

# **Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems**

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**Kariuki Muigua**

## Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems

**Kariuki Muigua, Ph.D.\***

### **Abstract**

*With the formal adoption of the Alternative Justice Systems Framework Policy by the Kenyan Judiciary in 2020, came the possibility of a wider application of the Alternative Justice Systems (AJS) in not only addressing environmental disputes but also enhancing the role of communities and other stakeholders in environmental conservation. Arguably, the current formal legal framework on environmental justice and conservation could benefit greatly from the use of AJS in enhancing access to environmental justice and conservation measures.*

*This paper argues that AJS offers communities a platform for not only participating in not only accessing environmental justice but also a chance to participate in environmental conservation and utilise their traditional knowledge in complementing scientific knowledge in promoting such conservation efforts.*

### **1. Introduction**

The Kenyan Judiciary's formal adoption of the Alternative Justice Systems Framework Policy in 2020 opened the door to the potential for a broader application of the Alternative Justice Systems (AJS), improving the rights of communities and other stakeholders in environmental conservation in addition to resolving environmental disputes.<sup>1</sup> One may argue that the use of AJS in improving access to environmental justice and conservation measures would have a significant positive impact on the present formal legal framework on environmental justice and conservation.<sup>2</sup>

It has been suggested that the Sustainable Development Goals (SDGs) have the potential to cause environmental injustices and justices because of their contradictions, trade-offs, and synergies.<sup>3</sup> However, the language and spirit of the SDGs do not yet incorporate Environmental Justice (EJ) or social justice in general. "Many 'environmental' problems are, by their very nature, problems of justice," the argument goes.<sup>4</sup> Through "a balanced approach including an explicit focus on justice,

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<sup>1</sup> 'Alternative Justice Systems Baseline Policy and Policy Framework – The Judiciary' <<https://judiciary.go.ke/download/alternative-justice-systems-baseline-policy-and-policy-framework/>> accessed 20 February 2024.

<sup>2</sup> Greiber, T., 2009. *Conservation with justice: a rights-based approach* (No. 71). IUCN.

<sup>3</sup> Menton, M., Larrea, C., Latorre, S., Martinez-Alier, J., Peck, M., Temper, L. and Walter, M., 2020. Environmental justice and the SDGs: from synergies to gaps and contradictions. *Sustainability Science*, 15, pp.1621-1636, at 1621.

<sup>4</sup> Ibid, at 1621.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

equity, and environment together," this approach suggests the necessity of "just sustainability."<sup>5</sup> Requiring sustainability to assume a redistributive role, transformative sustainability, or just sustainability, necessitates a paradigm change. In order for us to have any hope of a more sustainable future, justice and fairness must take centre stage in sustainability discourses.<sup>6</sup>

SDG 16 seeks to promote peaceful and inclusive societies for Sustainable Development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.<sup>7</sup> It seeks to achieve this through the following Targets: Promote the rule of law at the national and international levels and ensure equal access to justice for all; Develop effective, accountable and transparent institutions at all levels; Ensure responsive, inclusive, participatory and representative decision-making at all levels; Broaden and strengthen the participation of developing countries in the institutions of global governance; Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements; and promote and enforce non-discriminatory laws and policies for sustainable development.<sup>8</sup>

In addition to being a goal in itself, SDG 16 is a prerequisite for achieving every other goal. Reaching goals like eradicating poverty, guaranteeing education, or fostering economic growth will be challenging, if not impossible, in the absence of peace, justice, and robust institutions. On the other hand, truly equitable and peaceful societies that uphold the rule of law and have inclusive, efficient, and responsible institutions are able to defend human rights and promote true sustainable development.<sup>9</sup>

The International Union for Conservation of Nature (IUCN) defines conservation as the management of human use of the biosphere to produce the maximum sustainable benefit to present generations while preserving its potential to satisfy the needs and aspirations of future generations.<sup>10</sup> Therefore, conservation is a good thing that includes protecting, maintaining, using resources sustainably, restoring, and improving the natural environment.<sup>11</sup> Arguably, AJS can provide a platform that ensures

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<sup>5</sup> Ibid, at 1622.

<sup>6</sup> Ibid, 1622.

<sup>7</sup> UN General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1, 21 October 2015.

<sup>8</sup> 'SDG 16: Promote Peaceful and Inclusive Societies for Sustainable Development, Provide Access to Justice for All and Build Effective, Accountable and Inclusive Institutions at All Levels' (*UN Women – Headquarters*) <<https://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-16-peace-justice-strong-institutions>> accessed 20 February 2024.

<sup>9</sup> 'SDG 16: Legal Guide to the SDGs - SDG Legal Initiative' (19 April 2023) <<https://sdglegalinitiative.a4id.org/resources/sdg-16-legal-guide-to-the-sdgs/>> accessed 20 February 2024.

<sup>10</sup> Talbot, L.M., 1980. A World Conservation Strategy. *Journal of the Royal Society of Arts* 128, 493–510.

<sup>11</sup> Greiber, T., Janki, M., Orellana, M., Savaresi, A. and Shelton, D., 2009. Conservation with Justice. *A Rights-based Approach*. Gland: IUCN, 6.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

communities not only engage in conservation using their indigenous and traditional ecological knowledge but also get to do so in a way that improves their livelihoods and insulates them from adverse environmental effects of development and climate change.<sup>12</sup> Indigenous knowledge that is concentrated on the interactions between living things and their surroundings is known as Traditional Ecological Knowledge, or TEK. By emphasizing the significance of maintaining these connections, it may guide conservation efforts and offer insights into the complex web of biological interactions.<sup>13</sup> In order to improve the long-term sustainability of their livelihood choices and promote social-ecological resilience, tribal people can better adjust to socio-ecological changes with the use of traditional ecological knowledge (TEK).<sup>14</sup>

This paper makes the case that AJS provides communities with a forum to engage in environmental conservation and use their traditional knowledge to supplement scientific knowledge in support of such conservation efforts for sustainability, in addition to providing a means of accessing environmental justice.

### **2. Typologies of Alternative Justice Systems Mechanisms in Environmental Conservation**

Kenya's Alternative Justice Systems Framework Policy 2020 identifies four main models (typologies): Autonomous AJS Institutions, Autonomous Third-Party AJS Institutions, Court-Annexed AJS Institutions and Regulated AJS Institutions and endorsed the first three.<sup>15</sup> This paper explores AJS mainly in the context of Autonomous AJS Institutions and Autonomous Third-Party AJS Institutions only. It seeks to rely on the role that players from these two typologies can play in enhancing the use

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<sup>12</sup> RECOFTC, 'Reaching to Our Roots: Traditional Ecological Knowledge to Ratchet up Climate Action' <<https://www.recoftc.org/stories/reaching-our-roots-traditional-ecological-knowledge-ratchet-climate-action>> accessed 22 February 2024; Dawson, N.M., Coolsaet, B., Sterling, E.J., Loveridge, R., Gross-Camp, N.D., Wongbusarakum, S., Sangha, K.K., Scherl, L.M., Phuong Phan, H., Zafra-Calvo, N. and Lavey, W.G., 2021. The role of Indigenous peoples and local communities in effective and equitable conservation; Sinthumule, N.I., 2023. Traditional ecological knowledge and its role in biodiversity conservation: a systematic review. *Frontiers in Environmental Science* 11.

<sup>13</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>14</sup> Haq, S.M., Pieroni, A., Bussmann, R.W., Abd-ElGawad, A.M., El-Ansary, H.O., 2023. Integrating traditional ecological knowledge into habitat restoration: implications for meeting forest restoration challenges. *Journal of Ethnobiology and Ethnomedicine* 19, 33. <https://doi.org/10.1186/s13002-023-00606-3>.

<sup>15</sup> 'Alternative Justice Systems Baseline Policy and Policy Framework – The Judiciary' <<https://judiciary.go.ke/download/alternative-justice-systems-baseline-policy-and-policy-framework/>> accessed 20 February 2024.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

of traditional ecological knowledge in environmental conservation and access to Environmental Justice.

The Policy describes ‘Autonomous AJS Institutions’ as independent mechanisms which are run entirely by the community.<sup>16</sup> The community determines the decision makers and the processes to be followed without any interventions or regulations from the State. The decision makers selected resolve these disputes by applying the laws, rules and practices that govern that particular community.<sup>17</sup> It further describes ‘Autonomous Third-Party AJS Institutions’ as State-sanctioned institutions such as chiefs, the police, probation officers, child welfare officers, village elders under the County government, and the chair of *Nyumba Kumi* groupings, among others.<sup>18</sup> They can also be non-State or related institutions such as church leaders, Imams and Sheikhs among Muslims, as well as other religious leaders and functionaries of social groups such as *Chamas*, NGOs and CSOs.<sup>19</sup> The main characteristic of this model is that the State and non-State third parties are not part of any State judicial or quasi-judicial mechanisms.<sup>20</sup>

This paper is premised on the assumption that while the Autonomous AJS Institutions will be the main source of the ecological knowledge to be utilised, the Autonomous Third-Party AJS Institutions will be useful in providing the linkage between these communities and the government players such as courts and the government agencies involved in environmental conservation measures and access to environmental justice.

Notably, the manifestation of climate and conflict elements is influenced by the interaction between susceptibility, exposure to climatic hazards, and state and community coping mechanisms at the local level.<sup>21</sup> Indigenous knowledge includes a profound comprehension of the wildlife behaviour, weather patterns, medicinal uses of plants, local ecosystems, and intricate relationships between human civilization and the natural world.<sup>22</sup> It is a way of life that is intricately entwined with cultural customs,

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<sup>16</sup> ‘Alternative Justice Systems Baseline Policy and Policy Framework – The Judiciary’, para. 3.2.1.

<sup>17</sup> Alternative Justice Systems Baseline Policy and Policy Framework – The Judiciary’, 8.

<sup>18</sup> Alternative Justice Systems Baseline Policy and Policy Framework – The Judiciary’, para. 3.2.2.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid, 8.

<sup>21</sup> Mapping of climate security adaptations at community level in the Horn of Africa - Kenya | ReliefWeb [WWW Document], 2023. URL <https://reliefweb.int/report/kenya/mapping-climate-security-adaptations-community-level-horn-africa> (accessed 3.13.24); see also Mobjörk, M. and van Baalen, S., 2016. Climate change and violent conflict in East Africa: implications for policy. *POLICY BRIEF*.

<sup>22</sup> GLOBE-Net How Indigenous Science Benefits Our Planet - GLOBE-Net [WWW Document], n.d. URL <https://globe-net.com/how-indigenous-science-benefits-our-planet/> (accessed 3.13.24).

rituals, and beliefs in addition to being a body of applied knowledge.<sup>23</sup> It has been noted that there is a higher chance of violent conflict over limited resources when institutions are nonexistent, corrupt, or dysfunctional.<sup>24</sup> Therefore, one strategy to stop violent conflict is to have adequate and efficient dispute resolution processes. Since most communities already have these kinds of systems in place, some researchers argue that rather than attempting to introduce completely new mechanisms for resolving conflicts, external actors like governmental and non-governmental organisations should concentrate on finding ways to modify existing local systems.<sup>25</sup>

### **3. Relevant Legal and Policy Framework on Alternative Justice Systems Mechanisms in Kenya**

The Constitution of Kenya 2010 recognises culture as the foundation of the nation and as the cumulative civilization of the Kenyan people and nation.<sup>26</sup> It goes on to provide that ‘the State shall promote all forms of national and cultural expression through literature, the arts, traditional celebrations, science, communication, information, mass media, publications, libraries and other cultural heritage; recognise the role of science and indigenous technologies in the development of the nation; and promote the intellectual property rights of the people of Kenya.’<sup>27</sup> In addition, Article 44(1) thereof guarantees that ‘every person has the right to use the language, and to participate in the cultural life, of the person’s choice’.

Article 60(1)(g) of the Constitution recognises the principles of land policy as including, *inter alia*, encouragement of communities to settle land disputes through recognised local community initiatives consistent with this Constitution.

The functions of the National Land Commission also include, *inter alia*: to conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities, and to encourage the application of traditional dispute resolution mechanisms in land conflicts.<sup>28</sup>

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<sup>23</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>24</sup> Mobjörk, M. and van Baalen, S., 2016. Climate change and violent conflict in East Africa: implications for policy. *POLICY BRIEF*.

<sup>25</sup> Ibid.

<sup>26</sup> Republic of Kenya, Constitution of Kenya, 2010, Art. 11(1), Government Printer, Nairobi

<sup>27</sup> Ibid, Art. 11 (2).

<sup>28</sup> Constitution of Kenya, 2010, Art. 67(2)(d)(f); see also Nyaga, B., 2023. NLC partners with Judiciary to resolve land conflicts - KBC. URL <https://www.kbc.co.ke/nlc-partners-with-judiciary-to-resolve-land-conflicts/> (accessed 3.13.24).

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

Article 69(1) provides for the State obligations in respect of the environment as including, *inter alia*, to: (c) protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities; (d) encourage public participation in the management, protection and conservation of the environment; (e) protect genetic resources and biological diversity.

Article 159(2)(c) provides that ‘in exercising judicial authority, the courts and tribunals should be guided by the principles of, *inter alia*— (c) alternative forms of dispute resolution including reconciliation, mediation, arbitration and traditional dispute resolution mechanisms shall be promoted, subject to clause (3); and (d) justice shall be administered without undue regard to procedural technicalities.

In addition, Article 159 (3) provides that ‘traditional dispute resolution mechanisms shall not be used in a way that—(a) contravenes the Bill of Rights; (b) is repugnant to justice and morality or results in outcomes that are repugnant to justice or morality; or (c) is inconsistent with this Constitution or any written law.

The *Protection of Traditional Knowledge and Cultural Expressions Act 2016*<sup>29</sup> provides a framework for the protection and promotion of traditional knowledge and cultural expressions; to give effect to Articles 11, 40 and 69(1)(c) of the Constitution; and for connected purposes.<sup>30</sup>

This framework provides a platform for the utilisation of AJS in involving communities in environmental conservation and promoting access to environmental justice using traditional approaches and knowledge possessed by these communities.

### **4. Challenges and Prospects in using AJS for Environmental Justice and Conservation in Kenya**

Law has been said to be the most powerful instrument available to us for influencing conduct, directing activity, and achieving societal objectives like conservation. As such, it is essential to just and efficient management of natural resources.<sup>31</sup> The law must play a crucial role in finding solutions to environmental issues, as has been correctly noted. Although it is a crucial part of the solution, which consists of a complex web of social, economic, and political linkages and processes, it is not the entire

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<sup>29</sup> Protection of Traditional Knowledge and Cultural Expressions Act, No. 33 of 2016, Laws of Kenya.

<sup>30</sup> Ibid, Preamble.

<sup>31</sup> National legal systems | IUCN [WWW Document], n.d. URL <https://www.iucn.org/our-work/topic/national-legal-systems> (accessed 2.24.24).

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

answer.<sup>32</sup> The right legal structures and instruments must be in place in order to meet sustainable goals, not to mention, they have to work. Enacting laws and even seeing them through to completion are not sufficient; laws also need to function.<sup>33</sup> It may also be worth pointing out that effectiveness of laws in the context of communities means that these laws must not only be seen but also felt by the said communities to be working for them.<sup>34</sup> The need for incorporating indigenous knowledge into the legal framework forms the basis for this paper. It is arguable that for the communities to feel the impact of the law and to feel like they are part of it, their indigenous knowledge and expertise especially on conservation must be recognised and given a chance to be utilised in conservation measures towards building sustainability.

Despite the existence of the formal legal and institutional frameworks in Kenya, environmental problems and related conflicts and disputes abound.<sup>35</sup> As of February 2023, it has been estimated that 4.4 million people in Kenya—of whom 1.2 million, or 27%, were in Emergency/IPC Phase 4—were experiencing a serious food crisis and needed humanitarian relief, particularly in the drought- and conflict-ravaged East Africa.<sup>36</sup> Certain studies claim that reduced economic and agricultural output brought on by climate change contributes to conflict. Conflict and food insecurity are strongly related to one another and reinforce one another. Furthermore, policymakers need to use conflict-related climate change adaptation measures in order to reduce food insecurity.<sup>37</sup>

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<sup>32</sup> Martin, P., Boer, B. and Slobodian, L., 2016. Framework for assessing and improving law for sustainability. *Gland (Suiça): IUCN*.

<sup>33</sup> Ibid, ix.

<sup>34</sup> Tobin, B., 2014. *Indigenous Peoples, Customary Law and Human Rights-Why Living Law Matters*. Routledge; see also Brewer, J. and Kronk Warner, E.A., 2015. Guarding Against Exploitation: Protecting Indigenous Knowledge in the Age of Climate Change. Available at SSRN 2567995.

<sup>35</sup> National Environment Management Authority, *Kenya State of Environment Report 2019-2021*, May 2021, [https://www.nema.go.ke/images/Docs/EIA\\_1920-1929/NEMA%20SoE%202019-2021.pdf](https://www.nema.go.ke/images/Docs/EIA_1920-1929/NEMA%20SoE%202019-2021.pdf); Sixth session of the United Nations Environment Assembly (UNEA-6) [WWW Document], n.d. . Environment Assembly. URL <http://www.unep.org/environmentassembly/unea6> (accessed 3.13.24); see also Kenya: As Drought Deepens Land Conflicts, Peacebuilders Respond [WWW Document], n.d. . United States Institute of Peace. URL <https://www.usip.org/blog/2022/09/kenya-drought-deepens-land-conflicts-peacebuilders-respond> (accessed 3.13.24); “There’s absolutely no rain, I don’t know what to do next”: Perspectives on climate change and conflict in Uganda and Kenya - News and resources - Saferworld [WWW Document], n.d. URL <https://www.saferworld-global.org/resources/news-and-analysis/post/1002-athereas-absolutely-no-rain-i-donot-know-what-to-do-nexta-perspectives-on-climate-change-and-conflict-in-uganda-and-kenya> (accessed 3.13.24); Climate change destroys the livelihoods of Kenyan pastoralists [WWW Document], 2023. . Africa Renewal. URL <https://www.un.org/africarenewal/magazine/january-2023/climate-change-destroys-livelihoods-kenyan-pastoralists> (accessed 3.13.24).

<sup>36</sup> Bedasa, Y., Deksisia, K., 2024. Food insecurity in East Africa: An integrated strategy to address climate change impact and violence conflict. *Journal of Agriculture and Food Research* 15, 100978. <https://doi.org/10.1016/j.jafr.2024.100978>.

<sup>37</sup> Ibid; see also Amid Record Drought and Food Insecurity, East Africa’s Protracted Humanitarian Crisis Worsens - Ethiopia | ReliefWeb [WWW Document], 2023. URL <https://reliefweb.int/report/ethiopia/amid-record-drought-and-food-insecurity-east-africas-protracted-humanitarian-crisis-worsens> (accessed 3.13.24); How Africa Can Escape Chronic Food Insecurity Amid Climate Change [WWW Document], 2022. . IMF. URL



## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

As has been correctly noted, one of the best ways to bring about change in protecting the nation's natural resources and ensuring the sustainability of our environment is via collaboration between donors, local communities, and authorities.<sup>38</sup>

The United Nations Environment Programme (UNEP) headquarters in Nairobi, Kenya hosted the sixth session of the United Nations Environment Assembly (UNEA-6) from February 26 to March 1, 2024.<sup>39</sup> The overall theme of UNEA-6 was effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution.<sup>40</sup> UNEA-6 adopted a *resolution on promoting synergies, cooperation or collaboration for national implementation of multilateral environmental agreements and other relevant environmental instruments*<sup>41</sup> which encourages Member States to, *inter alia*: Enhance synergies, cooperation or collaboration, as appropriate, when implementing their respective obligations and commitments under Multilateral Environmental Agreements and other relevant environmental instruments, while respecting their individual mandates, thereby contributing to the effective implementation of national environment policies and actions, delivering global environmental benefits, contributing to the achievement of 2030 Agenda for Sustainable Development and the Sustainable Development Goals, considering the best available science, Indigenous knowledge, traditional knowledge, and local knowledge.<sup>42</sup> Indigenous knowledge systems are being more recognised for their vital contributions to environmental protection as the globe struggles with ever-more-difficult environmental issues including habitat loss, deforestation, climate change, and biodiversity depletion.<sup>43</sup> Since they have spent generations coexisting peacefully with the environment, indigenous peoples have a wealth of knowledge about the local ecosystems, sustainable resource management techniques, and distinctive cultural viewpoints that can be extremely valuable in

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<https://www.imf.org/en/Blogs/Articles/2022/09/14/how-africa-can-escape-chronic-food-insecurity-amid-climate-change> (accessed 3.13.24); Gebre, G.G., Rahut, D.B., 2021. Prevalence of household food insecurity in East Africa: Linking food access with climate vulnerability. *Clim Risk Manag* 33, None. <https://doi.org/10.1016/j.crm.2021.100333>.

<sup>38</sup> Partnership crucial in addressing environment issues – Kenya News Agency, 2023. URL <https://www.kenyanews.go.ke/partnership-crucial-in-addressing-environment-issues/> (accessed 3.13.24).

<sup>39</sup> The United Nations Environment Programme (UNEP) headquarters in Nairobi, Kenya hosted the sixth session of the United Nations Environment Assembly (UNEA-6) from February 26 to March 1, 2024.

<sup>40</sup> Theme [WWW Document], n.d. URL <https://www.unep.org/environmentassembly/unea6/theme> (accessed 3.13.24).

<sup>41</sup> UNEP, *Draft Resolution On Promoting Synergies, Cooperation or Collaboration for National Implementation of Multilateral Environmental Agreements and Other Relevant Environmental Instruments*, UNEP/EA.6/L.7, United Nations Environment Assembly of the United Nations Environment Programme Sixth session, Nairobi, 26 February–1 March 2024, <https://documents.un.org/doc/undoc/ltd/k24/006/18/pdf/k2400618.pdf?token=cpQ1mCVQ0HvpN5qeLH&fe=true>.

<sup>42</sup> UNEP, *Draft Resolution On Promoting Synergies, Cooperation or Collaboration for National Implementation of Multilateral Environmental Agreements and Other Relevant Environmental Instruments*, UNEP/EA.6/L.7, para. 1(a).

<sup>43</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

developing conservation strategies.<sup>44</sup> However, it has been observed that while traditional ecological knowledge (TEK) offers a comprehensive understanding of ecosystem dynamics and how they relate to cultural norms, practices, and resource use patterns, TEK's integrity is frequently in danger because of shifting ideologies, languages, traditional means of subsistence, and disruptions of traditional social-ecological systems.<sup>45</sup>

It has been observed that while using Indigenous knowledge to save the environment has enormous potential, there are a number of obstacles that need to be overcome:<sup>46</sup> Acknowledgment and Deference: Conventional scientific and governmental establishments frequently marginalize or disregard indigenous knowledge.<sup>47</sup> Recognising and respecting Indigenous viewpoints and rights is crucial to maximising its potential;<sup>48</sup> Protection of Indigenous Lands: Indigenous groups' capacity to manage resources sustainably is weakened by frequent threats to their ancestral lands and territories.<sup>49</sup> Justice demands that Indigenous lands be protected, and doing so also helps to preserve priceless biological knowledge;<sup>50</sup> and Ethical Considerations: It is important to follow ethical guidelines while working with Indigenous people.<sup>51</sup> These guidelines should include respecting their intellectual

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<sup>44</sup> Ibid.

<sup>45</sup> Haq, S.M., Pieroni, A., Bussmann, R.W., Abd-ElGawad, A.M., El-Ansary, H.O., 2023. Integrating traditional ecological knowledge into habitat restoration: implications for meeting forest restoration challenges. *Journal of Ethnobiology and Ethnomedicine* 19, 33. <https://doi.org/10.1186/s13002-023-00606-3>.

<sup>46</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>47</sup> Ibid, Indigenous People's Traditional Knowledge Must Be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session | Meetings Coverage and Press Releases [WWW Document], n.d. URL <https://press.un.org/en/2019/hr5431.doc.htm> (accessed 3.13.24); Ezeanya-Esiobu, C., 2019. Research, Innovation, Indigenous Knowledge and Policy Action in Africa, in: Ezeanya-Esiobu, C. (Ed.), *Indigenous Knowledge and Education in Africa*. Springer, Singapore, pp. 97–106. [https://doi.org/10.1007/978-981-13-6635-2\\_7](https://doi.org/10.1007/978-981-13-6635-2_7); Agrawal, A., 1995. Dismantling the divide between indigenous and scientific knowledge. *Development and change*, 26(3), pp.413-439.

<sup>48</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>49</sup> Indigenous Peoples and the nature they protect [WWW Document], n.d. URL <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> (accessed 3.13.24); Ford, J.D., King, N., Galappaththi, E.K., Pearce, T., McDowell, G., Harper, S.L., 2020. The Resilience of Indigenous Peoples to Environmental Change. *One Earth* 2, 532–543. <https://doi.org/10.1016/j.oneear.2020.05.014>; Indigenous Peoples [WWW Document], n.d. . World Bank. URL <https://www.worldbank.org/en/topic/indigenouspeoples> (accessed 3.13.24); Feiring, B., 2013. Indigenous peoples' rights to lands, territories and resources. *International Land Coalition, Rome, 94*, pp.12-21; Tenure and Indigenous Peoples, n.d. . LandLinks. URL <https://www.land-links.org/issue-brief/tenure-and-indigenous-peoples/> (accessed 3.13.24).

<sup>50</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>51</sup> Ethical Issues and Consent in Research with Indigenous Peoples — Sage Research Methods Community [WWW Document], n.d. URL <https://researchmethodscommunity.sagepub.com/blog/ethical-issues-and-consent-in-research-with-indigenous-peoples> (accessed 3.13.24).

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

property rights, obtaining informed consent, and paying equitable compensation.<sup>52</sup> It has however been observed that the development of Access To Genetic Resources and Benefit-Sharing agreements to enhance horizontal advantages for community welfare and avoid disputes may be facilitated by customary rules and practices, which may include systems for the equitable transfer of wealth across groups. Nonetheless, when groups become more westernised and use traditional knowledge for profit (as in the case of the Mijikenda), cooperative principles are occasionally eroding and there is a movement towards private ownership. In this case, setting up Prior Informed Consent (PIC) representative bodies and collective safety measures could be more difficult.<sup>53</sup>

It has also been argued that for indigenous knowledge to be an acceptable practice into disaster risk reduction strategies, it must be recognized and validated, understood in the present context, systematically documented, value tested, appropriate practices for replication must be identified, and indigenous knowledge must be demonstrated through national and regional pilot programs.<sup>54</sup> Additionally, there is a need for a standardized institutional framework to incorporate into mainstream disaster risk reduction. Although modern early warning systems have been recognized as the preferred technique over traditional early warning methods, Geographic Information System (GIS) has been incorporated into local knowledge systems.<sup>55</sup>

Building capability within traditional or local institutions is necessary to reinforce out-of-court dispute resolution processes.<sup>56</sup> The ultimate objective and need of using indigenous knowledge is for humanitarian and development groups to form alliances with locals and include them in the risk-management procedure. It is believed that doing so will improve comprehension of techniques and skills and inspire initiatives that enhance rather than replace indigenous knowledge.<sup>57</sup>

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<sup>52</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>53</sup> Swiderska, K., 2006. Protecting community rights over traditional knowledge: Implications of customary laws and practices. Interim report.

<sup>54</sup> Examining Linkages between Disaster Risk Reduction and Livelihoods - Tufts - Feinstein International Center [WWW Document], n.d. URL <https://fic.tufts.edu/publication-item/examining-linkages-between-disaster-risk-reduction-and-livelihoods/> (accessed 3.13.24), 34.

<sup>55</sup> Ibid.

<sup>56</sup> Mobjörk, M. and van Baalen, S., 2016. Climate change and violent conflict in East Africa: implications for policy. *POLICY BRIEF*.

<sup>57</sup> Examining Linkages between Disaster Risk Reduction and Livelihoods - Tufts - Feinstein International Center [WWW Document], n.d. URL <https://fic.tufts.edu/publication-item/examining-linkages-between-disaster-risk-reduction-and-livelihoods/> (accessed 3.13.24), 34; see also Ali, T., Paton, D., Buergelt, P.T., Smith, J.A., Jehan, N. and Siddique, A., 2021. Integrating Indigenous perspectives and community-based disaster risk reduction: A pathway for sustainable Indigenous development in Northern Pakistan. *International Journal of Disaster Risk Reduction*, 59, p.102263.

## 5. Adopting A Rights-based Approach to Conservation and Environmental Justice

The Constitution of Kenya 2010 provides that ‘the Bill of Rights is an integral part of Kenya’s democratic state and is the framework for social, economic and cultural policies’.<sup>58</sup> It goes on to state that ‘the purpose of recognising and protecting human rights and fundamental freedoms is to preserve the dignity of individuals and communities and to promote social justice and the realisation of the potential of all human beings’.<sup>59</sup>

Some writers advocate for "conservation with justice," which requires all parties, both state and non-state, planning or involved in policies, projects, programmes, and activities that could have an impact on the conservation of nature to ensure that all potentially impacted parties have access to the substantive and procedural rights guaranteed by both domestic and international law.<sup>60</sup> Justice theories oriented towards Environmental Justice include fairness predicated on the ideas of sustainability and equitable burden sharing.<sup>61</sup> Non-governmental organisations (NGOs), United Nations forums, the organisational endeavours and battles of groups who are directly affected, and State institutions that are particularly tasked with environmental concerns are the main participants.<sup>62</sup>

Practical examples have been cited in the case of Northern Kenya area which is mostly occupied by pastoralists. The leader of Indigenous Movement for Peace Advancement and Conflict Transformation (IMPACT), a local group in Laikipia, rightly points out that:

“In northern Kenya, we come from many different communities that all practice pastoralism and that all face similar challenges,” Karmushu said in an interview, “but we will not be able to solve these issues — of climate change, the loss of our grazing lands and having a future for our people — unless we can solve our conflicts peacefully and be united.”<sup>63</sup>

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<sup>58</sup> Republic of Kenya, Constitution of Kenya, 2010, Art. 19(1).

<sup>59</sup> Ibid, Art. 19(2).

<sup>60</sup> Greiber, T., Janki, M., Orellana, M., Savaresi, A. and Shelton, D., 2009. Conservation with Justice. *A Rights-based Approach*. Gland: IUCN, 6.

<sup>61</sup> Figueroa, R.M., 2022. Environmental justice. In *The Routledge Companion to Environmental Ethics* (pp. 767-782). Routledge; Beretta, I., 2012. Some Highlights on the Concept of Environmental Justice and its Use. e-cadernos CES. <https://doi.org/10.4000/eces.1135>; A Conceptual Framework for Environmental Justice Based on Shared but Differentiated Responsibilities in: Global Citizenship and Environmental Justice [WWW Document], n.d. URL [https://brill.com/display/book/edcoll/9789401201452/B9789401201452\\_s007.xml](https://brill.com/display/book/edcoll/9789401201452/B9789401201452_s007.xml) (accessed 3.13.24); Menton, M., Larrea, C., Latorre, S., Martinez-Alier, J., Peck, M., Temper, L., Walter, M., 2020. Environmental justice and the SDGs: from synergies to gaps and contradictions. *Sustain Sci* 15, 1621–1636. <https://doi.org/10.1007/s11625-020-00789-8>.

<sup>62</sup> Milovanovic, D., 2011. Justice-rendering schemas: A typology for forms of justice and a prolegomenon for transformative justice. *Journal of Theoretical and Philosophical Criminology*, 3(1), pp.1-56, 13.

<sup>63</sup> Kenya: As Drought Deepens Land Conflicts, Peacebuilders Respond [WWW Document], n.d. . United States Institute of Peace. URL <https://www.usip.org/blog/2022/09/kenya-drought-deepens-land-conflicts-peacebuilders-respond> (accessed 3.13.24).

Although several attempts had been made by Kenyan government and other parties to end the violence, this peacebuilding organisation, IMPACT, had a stronger local presence; in fact, its headquarters were in Nanyuki, the county capital of Laikipia. Its leader stated that IMPACT had initiated discussions in both communities to develop a peace process that was in line with the customs of the Samburu and Il-Ngwesi, since they "knew the traditional methods that they use to manage land and also conflict."<sup>64</sup>

## **6. Need for Establishing Research and Funding Systems to Support Traditional Ecological and Conflict Management Knowledge**

It is reported that the above mentioned grassroots organisation, IMPACT, has helped six communities win title to lands they now use. Another priority is to help communities adapt to the climatic degradation of lands and build more reliable livelihoods.<sup>65</sup> Notably, to strengthen grassroots peacebuilding, the United States Institute of Peace provided grant funding to IMPACT for a project that was focused on researching how local peacebuilders achieve their best results. That project was meant to train and develop young environmental peacebuilders to apply the improved methods uncovered by the research.<sup>66</sup>

The training was shaped by “participatory action research,” an approach to achieving social change that promotes research and analysis *by local communities* rather than outsiders — and then action by those communities on the basis of the research findings. IMPACT engaged 11 “environmental fellows” from pastoral communities who conducted nearly 150 interviews with witnesses to conflict incidents and other informants. This research pinpointed specific drivers of conflicts in northern Kenya.<sup>67</sup> They pointed out these drivers as including:<sup>68</sup>

- a) **Exclusionary wildlife management.** Wildlife refuges that fence off large areas without full consultation with local communities can exclude those populations from their traditional lands and resources, causing conflict.<sup>69</sup>

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<sup>64</sup> Ibid.

<sup>65</sup> Kenya: As Drought Deepens Land Conflicts, Peacebuilders Respond [WWW Document], n.d. . United States Institute of Peace. URL <https://www.usip.org/blog/2022/09/kenya-drought-deepens-land-conflicts-peacebuilders-respond> (accessed 3.13.24).

<sup>66</sup> Ibid.

<sup>67</sup> Ibid; see also Participatory Action Research | Participatory Methods [WWW Document], n.d. URL <https://www.participatorymethods.org/glossary/participatory-action-research> (accessed 3.13.24).

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

- b) **“Industrialized” cattle rustling.** Cattle theft, which in the past was very local and small-scale, has become a more organized crime, as thieves use sophisticated resources to move large numbers of stolen cattle for sale in distant markets.<sup>70</sup>
- c) **Communal land registration.** As authorities update and expand land ownership registrations, the process is surfacing old land disputes and is prompting wealthy elites to try to quickly acquire new lands, causing new conflicts.<sup>71</sup>

United States Institute of Peace rightly points out that the growing field of environmental peacebuilding “increasingly recognizes the importance of working inclusively — that is, engaging all the diverse members of a society, including marginalized ones, in helping define their communities’ futures.” This is because as climate change continues to impact these communities, this approach will be increasingly important for maintaining peaceful relationships.<sup>72</sup>

Arguably, locally led, grassroots groups such as those now expanding in northern Kenya can more effectively adapt typical peacebuilding activities to local conditions, hence the need for investing in the power of dialogues and local partnerships.<sup>73</sup>

The Constitution of Kenya 2010 recognises culture as the foundation of the nation and as the cumulative civilization of the Kenyan people and nation.<sup>74</sup> It goes on to provide that ‘the State shall promote all forms of national and cultural expression through literature, the arts, traditional celebrations, science, communication, information, mass media, publications, libraries and other cultural heritage; recognise the role of science and indigenous technologies in the development of the nation; and promote the intellectual property rights of the people of Kenya.’<sup>75</sup>

In promoting protection of traditional knowledge and cultural expressions against unlawful acts, the *Protection of Traditional Knowledge and Cultural Expressions Act 2016*<sup>76</sup> provides for exceptions and limitations in that ‘notwithstanding section 18, the protection of traditional knowledge or cultural expressions shall— be subject to such other exceptions as may be necessary to address the needs of non-commercial use, including teaching and research for educational purposes, personal or private

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<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> Ibid; see also The Urgency and Complexity of Environmental Peacebuilding [WWW Document], n.d. . United States Institute of Peace. URL <https://www.usip.org/blog/2020/02/urgency-and-complexity-environmental-peacebuilding> (accessed 3.13.24).

<sup>74</sup> Republic of Kenya, Constitution of Kenya, 2010, Art. 11(1).

<sup>75</sup> Ibid, Art. 11 (2).

<sup>76</sup> S.18, Protection of Traditional Knowledge and Cultural Expressions Act, No. 33 of 2016, Laws of Kenya.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

use, criticism or review, reporting of current events, use in the course of legal proceedings, the making of recordings and reproductions of traditional knowledge or cultural expressions for inclusion in an archive or inventory exclusively for the purposes of safeguarding knowledge or cultural heritage, and incidental uses'.<sup>77</sup> Furthermore, section 4 thereof provides that a county government shall, through the county executive committee member responsible, for matters relating to culture, be responsible for, *inter alia*, (a) in relation to the repository and for the purpose of collecting and compiling information relating to traditional knowledge and cultural expressions—(i) the primary registration of traditional knowledge and cultural expressions within a county for the purposes of recognition under this Act; (ii) the receipt, documentation, storage and updating of information relating to traditional knowledge and cultural expressions from communities within a county; (b) the preservation and conservation of traditional knowledge and cultural expressions; (c) the protection and promotion of the traditional knowledge and cultural expressions of communities within a county; (d) the facilitation of collaboration, access to or the sharing of information and data relating to traditional knowledge and cultural expressions between county governments; (e) the allocation of financial resources for the promotion of cultural activities; and (f) subject to this Act or any other law, the establishment of mechanisms for using culture as a tool for conflict resolution and promotion of cohesion.<sup>78</sup> There is a need for ensuring that this mandate of county governments in decentralized governance is fully supported through research and funding.

Research has indicated that indigenous populations worldwide possess a strong understanding of the natural resources they depend on.<sup>79</sup> The creation of scientific management plans has benefited from this knowledge, which is also gaining acceptance as a reliable source of information for sustainable use, conservation, and management of natural resources.<sup>80</sup> Integration of traditional ecological

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<sup>77</sup> Ibid, s. 19(1)(c).

<sup>78</sup> S.4, Protection of Traditional Knowledge and Cultural Expressions Act, 2016.

<sup>79</sup> Indigenous Peoples Overview [WWW Document], n.d. URL <https://www.worldbank.org/en/topic/indigenouspeoples> (accessed 3.13.24); 'Indigenous People and Nature: A Tradition of Conservation' (UNEP, 21 July 2017) <<http://www.unep.org/news-and-stories/story/indigenous-people-and-nature-tradition-conservation>> accessed 13 March 2024; 'Indigenous Peoples: Defending an Environment for All | International Institute for Sustainable Development' <<https://www.iisd.org/articles/deep-dive/indigenous-peoples-defending-environment-all>> accessed 13 March 2024; 'Indigenous Peoples and the Nature They Protect' (UNEP, 8 June 2020) <<http://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect>> accessed 13 March 2024; Garai J, Ku HB and Zhan Y, 'Climate Change and Cultural Responses of Indigenous People: A Case from Bangladesh' (2022) 4 Current Research in Environmental Sustainability 100130; Jones B, 'Indigenous People Are the World's Biggest Conservationists, but They Rarely Get Credit for It' (Vox, 11 June 2021) <<https://www.vox.com/22518592/indigenous-people-protect-nature-icca>> accessed 13 March 2024.

<sup>80</sup> Mazzocchi F, 'Western Science and Traditional Knowledge: Despite Their Variations, Different Forms of Knowledge Can Learn from Each Other' (2006) 7 EMBO Reports 463; Hoffmann S, 'Challenges and Opportunities of Area-Based Conservation in Reaching Biodiversity and Sustainability Goals' (2022) 31 Biodiversity and Conservation 325.

knowledge (TEK) might support adaptive management since it often provides extra information at a finer spatial scale than scientific data, hence supplementing previously obtained ecological data.<sup>81</sup>

As already pointed out, traditional knowledge is suffering from erosion by modernity thus creating the need for its protection for future generations and tapping into its positive aspects.<sup>82</sup> Investing in research towards establishing these positive aspects from communities, who are the custodians, as well as funding efforts aimed at its utilisation can go a long way in not only safeguarding this body of knowledge but also assisting communities to overcome any challenges that they may potentially face in putting this knowledge into practical use.

## **7. Synergetic Approach Between Disaster Risk Reduction and Climate Change Adaptation**

Policymakers, academics, and practitioners generally concur that, in order to decrease vulnerabilities to climate and environmental change, there is a need to enhance the synergies between disaster risk reduction and climate change adaptation.<sup>83</sup> Among the suggested integration strategies are the following: the disaster risk reduction community broadening the scope of its activity to address a wider range of vulnerabilities, such as poverty and inequality, as well as livelihoods in both rural and urban areas;<sup>84</sup> enhancing the shared knowledge between the two policy groups, which may be achieved by setting up multi-hazard risk reduction units that combine vulnerability and hazard analysis;<sup>85</sup> creating

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<sup>81</sup> Haq, S.M., Pieroni, A., Bussmann, R.W., Abd-ElGawad, A.M., El-Ansary, H.O., 2023. Integrating traditional ecological knowledge into habitat restoration: implications for meeting forest restoration challenges. *Journal of Ethnobiology and Ethnomedicine* 19, 33. <https://doi.org/10.1186/s13002-023-00606-3>.

<sup>82</sup> Mazzocchi F, 'Western Science and Traditional Knowledge: Despite Their Variations, Different Forms of Knowledge Can Learn from Each Other' (2006) 7 *EMBO Reports* 463; Kodirekkala KR, 'Internal and External Factors Affecting Loss of Traditional Knowledge: Evidence from a Horticultural Society in South India' [2017] *Journal of Anthropological Research* <<https://www.journals.uchicago.edu/doi/10.1086/690524>> accessed 13 March 2024; 'Protecting Traditional Knowledge: A Grassroots Perspective' <[https://www.wipo.int/wipo\\_magazine/en/2017/01/article\\_0004.html](https://www.wipo.int/wipo_magazine/en/2017/01/article_0004.html)> accessed 13 March 2024; Eyong CT, 'Indigenous Knowledge and Sustainable Development in Africa: Case Study on Central Africa' (2007).

<sup>83</sup> Mobjörk, M., Gustafsson, M.T., Sonnsjö, H., Van Baalen, S., Dellmuth, L.M. and Bremberg, N., 2016. *Climate-related security risks: Towards an integrated approach*. SIPRI, 30.

<sup>84</sup> Ibid; see also Yodmani, S., 2001. *Disaster risk management and vulnerability reduction: Protecting the poor*. New York: The Center; Imperiale, A.J. and Vanclay, F., 2021. Conceptualizing community resilience and the social dimensions of risk to overcome barriers to disaster risk reduction and sustainable development. *Sustainable Development*, 29(5), pp.891-905; Ali, T., Paton, D., Buergelt, P.T., Smith, J.A., Jehan, N. and Siddique, A., 2021. Integrating Indigenous perspectives and community-based disaster risk reduction: A pathway for sustainable Indigenous development in Northern Pakistan. *International Journal of Disaster Risk Reduction*, 59, p.102263;

<sup>85</sup> Ibid; see also Djalante, R., 2014. Thesis title: Building resilience to disasters and climate change: pathways for adaptive and integrated disaster resilience in Indonesia. *International Journal of Disaster Resilience in the Built Environment* 5. <https://doi.org/10.1108/IJDRBE-04-2014-0029>; Yodmani, S., 2001. *Disaster risk management and vulnerability reduction: Protecting the poor*. New York: The Center.



policies on how to include climate risks into planning and programming for disaster response and recovery;<sup>86</sup> moreover, implementing a human rights-based approach, as many factors contributing to vulnerability are inextricably tied to violations of fundamental human rights.<sup>87</sup> The World Bank also argues that Social Protection (SP) systems play important roles in helping individuals and societies manage risk and volatility and protecting them from poverty and destitution—through instruments that improve resilience, equity, and opportunity.<sup>88</sup>

On March 18, 2015, during the Third UN World Conference in Sendai, Japan, the Sendai Framework for Disaster Risk Reduction 2015–2030 was approved. It is the result of intergovernmental discussions from July 2014 to March 2015, which were backed by the UN Office for Disaster Risk Reduction at the UN General Assembly's request, and stakeholder engagements that were started in March 2012.<sup>89</sup> The Framework is specifically intended to address the risk of both large- and small-scale, frequent and rare, abrupt and gradual onset catastrophes resulting from natural or man-made hazards, together with associated risks and hazards connected to the environment, technology, and biology. Its objective is to direct the multihazard management of disaster risks in development at all levels and in all sectors.<sup>90</sup> Hazard is defined in the *Hyogo Framework for Action*<sup>91</sup> as: “A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or *environmental degradation* (emphasis added). Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards).<sup>92</sup>

Borrowing from the *Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters*, its predecessor, the Sendai Framework affirmed that a more comprehensive and human-centered preventative strategy for catastrophe risk is required. For disaster risk reduction strategies to be effective and efficient, they must be multi-hazard, multisectoral, inclusive, and accessible.

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<sup>86</sup> Ibid.

<sup>87</sup> Ibid.

<sup>88</sup> Cubas, Diana; Escobar Saenz, Mirtha Liliana; Trohanis, Zoe Elena; Osman, Balikisu.

*Stocktaking of Adaptive Social Protection and Disaster Risk Management (English)*. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099210003012355978/P17651604fd02309d0b46f015e60ef3f847>.

<sup>89</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, Third United Nations World Conference on Disaster Risk Reduction, Sendai, Japan, 14-18 March 2015, Agenda item 11, A /CONF.224/L.2.

<sup>90</sup> Ibid, Preamble, para. 15.

<sup>91</sup> Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters - full text | UNDRR [WWW Document], n.d. URL <https://www.undrr.org/publication/hyogo-framework-action-2005-2015-building-resilience-nations-and-communities-disasters> (accessed 3.13.24).

<sup>92</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, preamble, para. 3.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

Governments should collaborate with pertinent stakeholders, such as women, children and youth, people with disabilities, the impoverished, migrants, indigenous peoples, volunteers, the community of practitioners, and senior citizens, in the development and execution of policies, plans, and standards, while acknowledging their leading, regulating, and coordinating roles. Businesses must incorporate disaster risk into their management procedures, and the public and private sectors, civil society organisations, academia, and scientific and research institutions all need to collaborate more and work together more closely.<sup>93</sup>

The Sendai framework emphasized that in order to handle current issues and get ready for new ones, attention should be paid to the following: tracking, evaluating, and comprehending catastrophe risk; disseminating this knowledge and the processes involved in its creation; enhancing the governance and coordination of disaster risk across pertinent institutions and sectors, as well as the full and meaningful participation of pertinent stakeholders at the appropriate levels; investing in the environment, as well as through technology and research, in order to increase the economic, social, health, cultural, and educational resilience of individuals, communities, and nations; Improving response, recovery, rehabilitation, and reconstruction as well as multi-hazard early warning systems.<sup>94</sup> In addition, one of its guiding principles is that as the federal and state governments continue to play a crucial role in enabling, directing, and coordinating activities, it is also vital to give local governments and communities the capacity to lower the risk of disasters by providing resources, incentives, and decision-making authority as needed.<sup>95</sup>

The Sendai Framework further specifies that knowledge of disaster risk in all of its dimensions—vulnerability, capability, exposure of people and property, hazard characteristics, and environment—should serve as the foundation for policies and practices for disaster risk management. This kind of information may be used to analyse risks before to a disaster, prevent and mitigate harm, establish and implement suitable preparation plans, and respond to disasters with efficiency.<sup>96</sup> To achieve this, it points out that it is important to, *inter alia*: ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessment and the development and implementation of policies, strategies, plans and programmes of specific sectors, with a cross-sectoral approach, which should be tailored to localities and to the context;<sup>97</sup> and enhance

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<sup>93</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, Preamble, para. 7.

<sup>94</sup> Ibid, Preamble, para. 14.

<sup>95</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, para. 19(f).

<sup>96</sup> Ibid, para. 23.

<sup>97</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, para. 24(i).

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

collaboration among people at the local level to disseminate disaster risk information through the involvement of community-based organizations and non-governmental organizations.<sup>98</sup>

The Sendai Framework also states that disaster risk reduction is a shared duty between governments and pertinent stakeholders, even if States bear the primary responsibility for it. Non-State actors in particular are crucial because they act as facilitators, helping States execute this Framework locally, nationally, regionally, and internationally while adhering to national rules, laws, and policies. Their resources, expertise, knowledge base, and goodwill will be needed.<sup>99</sup> The Framework goes on to state that States should promote, *inter alia*, the following activities from all public and private stakeholders when defining the precise duties and responsibilities for each, while also expanding on the pertinent international mechanisms that are already in place: indigenous peoples, through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning.<sup>100</sup>

Arguably, if adopted by policymakers, this Framework can go a long way in entrenching the place of communities in not only averting environmental disasters and hazards that affect their lives and livelihoods but also in enhancing access to justice through their active participation in decision-making processes and conflict management.

### **8. Conclusion**

It has been proposed that indigenous knowledge provides an effective tool for tackling the intricate environmental problems that our world is currently confronting.<sup>101</sup> We may develop more efficient and comprehensive methods of environmental conservation by appreciating the insight of Indigenous people, honouring their rights and customs, and encouraging cooperation between contemporary conservationists and Indigenous knowledge keepers.<sup>102</sup>

There is a need for revisiting the place of traditional ecological knowledge in developing management plans in environmental conservation as well as promoting access to Environmental Justice for

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<sup>98</sup> Ibid, para. 24(o).

<sup>99</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, para. 35.

<sup>100</sup> United Nations General Assembly, *Sendai Framework for Disaster Risk Reduction 2015-2030*, para. 36(a)(v).

<sup>101</sup> The Role of Indigenous Knowledge in Environmental Conservation | LinkedIn [WWW Document], n.d. URL <https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/> (accessed 2.22.24).

<sup>102</sup> Ibid.

## *Enhancing Environmental Conservation in Kenya Through Alternative Justice Systems*

communities, especially in management of the resources that are of utmost importance to their livelihoods and survival.

Enhancing Environmental Conservation through AJS is indeed necessary and possible.

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