an EIA study include: (a) *Would the intended activity affect the biophysical environment directly or indirectly in such a manner or cause such biological changes that it will increase risks of extinction of genotypes, cultivars, varieties, populations of species, or the chance of loss of habitats or ecosystems*? (b) *Would the intended activity surpass the maximum sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum allowable disturbance level of a resource, population, or ecosystem, taking into account the full spectrum of values of that resource, population or ecosystem*? And, (c) *Would the intended activity result in changes to the access to, and/or rights over biological resources*?[44]

It may be important for stakeholders in environmental law in Kenya to review the requirements and process of EIA in biodiversity rich areas to include BIA as envisaged under Article 69(1) of the Constitution of Kenya. Notably, effective impact assessments and management plans largely rely on a solid foundation of: a) Information on biodiversity (e.g., taxonomic descriptions of species, conservation status assessments of species, conservation status assessments of ecosystems, distribution maps of species and habitats at a scale that is appropriate for project planning, understanding of sensitivity to stressors); b) Understanding of direct, indirect, and where

[42] Ibid.
[43] Ibid.
[44] Ibid.

feasible, cumulative impacts (i.e., placing the project in the context of land/resource use trends to ascertain how it contributes to landscape-scale impacts); c) Identification of priorities for biodiversity conservation (e.g., existing and planned protected areas, National Biodiversity Strategies and Action Plans); and d) Demonstrated methods to manage impacts.[45]

Arguably, if development projects are to take into consideration biodiversity conservation, then it is the high time that stakeholders consider inclusion of BIA in EIA and ESIA activities in the country. Fostering Environmental Democracy in these processes will also be important as the impact assessment is not purely technical and it is good practice to consult project stakeholders in all steps of the process, especially in the identification of potential impacts at the outset of the assessment.[46] This is especially important because local stakeholders may have a greater appreciation than external technical experts of the biodiversity values in the area and their sensitivity to impacts.[47]

It is important for business and financial organisations to actively help achieve national biodiversity goals, the Convention on Biological Diversity (CBD) Aichi Biodiversity Targets and the SDGs, in close co-operation and co-ordination with policy makers and civil society as they also depend on biodiversity for the production of goods and services The profitability and long-term survival of a number of business sectors (such as agriculture and fisheries which depend directly on biodiversity and well-functioning ecosystems), and loss of biodiversity and ecosystem services can, therefore, result in higher costs and risks for business and financial organisations, and directly affect their performance.[48]

[45] Hardner, J., Gullison, R.E., Anstee, S. and Meyer, M., 'Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning' [2015] Prepared for the Multilateral Financing Institutions Biodiversity Working Group, 4.
[46] Ibid, 7.
[47] Ibid, 6.
[48] OECD (2019), *Biodiversity: Finance and the Economic and Business Case for Action*, report prepared for the G7
Environment Ministers' Meeting, 5-6 May 2019, 35.

While it has been argued that since Africa's poverty problems run deep, it is only the long process of building democratic institutions and the civil society needed to make them work will bring meaningful development to Africa, where empowerment of local people will ensure long-term poverty reduction.[49]

It has rightly been pointed out that, ironically, indigenous and traditional communities – the very groups which have contributed least to the imminent threats of catastrophic anthropogenic climate change and biodiversity collapse, and whose practices are actually based on a sustainable bio-cultural paradigm – constitute most of those who are at greatest risk.[50] This is partly attributable to existing social and economic marginalization: globally the indigenous population, estimated at around 370 million, comprises 5 per cent of the world's population but 15 per cent of its poorest people, where climate change, colonialism and economic globalization have also left a legacy of other issues, such as environmental damage, land loss and lack of access to basic services, that have not only resulted in ill health and lower life expectancy but also devastated their complex cultural systems.[51]

Tackling the challenges that contribute to loss and deterioration of wetlands can go a long way in ensuring that these biodiversity rich areas are protected for the sake of both humans and other species that inhabit the wetlands.

5. Conclusion

Wetlands provide a variety of key ecosystem services, such as fresh water, nutrient cycling, food and fiber production, carbon fixation and storage, flood control and water storage, water treatment and purification, and biodiversity habitats, as mentioned in this paper.[52] It has rightly been pointed

[49] 'Development Requires Local Empowerment' <*https://archive.globalpolicy.org/socecon/develop/democracy/2006/0927localempowerment.htm*> accessed 21 July 2021.

[50] Havemann P, 'Lessons from Indigenous Knowledge and Culture: Learning to Live in Harmony with Nature in an Age of Ecocide' [2016] State of the World's Minorities and Indigenous Peoples, 49.

[51] Ibid, 49.

[52] Richard T Kingsford, Alberto Basset and Leland Jackson, 'Wetlands:

out that the world's biodiversity is dwindling, and it is becoming clear that freshwater habitats are deteriorating at a quicker rate than terrestrial and marine ecosystems.[53]

There is a need for active and meaningful involvement of communities in biodiversity conservation efforts especially within wetland areas because while activities that damage the environment, such as mining, industrial development or commercial logging, can deprive people of their livelihoods and cultural rights, it is also true that strict environmental protection which excludes people and deprives them of resources on which they are dependent, without providing viable alternatives, can affect people's right to a livelihood.[54]

Urgent measures that involve all stakeholders meaningfully need to be taken towards nurturing wetlands as a step towards conservation of biodiversity resources. Nurturing our Wetlands for Biodiversity Conservation is clearly the way to go.

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[53] Richard T Kingsford, 'Conservation of Floodplain Wetlands – out of Sight, out of Mind?' (2015) 25 Aquatic Conservation: Marine and Freshwater Ecosystems 727, 727 <*https://onlinelibrary.wiley.com/doi/abs/10.1002/aqc.2610*> accessed 28 December 2021.

[54] Ibid, 5.

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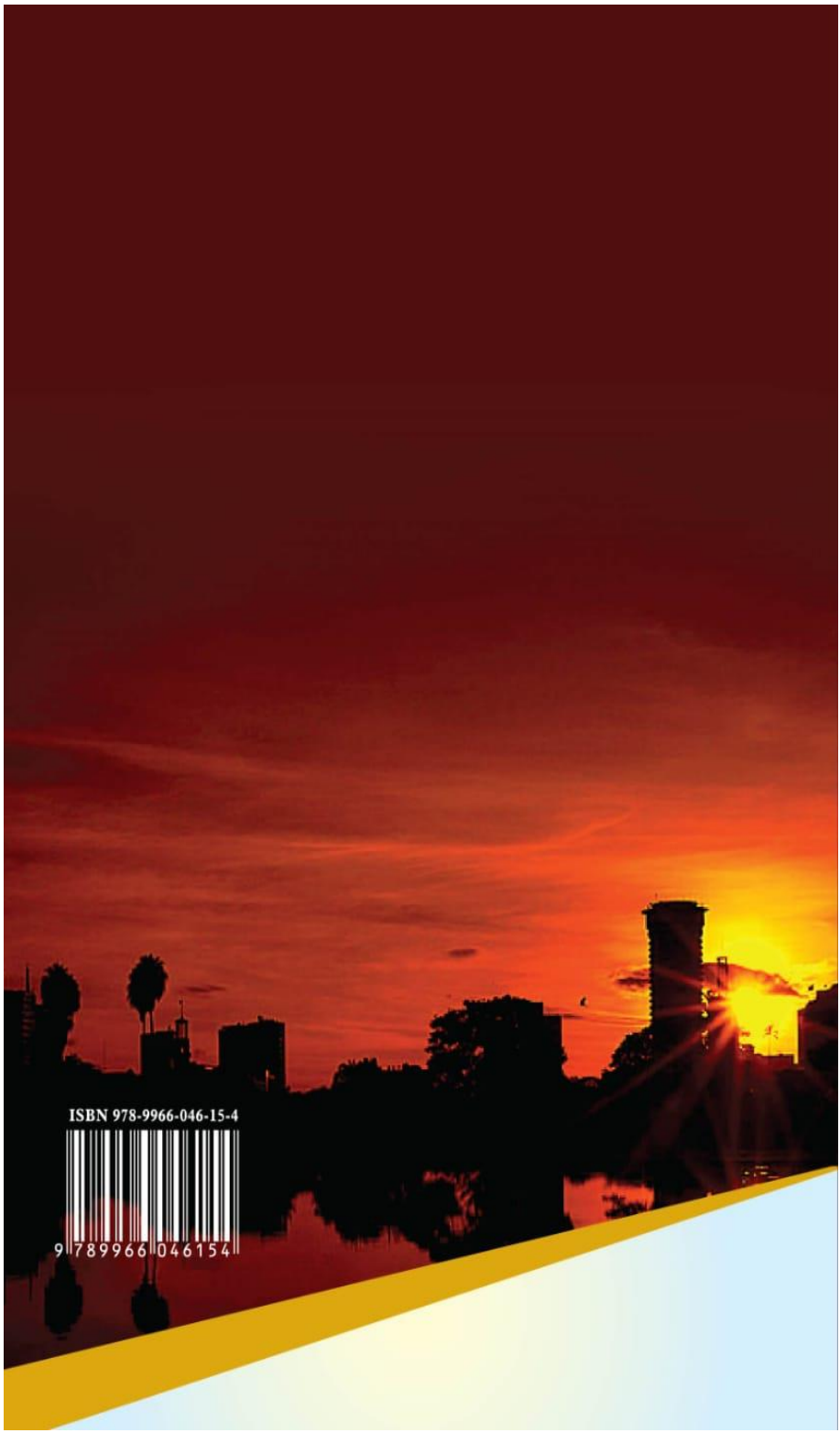
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