Journal of Conflict Management & Sustainable Development



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Editor's Note

Welcome to Volume 13 Issue 3 of the Journal of Conflict Management and Sustainable Development. The Journal is an interdisciplinary publication that focuses on key and emerging themes in Conflict Management, Sustainable Development and other related fields of knowledge.

Sustainable Development has been embraced at both the global and national levels as the blue print for socio-economic development and governance. The Journal interrogates and offers solutions to some of the current concerns in the Sustainable Development Agenda. It also explores the role of Conflict Management in the attainment of Sustainable Development.

The Journal is peer reviewed and refereed so as to ensure credibility of information and validity of data.

This volume contains papers on various themes including: *Peace-Building, Human Rights and Rule of Law Across Africa: Examining the Role of Youth, Women and Communities in Conflict Prevention and Resolution; The Green Machine Paradox: Can Artificial Intelligence Save the Planet While Consuming It?; From Judicial Victory to Lived Equality: The Implementation Gap in Transgender Rights Jurisprudence in Kenya; Declared Complete, Still Unwritten: Part V Obligations and the Missing Dispute Annex of the AfCFTA Protocol on Investment; Environmental Justice for Sustainability: Reconciling The Right to Development with The Precautionary Principle; The Legal Architecture of ESG Disclosure in Kenya: Substantive Standards, Procedural Safeguards, and Institutional Enforcement in an Evolving Regulatory Regime; Artificial Intelligence, Gender Bias, and Equality Rights: Examining the Emerging Legal Challenges of Algorithmic Decision-Making in Kenya;* and *Beyond Consultation: Indigenous Knowledge Systems and Community-Centred Sustainability in Environmental Governance.*

We welcome feedback, comments and critique from our readers to enable us to continue improving the Journal.

I wish to thank all those who have made this publication possible including reviewers, editors and contributors.

The Editorial Team also welcomes the submission of articles to be considered for publication in subsequent issues of the Journal. Submissions can be channeled to admin@kmco.co.ke and editor@journalofcmsd.net.

Our readers can access the Journal online at https://journalofcmsd.net.

Prof. Kariuki Muigua Ph.D, SC, FCIArb, Ch.Arb, OGW.
Editor, Nairobi,
November, 2026.

List of Contributors

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Prof. became the first winner of the Inaugural CIArb (Kenya Branch) ADR Lifetime Achievement Award 2021. He was also the winner of the ADR Practitioner of the Year Award 2021 given by the Nairobi LSK and the ADR Publisher of the Year 2021 awarded by CIArb Kenya. He was the winner of the African Arbitrator of the Year 2022 award at the 3rd African Arbitration Awards held at Kigali Rwanda beating other competitors from Egypt, Mauritius, Ethiopia, Nigeria and Kenya. The African Arbitrator of the Year award is the highest and most prestigious ADR and Arbitration Award in Africa.

Prof. is an Advocate of the High Court of Kenya of over 30 years standing and practicing at Kariuki Muigua & Co. Advocates and he is also a Senior Counsel. His research interests include environmental and natural resources law, governance, access to justice, human rights and constitutionalism, conflict resolution, international commercial arbitration, the nexus between environmental law and human rights, land and natural resource rights, economic law and policy of governments with regard to environmental law and economics. Prof. Muigua teaches law at the Centre for Advanced Studies in Environmental Law and Policy (CASELAP), Wangari Maathai Institute for Peace and Environmental Studies (WMI) and the Faculty of Law, University of Nairobi.
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As a policy researcher and analyst, Murithi has been involved in assisting with the review of various laws and policies and has supported different projects in this capacity. He has authored 30+peer-reviewed articles and writes regularly on various legal issues. His research and professional practice are united by a commitment to integrating global sustainability standards into corporate

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Peace-Building, Human Rights and Rule of Law Across Africa: Examining the Role of Youth, Women and Communities in Conflict Prevention and Resolution

By: Prof. Kariuki Muigua*

Abstract

This paper discusses how the ideal of effective conflict management can be achieved in Africa. The paper observes that Africa is highly susceptible to conflicts. It notes that conflicts are being witnessed across Africa undermining peace, human rights, development and the rule of law. Consequently, the paper notes that effective conflict management is key towards promoting Sustainable Development in Africa. In order to achieve this goal, the paper argues that there is need to involve all stakeholders towards peace-building, human rights and the rule of law. The paper examines how the youth, women and communities can be effectively involved in conflict prevention and resolution towards peace, human rights, the rule of law and development.

1.0 Introduction

The prevalence of conflicts all over the world is a major threat to peace, human rights and the rule of law. It has been observed that armed conflicts are on the rise globally undermining the foundations of international, regional, national and local peace and security[1]. The United Nations notes that conflicts, wars, and insecurities that are being witnessed across the world undermine peace and

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[1] United Nations., 'Fostering Peace and Sustainable Development' Available at https://www.un.org/en/chronicle/article/fostering-peace-and-sustainable-development (Accessed on 13/10/2026)

sustainability[2]. Global, regional and local conflicts and wars lead to instability and result in significant setbacks or even reverse decades of progress in vital areas such as economic development, public health, and food security[3].

Conflicts are also fuelling human rights abuses across the world. For instance, conflicts can cause human suffering in terms of loss of lives and livelihoods, displacement of populations, destruction of social amenities and services including education and healthcare, and increased levels of poverty[4]. In particular, it has been observed that armed conflicts pose significant challenges to development and sustainability, leading to economic decline, social dislocation, humanitarian disasters, and environmental damage which often result in human right abuses[5]. Further, conflicts can also undermine the rule of law. For example, conflict-ridden regions, nations and societies are characterized by weak institutions, human rights violations, fragile political systems and divisive social relations undermining the fundamental tenets of the rule of law[6].

In light of the foregoing, effective conflict management is necessary towards peace, human rights, development and the rule of law. Conflict management involves various strategies adopted towards avoiding, preventing, mitigating and resolving conflicts and their drivers in order to prevent them from escalating

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[2] United Nations., 'Global Issues: Africa' Available at https://www.un.org/en/global-issues/africa (Accessed on 13/10/2026)

[3] Peace and Conflict., Available at https://www.mercycorps.org/what-we-do/peace-conflict (Accessed on 13/10/2026)

[4] Swedish International Development Cooperation Agency., 'Conflict Prevention: Opportunities and Challenges in Implementing Key Policy Commitments and Priorities' Available at https://cdn.sida.se/app/uploads/2020/12/01125316/s209461_thematicoverview_conflict_prevention_webb_final.pdf (Accessed on 13/10/2026)

[5] African Development Bank Group., 'Nexus conflict and sustainability: An African perspective' Available at https://blogs.afdb.org/climate-change-in-africa/nexus-conflict-and-sustainability-an-african-perspective-363 (Accessed on 13/10/2026)

[6] United Nations., 'Land and Conflict' Available at https://www.un.org/en/land-natural-resources-conflict/pdfs/GN_ExeS_Land%20and%20Conflict.pdf (Accessed on 13/10/2026)

into violence[7]. The goal of conflict management is to minimise the potential negative impact that can arise from conflicts and disagreements and encourage agreement and positive outcomes[8]. It has been observed that if not well managed, conflicts can undermine development and lead to instability, violence and human right abuses[9]. On the other hand, when conflicts are successfully managed, this creates suitable conditions for peace, justice, respect for human rights, stability and prosperity towards Sustainable Development[10]. Effective conflict management including sound conflict prevention and resolution is therefore necessary for Sustainable Development.

This paper discusses how the ideal of effective conflict management can be achieved in Africa. The paper observes that Africa is highly susceptible to conflicts. It notes that conflicts are being witnessed across Africa undermining peace, human rights, development and the rule of law. Consequently, the paper notes that effective conflict management is key towards promoting Sustainable Development in Africa. In order to achieve this goal, the paper argues that there is need to involve all stakeholders towards peace-building, human rights and the rule of law. The paper examines how the youth, women and communities can be effectively involved in conflict prevention and resolution towards peace, human rights, the rule of law and development.

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[7] What is Conflict Management?., Available at https://www.pon.harvard.edu/tag/conflict-management/ (Accessed on 13/10/2026)

[8] Institute of Directors., 'Conflict Management' Available at https://www.iod.com/resources/business-advice/conflict-management/ (Accessed on 13/10/2026)

[9] Muigua. K., 'Understanding the Place of Conflict Management in Sustainable Development Agenda' Available at https://kmco.co.ke/wp-content/uploads/2022/09/Understanding-the-Place-of-Conflict-Management-in-Sustainable-Development-Agenda.pdf (Accessed on 13/10/2026)

[10] World Bank Group., 'Fragility, Conflict & Violence' Available at https://www.worldbank.org/en/topic/fragilityconflictviolence (Accessed on 13/10/2026)

2.0 Impact of Conflicts on Peace, Human Rights and the Rule of Law in Africa

Conflicts have been a common occurrence across Africa for many decades. It has been observed that since most African countries gained independence, several factors have combined to trigger episodes of armed conflicts and wars across the continent[11]. These factors include weak governance, divisive and exclusionary politics, extremist ideologies, external influence, and contested legitimacy[12]. Environmental factors are also driving and worsening conflicts across Africa. For example, it has been observed that climate change is fuelling the scarcity of vital natural resources including water and arable land, triggering competition and conflicts over these resources[13]. In particular, natural resources in Africa have played a significant role in many violent conflicts by being used to finance armed wars and conflicts[14]. Despite being endowed with natural resources including arable land, minerals, oil and gas, forests and water, Africa has over the years suffered from resource-based conflicts which have negative impacts on economic development, peace, security and sustainability[15].

It has been observed that almost all African countries have experienced some form of conflict in the recent past[16]. Conflict dynamics in Africa are usually rooted

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[11] Gilpin. R., 'Understanding the Nature and Origins of Violent Conflict in Africa' Available at https://africacenter.org/wp-content/uploads/2019/05/Understanding-the-nature-and-origins-of-violent-conflcit-in-Africa-Raymond-Gilpin.pdf (Accessed on 13/10/2026)

[12] Ibid

[13] United Nations Environment Programme., 'Environmental Cooperation and Peacebuilding.' Available at https://www.unep.org/topics/fresh-water/disasters-and-climatechange/environmentsecurity/environmentalcooperationand#:~:text=International%20law%2C%20environment%20and%20conflict,and%20reliance% 20on%20conflict%20resources (Accessed on 13/10/2026)

[14] Maphosa. S.B., 'Natural Resources and Conflict: Unlocking the economic dimension of peace-building in Africa' Available at https://africaportal.org/wp-content/uploads/2023/06/No.-74.-Natural-Resources-and-Conflict..pdf (Accessed on 13/10/2026)

[15] Muigua. K., Wamukoya. D., & Kariuki. F., 'Natural Resources and Environmental Justice in Kenya.' Glenwood Publishers Limited, 2015

[16] Gluhbegovic. R., 'Types of Conflict in Africa' Available at https://www.eisa.org/storage/2023/05/occasional-paper-2016-types-of-conflict-in-

in a combination of factors including state weakness, corruption, ineffective delivery of basic services, competition over natural resources including land, water and minerals, inequality and a sense of marginalization[17]. Conflicts have had a severe impact on peace, human rights and the rule of law across Africa for many decades. Armed conflicts and wards have had adverse impacts on every aspect and corner of the African family, community and nation-state, with economic, cultural, political, social, and environmental costs[18]. The impacts of wars and conflicts on peace, human rights and the rule of law in Africa include loss of human life and livelihoods, the collapse of socio-economic systems, political instability, food insecurity and the degradation of health, education, water and sanitation among other essential services across the continent[19]. The United Nations notes that conflicts and wars have worsened instability, insecurity, human rights abuses and humanitarian crises in Africa[20].

Due to the negative impacts of conflicts in Africa, effective conflict prevention and resolution are key priorities towards building and sustaining peace for development. In particular, it has been observed that peace-building is a fundamental agenda towards establishing the necessary conditions for positive and sustainable peace by addressing the deep rooted structural causes of conflicts and wars in a comprehensive and inclusive manner[21]. With Africa experiencing more protracted conflicts and humanitarian crises, effective peace-building is key

africa-how-do-the-aprm-reports-address-conflict-south-africa-eisa.pdf (Accessed on 13/10/2026)

[17] Armed conflict and peace processes in sub-Saharan Africa., Available at https://www.sipri.org/yearbook/2022/07 (Accessed on 13/10/2026)

[18] Uwazie. E., 'Alternative Dispute Resolution and Peace-building in Africa.' Available at https://www.cambridgescholars.com/resources/pdfs/978-1-4438-5707-9-sample.pdf (Accessed on 13/10/2026)

[19] Five Major African Wars and Conflicts of the Twentieth Century., Available at https://online.norwich.edu/online/about/resource-library/five-major-african-wars-and-conflicts-twentieth-century (Accessed on 13/10/2026)

[20] United Nations., 'UN-African Union Cooperation a Must, As Landscape of Conflict Shifts' Available at https://www.un.org/africarenewal/magazine/october-2023/un-african-union-cooperation-must-landscape-conflict-shifts-0 (Accessed on 17/03/2026)

[21] Peace Building Initiative., 'Introduction to Peacebuilding' Available at http://www.peacebuildinginitiative.org/index34ac.html (Accessed on 13/10/2026)

towards ensuring peace, stability, development, and respect for human rights[22]. Effective peace-building however remains an elusive dream for Africa. It has been observed that due to frequent conflicts in several African countries, peace has become more challenging to sustain in the continent and protracted and recurring conflict more difficult to prevent or resolve, often because their underlying causes are not well understood or addressed[23]. Further, it has been observed that ineffective responses to conflicts which neglect local conflict dynamics, power relations, and civilian agency can unintentionally reinforce violence, worsen competition, legitimise abusive armed actors, and sideline community mechanisms that reduce harm[24]. Consequently, there is need for comprehensive approaches to peace-building in Africa including through involving local actors in conflict prevention and resolution for sustainable and durable outcomes that can ensure lasting peace, human rights and respect for the rule of law in Africa.

3.0 Effective Conflict Prevention and Resolution in Africa: Embracing the Role of the Youth, Women and Communities towards Peace-building, Human Rights and Rule of Law

The prevalence of conflicts in Africa undermines peace, security, human rights and development. The adverse impacts of conflicts and wars in Africa include loss of human life, destruction of critical infrastructure, political instability, insecurity, loss of livelihoods, environmental damage, and humanitarian crises including the growth of refugees and Internally Displaced Persons (IDPs)[25]. Effective conflict prevention and resolution is therefore necessary towards

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[22] Peacebuilding as Emergency Engagement: Why Africa Needs Innovation for a New Era of Crisis., Available at https://www.accord.org.za/analysis/peacebuilding-as-emergency-engagement-why-africa-needs-innovation-for-a-new-era-of-crisis/ (Accessed on 13/10/2026)

[23] United Nations., 'Promotion of Durable Peace and Sustainable Development in Africa' Available at https://www.un.org/osaa/sites/www.un.org.osaa/files/docs/2109875_osaa_sg_report_web_new.pdf (Accessed on 13/10/2026)

[24] Peacebuilding as Emergency Engagement: Why Africa Needs Innovation for a New Era of Crisis., Op Cit

[25] Uwazie. E., 'Alternative Dispute Resolution and Peace-building in Africa.' Op Cit

managing conflicts in Africa for peace, security, human rights and development. Conflict prevention is an approach that seeks to make societies to violent conflicts by strengthening by strengthening local capacities for peace[26]. This approach provides that violent conflicts can be prevented before they break out, or at least the scope and impact of conflicts can be reduced[27]. It has been observed that informed, timely and effective conflict prevention reduces the risk of human suffering, and saves human lives, livelihoods, property, critical infrastructure, and the environment which can be significantly impacted by conflicts and wars[28].

Conflict resolution on the other hand is a process whereby parties to a conflict cooperate in order to redefine their conflict and relationships towards peaceful and mutually satisfactory outcomes[29]. Conflict resolution involves the use of voluntary, non-coercive and collaborative processes which focus on the needs and interest of parties with emphasis on Appropriate Dispute Resolution (ADR) processes such as mediation, negotiation, conciliation and facilitation[30]. It has been observed that ADR processes result in mutually satisfying outcomes that address the root causes of conflicts therefore ensuring peaceful, long-lasting and sustainable outcomes[31].

Due to the negative impacts of conflicts in Africa, strengthening conflict prevention and resolution is therefore critical towards peace-building, human rights and rule of law. For example, conflict prevention is necessary towards providing early warnings and anticipating conflicts in Africa for timely and

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[26] Conflict Prevention: Opportunities and challenges in implementing key policy commitments and priorities., Available at https://cdn.sida.se/app/uploads/2020/12/01125316/s209461_thematicoverview_conflict_prevention_webb_final.pdf (Accessed on 14/10/2026)

[27] Conflict Prevention., Available at https://www.eeas.europa.eu/eeas/conflict-prevention_en (Accessed on 14/10/2026)

[28] Ibid

[29] Bloomfield. D., 'Towards Complementarity in Conflict Management: Resolution and Settlement in Northern Ireland,' *Journal of Peace Research*

[30] Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Glenwood Publishers Limited, 2015

[31] Ibid

efficient responses that can mitigate the loss of human life, loss of livelihoods, damage to infrastructure, societal breakdown and environmental damage associated with conflicts and wars in the continent[32]. In addition, effective conflict resolution in Africa is key towards addressing the root causes of conflicts in the continent for sustainable and durable outcomes. In particular, it has been observed that ADR processes such as negotiation, mediation and conciliation provide opportunities for dialogue, collaboration and cooperation towards mutually satisfactory and long-lasting outcomes that tackle the root causes of conflicts[33]. ADR mechanisms have been identified as a practical tool for peace-building and conflict resolution at both the interpersonal and community levels in Africa[34]. Techniques such as negotiation, mediation and conciliation are well-entrenched in the traditions, customs, norms and taboos of the people of Africa[35]. ADR processes focus on peace, harmony, truth, honesty, unity, cooperation, forgiveness, reconciliation, and respect and are therefore an appropriate forum for conflict resolution and peace-building in Africa[36].

In order to strengthen conflict prevention and resolution in Africa, it is imperative to involve all stakeholders including the youth, women and communities. For instance, it has been observed that the youth in peace-building is key towards strengthening reconciliation efforts, preventing crises, and

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[32] African Union., 'Conflict Prevention and Early Warning' Available at https://www.peaceau.org/uploads/conflict-prevention-and-early-warning-booklet-13feb18-approved.pdf (Accessed on 14/10/2026)

[33] Saaida. M., 'Peace Studies: Conflict Resolution and Mediation Strategies' Available at https://www.researchgate.net/publication/372289839_Peace_Studies_Conflict_Resolution_and_Mediation_Strategies (Accessed on 14/10/2026)

[34] Uwazie. E., 'Alternative Dispute Resolution in Africa: Preventing Conflict and Enhancing Stability.' Available at https://africacenter.org/publication/alternative-dispute-resolution-in-africa-preventing-conflict-and-enhancing-stability/ (Accessed on 14/10/2026)

[35] Ademowo. A., 'Conflict Management in Traditional African Society.' Available at https://www.researchgate.net/publication/281749510_Conflict_management_in_Traditional_African_S ociety (Accessed on 14/10/2026)

[36] Awoniyi. S., 'African Cultural Values: The Past, Present and Future' *Journal of Sustainable Development in Africa* , Volume 17, No.1, 2015

advancing long-term peace and stability[37]. Young people all over the world contribute to the resilience of their communities, proposing innovative solutions that can enhance peace, driving social progress, and inspiring political change[38]. Due to the disproportionate impacts that they face from conflicts, peace-building is a fundamental agenda for the youth towards protecting their rights and shaping their future[39]. Involving the youth in conflict prevention and resolution in Africa is key towards harnessing innovative ideas that promote sustainable peace and championing intergenerational dialogue and collaboration for effective, equitable, fair and sustainable peace-building[40].

Harnessing the role of women is also necessary towards effective conflict prevention and resolution in Africa. It has been observed that throughout Africa, women participate actively across both informal and formal peace-building initiatives[41]. For instance, women mediate clan and household disputes using culturally grounded reconciliation and harmony practices, contribute to early warning systems through their extensive social networks, and provide critical psychosocial and economic support to survivors of conflicts and violence[42]. It has been argued that due to gender roles in societies, women are well positioned to support durable peace solutions and reconciliation efforts[43]. For example, it has

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[37] United Nations Development Programme., 'Youth and Peacebuilding' Available at https://www.undp.org/eurasia/youth-and-peacebuilding (Accessed on 14/10/2026)

[38] Ibid

[39] United Nations., 'Youth Building Peace for a Sustainable Future' Available at https://unsdg.un.org/latest/stories/youth-building-peace-sustainable-future (Accessed on 14/10/2026)

[40] Ibid

[41] Intergovernmental Authority on Development., 'Women and Peacebuilding in Northeastern Kenya: Advancing Gender-Inclusive Peace Processes under the WPS Agenda' Available at https://igad.int/women-and-peacebuilding-in-northeastern-kenya-advancing-gender-inclusive-peace-processes-under-the-wps-agenda/ (Accessed on 14/10/2026)

[42] Ibid

[43] European Parliament., 'Women in peace building: why and how to increase their role' Available at https://www.europarl.europa.eu/topics/en/article/20250227STO27080/women-in-peace-building-why-and-how-to-increase-their-role (Accessed on 14/10/2026)

been argued that due to their primary role as caretakers in most African societies, women are more likely to advocate and embrace peace, reconciliation and restorative justice in order to ensure social harmony and safeguard basic necessities such as food, water, education and healthcare[44]. However, despite their vital knowledge and expertise that can strengthen conflict prevention and resolution, women in Africa are often excluded from decision-making in peace and security efforts[45]. It has been correctly observed that sustainable peace is only attainable when women have a voice and a seat at the table[46]. It is therefore necessary to actively and meaningfully involve women in conflict prevention and resolution towards peace-building, human rights and rule of law in Africa.

Effective conflict prevention and resolution in Africa also requires the involvement of communities. It has been observed that working with communities in peace-building efforts is key towards reducing violence, building trust, and supporting non-violent solutions[47]. Communities all over Africa have developed effective institutions and approaches to conflict prevention and resolution. In African communities, conflicts are viewed as a threat to peaceful coexistence and harmony[48]. Consequently, African societies have throughout time adopted conflict management strategies that are geared towards amicable management of conflicts in order to preserve the social fabric which tied such communities together[49]. Communities in Africa have utilised informal processes including mediation, negotiation, arbitration and conciliation in conflict

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[44] Agbajobi. D., 'The Role of Women in Conflict Resolution and Peacebuilding' Available at https://gsdrc.org/document-library/the-role-of-women-in-conflict-resolution-and-peacebuilding/ (Accessed on 14/10/2026)

[45] United Nations Development Programme., 'Breaking the cycle of crisis: Women leading Peacebuilding and conflict resolution' Available at https://www.undp.org/africa/blog/breaking-cycle-crisis-women-leading-peacebuilding-and-conflict-resolution (Accessed on 14/10/2026)

[46] Ibid

[47] Peacebuilding as Emergency Engagement: Why Africa Needs Innovation for a New Era of Crisis., Op Cit

[48] Adeyinka. A., & Lateef. B., 'Methods of Conflict Resolution in African Traditional Society' *An International Multidisciplinary Journal*, Ethiopia Vol. 8 (2).

[49] Ibid

resolution since time immemorial which are administered by institutions such as the council of elders[50]. Therefore involving communities in conflict prevention and resolution is necessary towards promoting indigenous approaches to peace-building which have been effective in Africa for many centuries while also harnessing communal norms and values including *Ubuntu* which emphasizes peace, harmony, reconciliation and social solidarity[51].

4.0 Conclusion

The prevalence of conflicts in Africa undermines peace, human rights and development. Consequently, strengthening conflict prevention and resolution is a key agenda towards peace-building, human rights and rule of law across Africa. In particular, it is imperative to involve all stakeholders including the youth, women and communities for effective and sustainable conflict prevention and resolution.

[50] Laibuta. K., 'Contending with Multiple Legal Orders for Wholesome Dispute Resolution' Available at https://lc-adr.net/wp-content/uploads/2017/10/ADR-IN-AFRICA-2.pdf (Accessed on 14/10/2026)

[51] Murithi. T., 'African Approaches to Building Peace and Social Solidarity' Available at https://gsdrc.org/document-library/african-approaches-to-building-peace-and-social-solidarity/ (Accessed on 14/10/2026)

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ew_conflict_prevention_webb_final.pdf

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Opportunities and Challenges in Implementing Key Policy Commitments and Priorities' Available at https://cdn.sida.se/app/uploads/2020/12/01125316/s209461_thematicoverview_conflict_prevention_webb_final.pdf

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The Green Machine Paradox: Can Artificial Intelligence Save the Planet While Consuming It?

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Abstract

Artificial intelligence (AI) has emerged as a powerful instrument in the global response to climate change and environmental degradation. Its applications range from optimizing renewable-energy systems and electricity grids to predicting extreme weather, enhancing climate modelling, improving agricultural efficiency, monitoring biodiversity, and detecting illegal exploitation of natural resources. Yet, beneath this environmental promise lies a fundamental paradox: the technology increasingly deployed to repair ecological damage is itself dependent upon vast quantities of energy, water, critical minerals, computing infrastructure, and electronic hardware.

This article examines the "Green Machine Paradox": AI's potential to advance sustainability while generating significant ecological costs through energy consumption, emissions, water use, mineral extraction and electronic waste. Focusing on environmental governance, corporate accountability and intergenerational justice, particularly in Africa, it proposes a "net-green AI" framework requiring demonstrable lifecycle environmental benefits through renewable energy, resource efficiency, transparency, responsible mineral sourcing and sustainable governance.

1. Introduction

As the familiar management maxim reminds us, "we can't manage what we don't measure." The same principle should govern the environmental footprint of artificial intelligence: what is not measured cannot be meaningfully regulated, compared, disclosed or reduced. The International Telecommunication Union's 2025 report, *Measuring What Matters: How to Assess AI's Environmental Impact*, highlights significant gaps in current approaches to measuring AI's environmental effects, including over-reliance on indirect estimates, fragmented lifecycle assessment, underreporting of supply-chain emissions,[1] opaque water consumption and infrastructure impacts, and the absence of standardized methodologies.[2]

[1] International Telecommunication Union, *Measuring What Matters: How to Assess AI's Environmental Impact* (ITU 2025). Available at: https://www.itu.int/dms_pub/itu-s/opb/gen/S-GEN-GDA.001-2025-PDF-E.pdf. <Accessed on 15 August 2026>

[2] Ibid

We cannot meaningfully call AI "green" until we can measure what makes it green and what makes it consume. This rings true more than ever today as the world faces a triple planetary crisis of climate change, nature and biodiversity loss, pollution, and waste.[3] There is an intriguing contradiction at the heart of the technological response to the environmental crisis.[4] Artificial intelligence (AI) can strengthen climate and environmental action by processing large volumes of environmental data, improving weather and climate forecasting, optimizing electricity systems and renewable-energy integration, and enabling more effective monitoring of deforestation, biodiversity, agriculture and pollution.[5] Humanity is increasingly turning to artificial intelligence ('AI') to understand, predict and manage some of the most complex environmental challenges of our time. AI can analyse vast quantities of climate data, improve weather forecasting, optimize electricity grids, facilitate the integration of renewable energy, identify patterns of deforestation, monitor biodiversity, improve agricultural productivity and support the detection of pollution and other forms of environmental degradation.[6]

In this sense, AI appears to offer precisely the kind of technological intelligence that a planet under increasing ecological pressure requires. Yet the very technology being deployed to help protect the planet is not environmentally weightless.[7] It depends upon extensive physical infrastructure, including data centres, advanced processors, electricity grids, cooling systems, water resources and critical mineral supply chains and therefore carries measurable

[3] United Nations Environment Programme (UNEP), *How Artificial Intelligence is Helping Tackle Environmental Challenges* (2022). Available at: https://www.unep.org/news-and-stories/story/how-artificial-intelligence-helping-tackle-environmental-challenges. <Accessed on 15 August, 2026>

[4] Ibid

[5] Ibid

[6] International Energy Agency, Energy and AI (2025). Available at: https://iea.blob.core.windows.net/assets/de9dea13-b07d-42c5-a398-d1b3ae17d866/EnergyandAI.pdf. <Accessed on 15 August 2026>

[7] M Aczel and others, *Environmental Cost of Artificial Intelligence's Energy Use: Carbon, Water and Land Footprints* (United Nations University Institute for Water, Environment and Health, 2026)

environmental costs.[8] Its manufacture, operation and eventual disposal therefore generate environmental consequences of their own, spanning resource extraction, energy and water consumption, greenhouse-gas emissions, pollution and electronic waste.[9] The central question is consequently no longer simply whether AI can help humanity become greener, but whether the environmental gains generated by AI are sufficient to justify and ultimately outweigh the ecological costs of creating and operating the technology itself.

This tension constitutes what this article describes as the 'Green Machine Paradox'. The expression captures a fundamental contradiction: AI may simultaneously function as an instrument of environmental protection and a source of environmental pressure.[10] It can help reduce emissions and improve energy efficiency while increasing electricity demand; facilitate renewable-energy integration while intensifying demand for computing infrastructure and critical minerals;[11] and support environmental monitoring while generating environmental impacts across its lifecycle, including electronic waste.[12] The paradox is therefore not that AI is inherently 'green' or 'dirty'. Rather, it is that the environmental value of AI cannot be determined by looking only at what the technology accomplishes. It must also account for the ecological resources consumed in enabling that accomplishment.

The scale of this challenge is becoming increasingly difficult to ignore. The International Energy Agency ('IEA') estimates that data centres consumed approximately 415 terawatt-hours ('TWh') of electricity in 2024, representing about 1.5 per cent of global electricity consumption. Under its base-case projection, that figure could rise to approximately 945 TWh by 2030, with AI

[8] Ibid
[9] United Nations Environment Programme (UNEP), *Artificial Intelligence (AI) End-to-End: The Environmental Impact of the Full AI Lifecycle Needs to be Comprehensively Assessed* (Issue Note, 21 September 2024)
[10] Ibid
[11] Ibid
[12] Ibid

identified as the most significant driver of the increase.[13] The significance of these figures lies not merely in their global aggregate. Data centres are geographically concentrated, meaning that their environmental and infrastructural consequences can be considerably more pronounced at the local level than global averages suggest. The IEA further projects that electricity generation associated with data centres could produce approximately 320 million tonnes of carbon dioxide by 2030.[14] Although data centres remain a relatively modest component of total global emissions, they constitute one of the fastest-growing sources of electricity demand and emissions.[15]

1.1 Beyond the Cloud: The Hidden Material and Environmental Footprint of AI

The environmental footprint of AI, however, cannot be reduced to electricity and carbon. The contemporary AI ecosystem rests upon a physical infrastructure that is often obscured by the language of 'cloud computing' and 'digital intelligence'. AI models do not exist in an abstract digital space.[16] They are trained and deployed through physical infrastructure, principally data centres containing servers, specialised processors, networking equipment, cooling systems and power infrastructure,[17] while their underlying hardware depends on semiconductor manufacturing and mineral-intensive supply chains.[18]

UNEP has accordingly cautioned that the environmental consequences of AI must be assessed across its full lifecycle, rather than through a narrow focus on the energy consumed during model operation.[19] This lifecycle perspective encompasses the extraction of raw materials, manufacture of computing equipment, construction and operation of data centres, energy and water

[13] Supra, note 3
[14] Ibid
[15] Ibid
[16] International Energy Agency (IEA), Energy demand from AI. Available at: https://www.iea.org/reports/energy-and-ai/energy-demand-from-ai. Accessed on 15 August 2026
[17] Ibid
[18] Ibid
[19] Supra, note 9

consumption, transportation, maintenance and eventual disposal.[20] The OECD similarly observes that assessing AI's environmental footprint requires consideration of impacts extending beyond energy and carbon emissions to include freshwater use and critical mineral extraction.[21] Water presents a particularly important dimension of this debate. AI's computational intensity generates substantial heat, requiring sophisticated cooling systems to maintain data-centre operations. Depending on the technology employed and the location of the facility, cooling can place significant demands on local water resources.[22]

1.2 Resource Paradox: Who Bears the Cost of Digital Transformation?

The mineral dimension of the paradox is equally important, particularly for the Global South. AI infrastructure is materially dependent on advanced computing hardware, data centres and high-speed networks, whose production relies on complex semiconductor supply chains and the extraction of substantial quantities of minerals and metals.[23] The broader digital and energy transitions are already intensifying demand for materials such as copper, cobalt, lithium and nickel. UN Trade and Development ('UNCTAD') identifies copper as a strategic material for both the green and digital transitions, including data centres, AI infrastructure, renewable energy systems and smart grids.[24]

Global copper demand is projected to increase substantially in the coming decades, while supply constraints and long lead times for new mining projects create additional pressure on mineral-producing countries.[25] The environmental paradox therefore extends beyond the data centre itself to the mines,

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[20] Ibid
[21] OECD, *Measuring the Environmental Impacts of Artificial Intelligence Compute and Applications: The AI Footprint* (OECD 2022).
[22] United Nations Environment Programme, 'How to Make AI Data Centres More Sustainable' (2026). Available at: https://www.unep.org/technical-highlight/how-make-ai-data-centres-more-sustainable. Accessed on 15 August 2026
[23] United Nations Trade and Development (UNCTAD), *Technology and Innovation Report 2025: Inclusive Artificial Intelligence for Development* (UN, 2025)
[24] UN Trade and Development, *Global Trade Update (May 2025): Focus on Critical Minerals – Copper in the New Green and Digital Economy* (UNCTAD 2025).
[25] Ibid

communities, ecosystems and supply chains that make the digital infrastructure possible. For Africa, this dimension of the debate deserves particular attention. The continent possesses substantial reserves of many minerals critical to both the energy and digital transitions, yet historically has captured a relatively small proportion of the value generated from the processing and downstream use of those resources.

UNCTAD reports that Africa supplies approximately 12 per cent of global mineral exports but captures only about 4 per cent of the value in green supply chains.[26] This creates an uncomfortable possibility: African countries may increasingly supply the raw materials required for a supposedly 'green' digital transformation while bearing a disproportionate share of the environmental and social costs associated with extraction, without necessarily capturing equivalent economic value from the resulting technologies.[27] The Green Machine Paradox must therefore be understood not merely as a question of technological efficiency but also as a question of environmental justice, resource governance and distributive equity.

At the same time, it would be misleading to portray AI solely as an emerging environmental threat. Its potential contribution to environmental protection is substantial. The IEA identifies applications of AI capable of improving electricity-grid management, detecting faults, increasing transmission capacity, optimizing industrial processes, improving transport efficiency and reducing energy consumption in buildings.[28] AI can also support climate modelling, environmental monitoring, biodiversity protection, disaster-risk reduction, precision agriculture and the detection of pollution. UNEP expressly recognizes the potential of AI to support natural-resource management, climate-related prediction and mitigation, sustainable food systems, sustainable energy and pollution detection.[29] The environmental case for AI is therefore genuine. The

[26] UN Trade and Development, *SDG Pulse 2025: Critical Minerals* (UNCTAD 2025).
[27] Ibid
[28] Supra, note 12
[29] Supra, note 6

problem is that environmental benefits cannot automatically be equated with environmental sustainability.

1.3 Beyond Green Benefits: From Environmental Gains to Sustainable AI

This distinction is critical. A technology may generate substantial environmental benefits without itself being environmentally sustainable. The two concepts are related but not synonymous. An AI system that helps a city reduce electricity consumption, for example, may produce a positive environmental outcome. However, the environmental benefits of an AI application cannot be assessed in isolation.[30] Where the computational resources required to develop, train and operate an AI system generate substantial energy, water, material and emissions footprints, those impacts may offset or diminish the environmental savings achieved by the application itself.[31]

The appropriate unit of analysis must therefore extend beyond the individual application to encompass the AI system's entire lifecycle, from hardware production and infrastructure deployment to operation and end-of-life disposal.[32] This lifecycle approach is increasingly reflected in emerging international normative frameworks. UNESCO's Recommendation on the Ethics of Artificial Intelligence, adopted in 2021, recognizes both the potential environmental benefits of AI and the possibility of environmental harm arising from AI technologies.[33] It expressly calls for environmental and ecosystem flourishing to be protected throughout the AI lifecycle and requires attention to issues including carbon footprints, resource use and the extraction of raw materials used in AI technologies.[34]

Significantly, UNESCO also emphasizes that AI actors should assess and mitigate

[30] OECD/GPAI, *Measuring the Environmental Impacts of Artificial Intelligence Compute and Applications* (OECD, 2025)
[31] Ibid
[32] Ibid
[33] UNESCO, *Recommendation on the Ethics of Artificial Intelligence* (adopted 23 November 2021) paras 17–18, 25–26 and 84–85.
[34] Ibid

environmental impacts throughout the lifecycle of AI systems.[35] This approach provides an important conceptual bridge between AI governance and environmental law: the environmental consequences of AI cannot be treated as an externality that falls outside the boundaries of technology regulation. The principle of intergenerational responsibility adds another dimension to the debate. Environmental protection is increasingly understood not simply as an obligation owed to people living today, but as a responsibility towards future generations. The Paris Agreement recognizes the need for climate action that protects people, livelihoods and ecosystems while enhancing adaptive capacity and resilience.[36] UNESCO's AI framework similarly emphasizes the protection of present and future generations and the preservation of the environment, biodiversity and ecosystems throughout the AI lifecycle.[37]

AI governance must therefore confront a question that is fundamentally environmental in character: what kind of technological infrastructure are present generations entitled to build if its ecological costs are transferred to those who come after them? This question has particular force within constitutional environmentalism. Kenya provides a useful case study because environmental protection is not merely a matter of policy preference; it is constitutionally entrenched. Article 42 of the Constitution of Kenya, 2010 guarantees every person the right to a clean and healthy environment, including protection of the environment for the benefit of present and future generations.[38] Article 69 further requires the State to ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, while requiring environmental impact assessment, environmental audit and monitoring systems and the elimination of processes and activities likely to endanger the environment.[39]

These constitutional obligations are reinforced by the Environmental

[35] Ibid
[36] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 3156 UNTS 79, art 7.
[37] Supra, note 33
[38] Constitution of Kenya 2010, art 42.
[39] Ibid, art 69

Management and Co-ordination Act,[40] which recognizes entitlement to a clean and healthy environment and expressly links environmental protection to ecologically sustainable development and the sustainable use of natural resources.[41]

2. The African AI Dilemma: Development, Digital Ambition and Environmental Justice

The emergence of AI therefore presents Kenya with a regulatory question that existing environmental law cannot afford to ignore. If large-scale AI infrastructure requires substantial energy, water, land, mineral inputs and physical infrastructure, should such infrastructure be treated merely as ordinary digital infrastructure, or should its environmental footprint be expressly incorporated into environmental governance, impact assessment, procurement and sustainability regulation? Conversely, if AI can materially improve climate adaptation, renewable-energy integration, agricultural efficiency and environmental monitoring, how should law facilitate those benefits without allowing the environmental costs of AI to remain invisible?

The question is becoming increasingly relevant because Kenya has moved decisively towards AI adoption. The Kenya Artificial Intelligence Strategy 2025–2030[42] seeks to position Kenya as a leading African hub for AI innovation, research and commercialization and identifies AI digital infrastructure, data and AI governance, and AI research, innovation and commercialization as central pillars of the country's AI agenda.[43] Kenya's ambition is consistent with the broader African Union's Continental Artificial Intelligence Strategy, which recognizes AI as a strategic instrument for achieving Agenda 2063 and the Sustainable Development Goals while advocating ethical, responsible and equitable AI development.[44] The challenge is to ensure that Africa's AI

[40] Environmental Management and Co-ordination Act 1999 (Kenya)
[41] Ibid
[42] Ministry of Information, Communications and the Digital Economy, *Kenya Artificial Intelligence Strategy 2025–2030* (Government of Kenya 2025).
[43] Ibid
[44] African Union, *Continental Artificial Intelligence Strategy* (African Union 2024).

transformation does not reproduce a familiar pattern in which the continent supplies land, minerals, energy or other natural resources while the economic value of technological innovation is captured elsewhere.

The African context consequently adds an important dimension to the Green Machine Paradox. For developed economies, the immediate concern may be the electricity demand of hyperscale data centres or the carbon intensity of AI computation. For many African states, the issue may be broader: access to reliable and affordable electricity, water availability, mineral extraction, infrastructure development, environmental justice, local value addition and the risk of becoming a peripheral supplier to an increasingly resource-intensive digital economy.[45] The environmental governance of AI in Africa must therefore reconcile technological advancement with the continent's developmental priorities, ensuring that AI contributes to sustainable development, inclusive economic growth and the objectives of Agenda 2063 rather than deepening existing environmental and developmental inequalities.[46]

AI should not become another pathway through which environmental costs are externalized onto communities while technological and economic benefits are concentrated elsewhere. This paper accordingly challenges a simplistic understanding of 'green AI'. It argues that the environmental credentials of AI should not be established merely by counting the problems it can solve. Instead, the relevant question is whether the net environmental effect of AI, assessed across its lifecycle, is genuinely positive. It terms that proposition the 'net-green AI' principle. Under this approach, an AI application should be considered environmentally sustainable only where its environmental benefits are assessed alongside the energy, water, mineral, manufacturing, infrastructure and waste impacts associated with its entire lifecycle.[47]

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[45] Africa Union, Continental Artificial Intelligence Strategy. Available at: https://www.au.int/en/documents/20240809/continental-artificial-intelligence-strategy. Accessed on 15 August 2026
[46] Ibid
[47] Supra, note 30

Efficiency alone is insufficient. A more efficient model that encourages substantially greater aggregate consumption may still produce an environmentally negative outcome. Similarly, renewable-energy procurement may reduce operational emissions while leaving unresolved the environmental consequences of hardware manufacture, mineral extraction and end-of-life disposal.[48]

2.1 Governing the Green Machine: From Environmental Risk to Net-Green AI

The study approaches the Green Machine Paradox as both a technological and a legal-governance problem. It asks three interconnected questions. First, what is the true environmental footprint of AI when its entire lifecycle is considered? Secondly, can existing principles of environmental law; particularly sustainability, precaution, prevention, polluter-pays, environmental impact assessment, public participation and intergenerational equity, adequately govern that footprint? Thirdly, what regulatory architecture is required to ensure that AI's environmental benefits do not become a justification for overlooking the environmental costs of the infrastructure upon which AI depends? Kenyan environmental jurisprudence already provides a powerful normative foundation for interrogating the environmental footprint of emerging technologies.

In *Waweru v Republic*, the High Court linked ecologically sustainable development with intergenerational equity, recognizing that natural resources must be protected for future generations.[49] Similarly, in *Odando v National Environment Management Authority*, the Environment and Land Court reaffirmed the relevance of intergenerational and intragenerational equity, the precautionary principle, polluter-pays principle and public participation in environmental adjudication.[50] The jurisprudence on large-scale infrastructure is equally instructive. In *Baadi v Attorney General*, the High Court required strategic

[48] IEA Photovoltaic Power Systems Programme, *Environmental Life Cycle Assessment of Electricity from PV Systems* (2024)
[49] *Waweru v Republic* [2006] eKLR.
[50] *Odando & another (Suing on their Own Behalf and as the Registered Officials of Ufanisi Centre) v National Environment Management Authority & 2 others; County Government of Nairobi & 5 others (Interested Parties)* [2021] KEELC 2235 (KLR).

environmental assessment of the LAPSSET project, recognizing that projects of significant scale and cumulative environmental impact require environmental considerations to be integrated at a higher level of decision-making.[51]

Equally significant is *Friends of Lake Turkana Trust v Attorney General & 2 others*, where the Environment and Land Court held that access to relevant environmental information is a prerequisite to effective public participation and to the monitoring of governmental and private-sector activities affecting the environment. The Court further recognized positive obligations on public authorities to disclose relevant environmental information and to take precautionary measures to ensure the sustainable management and conservation of natural resources.[52] These principles acquire renewed significance in the age of AI.

If environmental law requires potentially harmful infrastructure to be subjected to prior assessment, public scrutiny and informed decision-making, the environmental implications of rapidly expanding AI infrastructure including data centres, electricity demand, water consumption, mineral-intensive hardware and electronic waste should not remain outside the field of environmental governance. Indeed, meaningful public participation in AI's environmental governance is impossible where communities, regulators and affected stakeholders cannot access reliable information concerning the energy, water, carbon, mineral and waste footprints of AI systems and the infrastructure supporting them.

The central argument is that AI should neither be romanticized as the planet's technological savior nor condemned as an inherently environmentally destructive machine. Its environmental character is contingent upon the choices made concerning its energy sources, computational efficiency, hardware

[51] *Baadi & others v Attorney General & 7 others; National Land Commission & 2 others (Interested Parties); Global Initiative for Economic and Social and Cultural Rights & another (Amicus Curiae)* [2018] KEHC 5397 (KLR).
[52] *Friends of Lake Turkana Trust v Attorney General & 2 others* [2014] KEELC 511 (KLR).

lifecycle, water use, mineral supply chains, location, transparency and governance. The appropriate objective should therefore not be 'green AI' understood as a technological label, but net-green AI understood as a measurable environmental outcome. This requires moving environmental assessment upstream into the design, procurement and deployment of AI systems and downstream into their monitoring, auditing, recycling and disposal.

Such an approach would also give substantive meaning to emerging international principles requiring responsible AI throughout its lifecycle. UNEP has called for comprehensive assessment of AI's environmental footprint,[53] while UNESCO has emphasized sustainability, environmental protection, accountability and lifecycle assessment.[54] The OECD similarly advocates measuring environmental impacts beyond operational energy consumption to include freshwater use and critical minerals.[55] These developments suggest that the central regulatory question is no longer whether AI has an environmental footprint; it is how that footprint should be measured, disclosed, governed and allocated.

Ultimately, the Green Machine Paradox is a question about the kind of technological future humanity wishes to construct. The environmental crisis cannot be solved by technology alone, but neither can it be addressed effectively by ignoring technologies capable of transforming how societies produce, consume and govern resources. AI may indeed help humanity save the planet, but only if the machinery of intelligence does not quietly consume the very ecological foundations that make such salvation possible.[56] The future of sustainable AI therefore lies not in choosing between technological progress and environmental protection, but in ensuring that technological progress is itself

[53] United Nations Environment Programme, *Artificial Intelligence (AI) End-to-End: The Environmental Impact of the Full AI Lifecycle Needs to be Comprehensively Assessed* (UNEP 2024).
[54] UNESCO, *Recommendation on the Ethics of Artificial Intelligence*
[55] Supra, note 18
[56] Pengfei Li and others, 'Environmental Impact and Net-Zero Pathways for Sustainable Artificial Intelligence Servers in the USA' (2025)

subjected to the disciplines of sustainability, accountability, environmental justice and intergenerational responsibility.[57] The real test of a 'green machine' is consequently not how intelligently it can solve environmental problems, but whether it can do so without transferring its ecological costs to the planet, its communities and generations yet to come.

2.2 Green by Outcome or Green by Design? Rethinking Sustainable AI

The expression "green AI" carries an appealing simplicity: if artificial intelligence can reduce emissions, improve energy efficiency, optimize water use or strengthen environmental monitoring, it seems reasonable to describe it as a green technology. Yet this reasoning risks confusing what AI enables with what AI itself consumes. An AI system may produce an environmental benefit without being environmentally sustainable across its own lifecycle. The distinction is important because the environmental consequences of AI extend beyond the electricity consumed during computation to water, hardware, materials, infrastructure and the environmental burdens embedded in the manufacture and eventual disposal of computing equipment.[58]

This gives rise to two competing ways of understanding sustainable AI**.** "Green by outcome" evaluates AI according to the environmental benefits produced by its application. "Green by design" asks whether environmental sustainability has been incorporated into the technology itself, from hardware selection and model development to deployment, operation, maintenance and retirement. The latter approach is more demanding because it refuses to treat the environmental footprint of AI as an external cost that can simply be justified by the environmental benefits produced elsewhere.

Recent scholarship increasingly supports this broader conception. Hlabisa argues

[57] International Telecommunication Union, *ITU-T Recommendation L.1801: Guidelines for Assessing the Environmental Impact of Artificial Intelligence Systems* (ITU 2026)

[58] Sibongiseni Hlabisa, 'The Ecology of Artificial Intelligence: Energy, Water, Materials, and Land Limits of Digital Systems' (2025) 1 *Carbon Neutral Systems* 19. Available at: file:///C:/Users/pc/Downloads/s44438-025-00018-8.pdf. <Accessed on 16 August 2026>

that the ecological effects of AI should be understood as an interconnected system involving energy, water, materials and land, rather than as isolated environmental impacts.[59] This is significant because a technology may perform well against one environmental indicator while creating pressure elsewhere.[60] Reducing electricity consumption, for example, does not necessarily resolve the water or material consequences associated with the hardware and infrastructure required to deliver that efficiency.

The lifecycle perspective is further reinforced by recent work on life-cycle assessment. A 2025 study on the environmental assessment of AI applications argues that a credible assessment must extend beyond the energy used during model operation to include critical raw materials, hardware manufacture, maintenance and the energy and materials consumed throughout the system's life.[61] Such an approach shifts attention from the AI model as a piece of software to AI as a socio-technical infrastructure, embedded in physical systems and global supply chains. The distinction between green outcomes and green design becomes particularly important when considering efficiency.

Making AI models or computing infrastructure more efficient is undoubtedly desirable, but efficiency alone does not guarantee sustainability. Mhlanga's 2025 analysis of the rebound effect warns that efficiency improvements can stimulate additional consumption, potentially offsetting some of the environmental gains initially achieved.[62] If cheaper and more efficient computation leads to substantially greater deployment of AI, the environmental burden may continue

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[59] Ibid

[60] Ibid

[61] Life Cycle Assessment of Artificial Intelligence Applications: Research Gaps and Opportunities' (2025). Available at: https://www.sciencedirect.com/science/article/pii/S2212827125003749. <Accessed on 16 August 2026>

[62] David Mhlanga, 'AI Beyond Efficiency, Navigating the Rebound Effect in AI-Driven Sustainable Development' (2025) 13 *Frontiers in Energy Research. Available at:* https://www.frontiersin.org/journals/energy-research/articles/10.3389/fenrg.2025.1460586/full. <*Accessed on 16 August 2026*>

to increase despite improvements in efficiency per task.

This creates a fundamental challenge for the net-green AI proposition. Environmental sustainability should not be established merely because an AI application saves more energy than it consumes, reduces emissions in another sector or improves resource efficiency. The relevant inquiry should be whether the aggregate environmental consequences of the AI system, assessed across its lifecycle, are compatible with the environmental benefits it claims to deliver. Recent empirical evidence makes this concern difficult to ignore. Xiao and others estimate that the deployment of AI servers in the United States could generate annual water footprints of approximately 731–1,125 million cubic metres and additional annual carbon emissions of 24–44 million tonnes CO_2-equivalent between 2024 and 2030, depending on deployment scenarios.[63] Importantly, their analysis shows that environmental outcomes vary significantly according to server location, grid characteristics and efficiency practices.[64] Sustainability is therefore not merely a property of the technology; it is also a property of where, how and under what conditions the technology is deployed.

This observation challenges a narrow understanding of "green by outcome". An AI system may enable renewable-energy integration while being hosted in a water-stressed region. It may reduce industrial emissions while relying upon carbon-intensive electricity. It may improve agricultural efficiency while increasing demand for computing infrastructure. It may reduce operational emissions while embodying substantial environmental impacts from semiconductor manufacturing and hardware supply chains. The environmental ledger is consequently more complicated than a simple calculation of benefits minus electricity consumed.

Belady and others demonstrate, through life-cycle assessment of cloud

[63] Tianqi Xiao and others, 'Environmental Impact and Net-Zero Pathways for Sustainable Artificial Intelligence Servers in the USA' (2025) 8 *Nature Sustainability* 1541. Available at: https://www.nature.com/articles/s41893-025-01681-y. Accessed on 16 August 2026
[64] Ibid

infrastructure, the value of assessing environmental consequences across interconnected components ranging from virtual machines and server architecture to data-centre buildings and electricity systems.[65]

2.3 From Green Claims to Lifecycle Accountability

The appropriate regulatory model should consequently combine design responsibility with outcome accountability. Green-by-design therefore treats environmental sustainability not as an external consequence to be measured after deployment, but as a consideration to be incorporated into the design, development and deployment of AI systems from the outset.[66] Green outcome establishes the requirement that environmental performance be demonstrable, while green design requires environmental responsibility to be embedded from the outset. One without the other is inadequate.[67] This combined approach is particularly important in the Global South, where the infrastructure, resources and environmental burdens supporting AI may be located far from the jurisdictions and corporations capturing much of its economic value.[68] A genuinely sustainable AI framework must therefore ask not only whether AI produces environmental benefits, but also who supplies the resources that make those benefits possible, who bears the associated environmental burdens and who captures the resulting economic value.[69]

For African countries, this question is particularly significant. The environmental sustainability of AI in Africa cannot be separated from electricity access, water security, mineral governance, infrastructure development and the capacity to capture local economic value from the technological supply chains that AI

[65] Ibid

[66] Andrew A Chien, Udit Gupta, Shaolei Ren, Akshitha Sriraman and Bill Tomlinson, 'Strategies and Design for Increasing AI Sustainability' (2026) *Nature Reviews Clean Technology*

[67] International Telecommunication Union, *Recommendation ITU-T L.1801: Guidelines for Assessing the Environmental Impact of Artificial Intelligence Systems* (ITU 2026)

[68] Ibid

[69] Parul Anand and Mark Coeckelbergh, 'AI, Climate Change and Justice: Elements for a Normative Framework Centring the Global South' (2026) 6 *AI and Ethics* 144

increasingly depends upon.[70] A green-by-design approach should therefore incorporate considerations of environmental justice and distributive equity.

The emerging literature therefore points towards a more demanding conception of sustainable AI. Green AI should not be a label conferred merely because artificial intelligence is used to solve an environmental problem; its green credentials must arise from demonstrable environmental performance across the entire AI lifecycle.[71] It should represent a condition in which environmental considerations are integrated into the design, deployment and evaluation of AI systems, and in which claimed environmental benefits are tested against measurable lifecycle impacts.[72]

3. Governing the Green Machine: Legal and Regulatory Frameworks and Gaps

3.1 Environmental Law Principles Applicable to Artificial Intelligence

The environmental governance of artificial intelligence should not be approached as a regulatory vacuum. In Kenya, this foundation is particularly strong. Article 42 of the Constitution of Kenya,[73] guarantees every person the right to a clean and healthy environment, including the right to have the environment protected for the benefit of present and future generations,[74] while Article 69 imposes positive obligations upon the State to ensure sustainable exploitation, utilization, management[75] and conservation of environmental resources, encourage public participation, establish environmental impact assessment and monitoring systems, and eliminate activities likely to endanger the environment.[76]

The relevance of these principles to AI arises from the fact that AI is not merely

[70] United Nations Conference on Trade and Development, *Global Trade Update (May 2025): Focus on Critical Minerals – Copper in the New Green and Digital Economy* (UNCTAD 2025).
[71] Green Artificial Intelligence and its Lifecycle, Hardware, and Measurement Dimensions' (2026) 198 *Information and Software Technology* 108186.
[72] Ibid
[73] Constitution of Kenya, 2010
[74] Ibid
[75] Ibid
[76] Ibid

software. Far from existing in a purely virtual realm, contemporary AI is embedded in a material infrastructure comprising data centres, specialised computing hardware, semiconductor fabrication, electricity and cooling systems, and extensive supply chains for minerals and other physical resources.[77] The following principles are particularly significant.

3.1.1 Sustainable Development

The principle requires development to reconcile economic and technological advancement with environmental protection and the interests of present and future generations. The International Court of Justice in *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*[78] recognized the need to reconcile economic development with environmental protection and emphasized that environmental considerations must be integrated into development decisions rather than treated as an external consideration.[79] The Kenyan constitutional framework goes further by making ecological sustainability an express constitutional obligation. Article 69(1)(a) requires the State to ensure the sustainable exploitation, utilization, management and conservation of the environment and natural resources,[80] while Article 69(2) imposes upon every person a duty to cooperate in ensuring ecologically sustainable development and the sustainable use of natural resources.[81]

Sustainable AI consequently requires the integration of environmental considerations into decisions concerning AI infrastructure, procurement, data-centre location, energy sourcing, water use, hardware design, mineral supply chains and end-of-life management. This interpretation is consistent with the emerging understanding of the concept of the environmental rule of law,[82] under

[77] Sophia Falk and others, 'From Computation to Environmental Cost: The Resource Burden of Artificial Intelligence' (2026) 7 *Communications Earth & Environment* 397.
[78] *Gabčíkovo-Nagymaros Project (Hungary/Slovakia) (Judgment)* [1997] ICJ Rep 7, 78 [140].
[79] Ibid
[80] Supra, note 79
[81] Ibid
[82] United Nations Environment Programme, *Environmental Rule of Law: Tracking Progress and Charting Future Directions* (UNEP 2023).

which environmental sustainability is embedded within a framework of legal rights and obligations, institutional accountability,[83] and effective implementation and enforcement, rather than being left solely to voluntary technological preferences.[84]

3.1.2 The Precautionary Principle

Kenya has expressly incorporated the principle into domestic environmental law. Section 2 of EMCA defines the precautionary principle as requiring preventive measures where there are threats of environmental damage, even where full scientific certainty is absent.[85] Section 3(5) further requires the Environment and Land Court to be guided by the precautionary principle when exercising its environmental jurisdiction.[86]

The principle has continued to develop in more recent jurisprudence. In *Law Society of Kenya v Attorney General & 3 others*, the Environment and Land Court described precaution as a mechanism for responding to uncertainty and emphasized that delaying action until environmental harm becomes scientifically certain may result in action being taken only after the opportunity to prevent serious or irreversible damage has been lost.[87] The Court reaffirmed the same approach in 2025 in *Riverside Farm Malindi Ltd v Dala & 81 others*, emphasizing that actual environmental loss or damage need not necessarily be established before precautionary protection can be invoked.[88]

3.1.3 The Prevention Principle

The prevention principle is deeply embedded in international environmental law. It is reflected in the general duty of States to prevent significant environmental harm and is closely connected to due diligence and environmental impact assessment. The International Court of Justice in *Pulp Mills on the River*

[83] Ibid
[84] Ibid
[85] Supra, note 82
[86] Ibid
[87] *Law Society of Kenya v Attorney General & 3 others* [2016] eKLR
[88] *Riverside Farm Malindi Limited v Dala & 81 others* [2025] KEELC 7953 eKLR

Uruguay (Argentina v Uruguay)[89] emphasized the importance of environmental impact assessment where a proposed activity presents a risk of significant adverse environmental effects in a transboundary context.[90] The Court stated that due diligence and the duty of vigilance and prevention would not be satisfied where an activity capable of affecting a shared resource was undertaken without appropriate environmental assessment.[91]

The preventive dimension of environmental governance is also reflected in Kenya's constitutional framework. Article 69(1)(g) requires the State to eliminate processes and activities likely to endanger the environment, while Article 69(1)(f) requires the establishment of systems of environmental impact assessment, environmental audit and environmental monitoring.[92] EMCA correspondingly empowers NEMA to monitor activities, identify projects requiring environmental assessment and develop safeguards for preventing environmental degradation.[93]

3.1.4 The Polluter-Pays Principle

The polluter-pays principle establishes an important rule of environmental responsibility: the person or entity responsible for environmental pollution should bear the costs associated with preventing, controlling, remedying and, where appropriate, compensating for the resulting environmental harm. Principle 16 of the Rio Declaration calls upon States to promote the internalization of environmental costs and recognizes that the polluter should, in principle, bear the cost of pollution.[94]

The Supreme Court of Kenya provided an important contemporary interpretation in *Export Processing Zone Authority & 10 others v National*

[89] *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) [2010] ICJ Rep 14.
[90] Ibid
[91] Ibid
[92] Supra, note 88
[93] Supra, note 96
[94] Supra, note 94

Environment Management Authority & 3 others (Owino-Uhuru Village case).[95] The Court affirmed that the polluter-pays principle may require the polluter to bear the cost of cleaning contaminated land and that liability may arise regardless of whether the contamination was foreseeable at the time of the pollution event or whether the polluter was at fault, provided the requisite causal connection is established.[96] The Court also emphasized the relationship between environmental restoration, sustainable development and regulatory responsibility.[97]

3.1.5 Intergenerational Equity

Intergenerational equity introduces a temporal dimension into environmental governance. It recognizes that the present generation does not possess an unrestricted entitlement to consume environmental resources in a manner that compromises the ability of future generations to enjoy a healthy environment and access essential natural resources. In *Waweru v Republic*,[98] the Court emphasized that intergenerational equity requires the present generation to maintain or enhance the health, diversity and productivity of natural resources for those who will come after it.[99]

If African states increasingly supply the minerals, land, electricity and water upon which the expanding global AI economy depends, while local communities bear a disproportionate share of its ecological and social costs,[100] the question extends beyond technological or environmental efficiency to one of

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[95] *Export Processing Zone Authority & 10 others (Suing on their own behalf and on behalf of all residents of Owino-Uhuru Village in Mikindani, Changamwe Area, Mombasa) v National Environment Management Authority & 3 others* [2024] KESC 75 eKLR

[96] Ibid

[97] Ibid

[98] *Waweru v Republic* [2006] KEHC 3202 KLR

[99] Ibid

[100] Aczel M., Chamanara S., Matin M., Farsi A., Marwala T., Madani K. (2026) Environmental Cost of AI's Energy Use: Carbon, Water and Land Footprints, United Nations University Institute for Water, Environment and Health (UNU-INWEH). Available at: https://collections.unu.edu/eserv/UNU:10647/UNU-INWEH-Report-The_Env_Cost_of_AI-2026.pdf. <Accessed on 18 August 2026>

environmental justice, distributive equity and intergenerational responsibility.[101] Sustainable AI must therefore consider not only who benefits from AI today, but also who will inherit depleted resources, contaminated ecosystems, electronic waste and climate consequences tomorrow.

3.1.6 Public Participation

Public participation is a procedural principle that ensures communities and other affected stakeholders have an opportunity to influence environmental decisions that may affect their lives, livelihoods, health and resources. Principle 10 of the Rio Declaration recognizes participation, access to environmental information and access to justice as interconnected pillars of environmental governance.[102]

In Kenya, public participation has constitutional status. Article 69(1)(d) expressly requires the State to encourage public participation in the management, protection and conservation of the environment.[103] The application of participation to AI presents a relatively underdeveloped but increasingly important field. Decisions concerning the siting and operation of AI data centres may have significant implications for electricity supply, water availability, land use, local ecosystems, employment and infrastructure, making their location and operation matters of environmental and public-interest governance rather than merely private technological investment.[104] Communities therefore should not be excluded merely because the underlying activity is technologically sophisticated. For AI governance, public participation should therefore operate as a safeguard against technological exceptionalism, the assumption that complex digital infrastructure is somehow beyond ordinary environmental scrutiny. A data centre remains an environmentally significant physical development even when the service it provides is described as "cloud computing" or "artificial intelligence."

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[101] Ibid
[102] Supra, note 112
[103] Supra, note 102
[104] United Nations University Institute for Water, Environment and Health, *Environmental Cost of AI's Energy Use: Carbon, Water and Land Footprints* (UNU-INWEH 2026)

3.1.7 Access to Environmental Information

Access to environmental information is inseparable from public participation and environmental accountability, since informed access enables affected communities to participate meaningfully in environmental decision-making and to scrutinize, challenge and hold public authorities and project proponents accountable for environmental consequences.[105] A community cannot meaningfully participate in an environmental decision if it lacks adequate information concerning the proposed activity, its likely environmental impacts and the measures proposed to prevent or mitigate those impacts.[106]

This principle is particularly significant for AI because one of the central difficulties in establishing the environmental footprint of AI is the lack of transparent and comparable information concerning energy use, water consumption, hardware supply chains, emissions and waste. Where AI developers and data-centre operators do not disclose such information, regulators and affected communities may be unable to determine whether an AI project is genuinely environmentally sustainable.

4. Towards a Principle-Based Environmental Governance of AI

Taken together, the above principles demonstrate that Kenya does not need to begin the environmental regulation of AI from a legal blank slate. The existing environmental framework already contains a sophisticated normative architecture capable of addressing many of the risks associated with AI infrastructure. The central challenge is therefore less the absence of environmental principles than their application to a technological ecosystem that existing environmental legislation did not specifically anticipate.

AI introduces new forms of environmental pressure through computational demand, hyperscale data centres, semiconductor production, critical-mineral

[105] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters

[106] Ibid

extraction, water-intensive cooling systems and rapid hardware turnover.[107] The principles of environmental law must consequently be interpreted in a manner capable of following AI across its entire lifecycle. This interpretation also reveals an important distinction between technological benefit and environmental sustainability.

The emerging jurisprudence therefore supports a broader proposition: AI infrastructure should be subjected to the same environmental principles that govern other activities capable of materially affecting natural resources, human health and ecological systems. Technological sophistication cannot by itself create an exemption from environmental accountability.

Conclusion

In conclusion, the Green Machine Paradox exposes the limits of judging AI by its promised environmental benefits alone. A genuinely sustainable AI system must demonstrate that its benefits outweigh the ecological costs generated throughout its lifecycle. The proposed Net-Green AI framework therefore reorients sustainability from aspiration to accountability, requiring measurable environmental performance, transparency, resource responsibility and effective oversight. Ultimately, AI can contribute meaningfully to environmental protection only where innovation is governed by principles that ensure it does not solve one ecological problem while creating another.

[107] UNEP, *Artificial Intelligence (AI) end-to-end: The Environmental Impact of the Full AI Lifecycle Needs to be Comprehensively Assessed* (UNEP 2024)

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From Judicial Victory to Lived Equality: The Implementation Gap in Transgender Rights Jurisprudence in Kenya

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Abstract

The Kenyan courts have progressively recognized the rights of transgender persons through litigation concerning dignity, privacy, freedom of association, academic records, identity documents, detention and legal gender recognition. Yet favourable judicial decisions do not necessarily translate into institutional or lived equality. This paper examines the development and implementation of Kenyan transgender rights jurisprudence. Using qualitative socio-legal methodology, doctrinal analysis and longitudinal case tracking, the paper examines, judicial recognition, formal compliance, individual remedy, administrative implementation, institutionalization and lived equality. The study posits that the Kenyan reality is neither one of judicial failure nor blanket governmental non-compliance. Rather, it demonstrates that the more a judicial remedy requires structural administrative, legislative or institutional transformation, the more difficult it becomes to translate the judgment into routine practice. The paper identifies three related phenomena including individualization of constitutional rights, partial legal identity, and implementation without institutionalization. The conclusion is that the central current challenge is no longer whether Kenyan courts will recognise transgender rights, but whether judicial victories can be translated into predictable administrative procedures, coherent identity systems and ultimately lived equality.

Keywords: transgender rights; gender identity; legal recognition; constitutional rights; administrative law; judicial implementation; equality.

1. Background

The Constitution of Kenya, 2010 fundamentally transformed the normative

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relationship between the individual and the State. Human dignity, equality, privacy, freedom from discrimination and fair administrative action were elevated to enforceable constitutional rights. Articles 22 and 23 created mechanisms for enforcing those rights, while Article 20 requires courts to interpret the Bill of Rights in a manner that most favours the enforcement of a right or fundamental freedom. For transgender persons, this constitutional transformation has provided an important avenue for challenging legal and administrative practices that fail to recognise their gender identities.[1]

The significance of transgender-rights litigation however extends beyond the question of whether an individual is legally recognized as transgender. Modern citizenship is evidenced through official documentation. Birth certificates, national identity cards, passports, academic certificates and other official records determine how individuals interact with government institutions, educational institutions, employers, financial institutions, healthcare providers and border authorities. When an individual's appearance, name or gender identity does not correspond with information contained in official records, the resulting discrepancy may expose the individual to repeated questioning, humiliation, involuntary disclosure and discrimination.[2]

Kenyan transgender persons have consequently used strategic litigation to challenge different manifestations of legal and institutional non-recognition. The jurisprudence has developed progressively. In *ANN v Attorney General* [2013] KEHC 6004 (KLR), the High Court found violations of dignity and privacy after police subjected the petitioner to an intrusive search in circumstances arising

1 Constitution of Kenya 2010, arts 10, 19, 20, 22, 23, 27, 28, 31 and 47.
2 Milka Wahu Kuria and Shelmith Gatwiri Maranya, 'The Legal Impunity for Gender-Based Violence against Intersex, Transgender, and Gender Diverse Persons in Kenya: A Legal Recognition Issue for the African Human Rights System' (2022) 33(1) Stellenbosch Law Review 100; Nelly Wamaitha, Socio-Legal Dynamics Affecting the Wellbeing of Transgender Persons (Ssali Publishing House in collaboration with University of South Africa Press 2025); Nelly Wamaitha, Elijah Kirimi and Maurice Owuor, 'An Examination of Legal Recognition Perspective on the Wellbeing of Transgender Persons in Nairobi County, Kenya' (2023) 7(10–12) Journal of Popular Education in Africa 57.

from questions concerning the petitioner's gender. In *Republic v Non-Governmental Organizations Co-ordination Board & another ex parte Transgender Education and Advocacy & 3 others* [2014] KEHC 8130 (KLR), the High Court compelled the NGO Coordination Board to register Transgender Education and Advocacy (TEA), holding that refusing registration on the basis of gender or sex was unconstitutional. [3]

The litigation involving Audrey Mbugua and the Kenya National Examinations Council (KNEC) subsequently moved the jurisprudence into the sphere of legal identity. The High Court ordered KNEC to replace Mbugua's examination certificate following her legally recognized change of name and her request for removal of the gender designation. The Court of Appeal later dismissed KNEC's appeal in *Kenya National Examinations Council v Republic & 2 others* [2019] KECA 493 (KLR). In 2025, *SC v Director of Public Prosecutions & 3 others* moved the jurisprudence into the criminal-justice and detention context. The High Court expressly recognized the petitioner as a transgender individual, upheld the right of transgender persons to determine their self-identified gender, found violations of constitutional rights and directed the State towards legal recognition and institutional measures. [4]

The most recent development is *AMI & 2 others v Attorney General & 6 others*, Petition 27 of 2020, decided on 20 May 2026. The case concerns alteration of gender markers in official documents and represents a potentially significant shift from individual documentary correction towards an administrative system for legal gender recognition. The case is recorded as [2026] KEHC 6906 (KLR). This jurisprudential progression is striking. Kenyan courts have moved progressively from the protection of dignity and privacy, through freedom of association and documentary identity, towards the broader recognition of

3 ANN v Attorney General [2013] KEHC 6004 (KLR) (14 June 2013); Republic v Non-Governmental Organizations Co-ordination Board and another ex parte Transgender Education and Advocacy and 3 others [2014] KEHC 8130 (KLR) (23 July 2014).
4 Republic v Kenya National Examinations Council and another ex parte Ithibu [2014] KEHC 8265 (KLR); Kenya National Examinations Council v Republic and 2 others [2019] KECA 493 (KLR).

transgender identity and legal gender markers. Yet this progress creates an inconsistency. Judicial recognition appears to have developed more rapidly than administrative implementation. This article therefore asks a question that is less frequently examined than the judgments themselves: What happens after the judgment? The article asks whether the judicial victories obtained by transgender persons have been implemented, who has benefited from them, whether the relevant institutions have changed their practices, and what social, administrative, legal, financial and political factors explain the continuing gap between judicial recognition and lived reality. The article does not begin from the assumption that every favourable judgment has been ignored. Such a conclusion would be both empirically inaccurate and legally unsustainable. Some judgments have clearly produced practical results. Rather, the central argument is that implementation has been uneven and often individualized.[5]

This paper develops three concepts to explain this phenomenon: the individualization of constitutional rights, partial legal identity, and implementation without institutionalization. It further proposes an implementation gradient according to which the difficulty of implementation tends to increase as a judicial remedy moves from individualized relief towards structural institutional transformation. The paper concludes that Kenya's transgender rights jurisprudence has entered a new phase. The central question is no longer simply whether courts recognize transgender rights. It is whether those rights can be converted into ordinary administrative practice so that transgender persons can enjoy them without having to repeatedly return to court.

What is the concern?

Legal identity is fundamental to participation in modern society. Official documentation is the principal means through which the State identifies its citizens and residents. A birth certificate records an individual's identity from birth; a national identity card is required for numerous public and private transactions, while a passport enables cross-border travel. Academic certificates

5 AMI and 2 others v Attorney General and 6 others, Petition 27 of 2020 [2026] KEHC 6906 (KLR) (20 May 2026).

confirm educational qualifications. For transgender persons, the problem arises where the information contained in these documents conflicts with their lived gender identity. A transgender person whose physical appearance differs from the gender indicated on an identity card may be questioned at a bank, airport, government office, educational institution or workplace. Such encounters may reveal their transgender status without consent. The resulting exposure may lead to stigma, humiliation or discrimination.[6]

The problem is intensified by the fragmented structure of the Kenyan administrative system. Different institutions maintain different categories of information. A court order affecting one record does not necessarily result in automatic amendment of another. The Audrey Mbugua litigation demonstrates this problem. Mbugua's legal name had been changed, but the information contained on her academic certificate continued to create a conflict between her official documentation and her lived identity. The KNEC litigation ultimately established that the Council possessed legal authority to amend the certificate and that its discretion had to be exercised lawfully. The case nevertheless left a larger question unanswered: what happens when the problem extends beyond an academic certificate to birth registration, national identification and passports? That question eventually became central to the AMI & 2 others v Attorney General litigation. The problem is that Kenyan courts have progressively recognized transgender rights, but the administrative and institutional mechanisms necessary to translate those rights into routine practice have developed more slowly and unevenly. This creates a significant socio-legal gap between rights on paper and rights in practice.[7]

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6 United Nations, 'Introduction of the United Nations Legal Identity Agenda: A Holistic Approach to Civil Registration, Vital Statistics and Identity Management: Report of the Secretary-General' UN Doc E/CN.3/2020/15 (2019); SC v Director of Public Prosecutions and 3 others; Amka Africa Justice Initiative and another (Interested Parties) [2025] KEHC 11929 (KLR) (12 August 2025).

7 Republic v Kenya National Examinations Council and another ex parte Ithibu [2014] KEHC 8265 (KLR); Kenya National Examinations Council v Republic and 2 others [2019] KECA 493 (KLR); AMI and 2 others v Attorney General and 6 others, Petition 27 of 2020 [2026] KEHC 6906 (KLR) (20 May 2026).

Methodology

The study adopts a qualitative socio-legal methodology combining doctrinal analysis, documentary analysis and longitudinal case tracking. The doctrinal analysis focuses on the parties, factual circumstances, prayers, constitutional provisions, judicial reasoning, orders and remedies, while the longitudinal analysis traces developments following judgment to assess whether court orders were implemented and whether they generated broader administrative or institutional change. The documentary analysis draws on reported judgments, relevant legislation, publicly available governmental information, civil-society reports and scholarly literature. This approach is informed by socio-legal scholarship that emphasizes examining the relationship between formal legal rules and their operation within institutions and society.[8]

The study distinguishes six stages in the realization of judicially recognized rights as follows: Judicial recognition, formal compliance, individual remedy, administrative implementation, institutionalization and lived equality. This distinction is important because compliance with an order affecting an individual claimant does not necessarily mean that the underlying legal principle has been incorporated into routine administrative practice or experienced as equality in everyday life. The study therefore considers legal, administrative, institutional, social, financial and political factors that may influence implementation.

Limitations of the Study

This study has several limitations. Firstly, government agencies do not routinely publish comprehensive information concerning implementation of individual constitutional judgments. Therefore, the study does not equate absence of

8 Milka Wahu Kuria and Shelmith Gatwiri Maranya, 'The Legal Impunity for Gender-Based Violence against Intersex, Transgender, and Gender Diverse Persons in Kenya: A Legal Recognition Issue for the African Human Rights System' (2022) 33(1) Stellenbosch Law Review 100; Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107.

publicly available evidence with non-compliance. Instead, implementation is categorized, where the evidence permits, as confirmed, partial or unverified. Secondly, administrative practices may exist internally without being publicly accessible. Thirdly, the study is primarily doctrinal and documentary rather than ethnographic. It therefore does not claim to represent the experiences of every transgender person who has interacted with Kenyan government institutions. Furthermore, the implementation of the 2026 *AMI* judgment is still developing. Its long-term institutional consequences cannot yet be conclusively measured. These limitations, however, reinforce rather than undermine the article's central argument. They demonstrate the need for implementation research that follows judicial decisions beyond the courtroom.

Literature Review and Theoretical Context

The Kenyan experience forms part of a wider African phenomenon in which gender minorities have used courts strategically to challenge legal and institutional exclusion. In the Kenyan context, Orago and colleagues specifically examine the strategic use of litigation by gender minorities to pursue rights realization amid legal, social and political contestation. Movements across countries including Kenya, Uganda, Botswana, Malawi, Nigeria and Zambia have employed litigation and other legal strategies to challenge discriminatory laws, practices and institutional arrangements.[9]

The concept of queer lawfare is particularly relevant. Orago, Gloppen and Gichohi position Kenyan litigation involving gender minorities within a strategic use of law and courts to create opportunities for rights realization in a difficult political and social environment. Strategic litigation may produce multiple and interrelated forms of impact. Beyond securing an individual remedy, successful

9 Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022); Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107.

litigation may establish or clarify legal precedent, influence subsequent judicial decisions, shape administrative practice and interpretation, stimulate legislative and policy reform, strengthen accountability, mobilize affected communities and contribute to changes in public discourse and attitudes. The impact of strategic litigation should therefore be assessed not only by whether the claimant obtains relief, but also by whether the judgment produces broader legal, institutional, political or social change. This distinction is especially important in the transgender context because many of the relevant disputes involve administrative systems. A court can order an institution to correct one document relatively easily. It is considerably more difficult for a court judgment to transform the underlying administrative system so that similarly situated persons can obtain the same remedy without litigation. The distinction between formal compliance and social impact is therefore central to this paper.[10]

The Development of Transgender Rights Jurisprudence in Kenya

i. *ANN v Attorney General*: Dignity and Privacy

ANN v Attorney General represents an important early stage in the development of transgender-related constitutional protection. The petitioner was subjected to an intrusive search following police questioning concerning the petitioner's gender. The circumstances involved public exposure and humiliation. The High Court treated dignity and privacy as enforceable constitutional rights and found that the manner in which the petitioner was treated violated those rights. The case was significant because it rejected the idea that uncertainty concerning a person's sex or gender justified degrading treatment by State officials. The judgment therefore established an important principle, that transgender persons

10 Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107; Michael Ramsden and Kris Gledhill, 'Defining Strategic Litigation' (2019) 38(4) Civil Justice Quarterly 407; Open Society Foundations, Strategic Litigation Impacts: Insights from Global Experience (Open Society Foundations 2018).

remain entitled to the full protection of constitutional dignity even where the administrative or legal system has not fully accommodated their identity. However, the remedy was primarily individual. There is insufficient publicly documented evidence that the judgment generated comprehensive institutional reform within policing. The case therefore demonstrates the first stage of the implementation problem, that is, judicial recognition can occur without corresponding institutional transformation.[11]

ii. *TEA v NGO Coordination Board*: Freedom of Association

The case of Republic v Non-Governmental Organizations Co-ordination Board & another ex parte Transgender Education and Advocacy (TEA) & 3 others concerned the refusal to register TEA as a non-governmental organization. TEA sought an order of mandamus compelling the NGO Coordination Board to carry out its statutory mandate and register the organization. The High Court granted the order. Justice Odunga held that discrimination and denial of freedom of association on the basis of gender or sex were unconstitutional. The Court found that the reasons relied upon by the Board were legally untenable and ordered registration of the organization.[12]

iii. Academic Identity and Administrative Discretion

The Audrey Mbugua litigation is arguably one of the most important occurrences in Kenyan transgender-rights jurisprudence. Mbugua, formerly known by another name, had legally changed her name and sought corresponding changes to her Kenya Certificate of Secondary Education (KCSE) certificate. Her certificate contained information that no longer corresponded with her legal identity. Therefore, she sought judicial review remedies against the Kenya National Examinations Council. The High Court granted an order compelling KNEC to replace the certificate. KNEC appealed against this order. In Kenya National

11 ANN v Attorney General [2013] KEHC 6004 (KLR) (14 June 2013).
12 Republic v Non-Governmental Organizations Co-ordination Board and another ex parte Transgender Education and Advocacy and 3 others [2014] KEHC 8130 (KLR) (23 July 2014).

Examinations Council v Republic & 2 others [2019] KECA 493 (KLR), the Court of Appeal dismissed the appeal. The court examined the Council's statutory mandate and its discretion under the relevant examination rules. KNEC had argued that the absence of a comprehensive public policy or legislative framework governing transgender persons created difficulties for the Court's intervention. The court rejected the argument that such absence necessarily prevented enforcement of constitutional rights. This principle has considerable importance. It means that legislative silence is not automatically equivalent to legal prohibition. The case consequently strengthened the role of constitutional courts in reviewing administrative decisions affecting transgender persons. However, the remedy also demonstrates the limits of individual litigation. The Court ordered the correction of an individual examination certificate but it did not create a comprehensive national system for legal gender recognition. This is the first clear example of what this article calls implementation without institutionalization.[13]

iv. The Health Guidelines Litigation: The Limits of Judicial Intervention

In *Republic v Cabinet Secretary, Ministry of Health & 2 others ex parte Transgender Education and Advocacy*, TEA sought judicial review remedies concerning the development and implementation of national guidelines for the management of gender identity disorders. The case involved the Ministry of Health, the Kenya Medical Practitioners and Dentists Board and the Attorney General. The applicants sought to compel the relevant authorities to take institutional action concerning healthcare guidelines. The High Court dismissed the application.[14]
This case is essential because it demonstrates the limits of litigation as a mechanism for creating public policy. A court can compel a public authority to perform a legal duty, but it is more difficult to use judicial review to require

13 Republic v Kenya National Examinations Council and another ex parte Ithibu [2014] KEHC 8265 (KLR); Kenya National Examinations Council v Republic and 2 others [2019] KECA 493 (KLR).
14 Republic v Cabinet Secretary, Ministry of Health and 2 others ex parte Transgender Education and Advocacy (suing through its officials) Audrey Mbugua Ithibu (Chairperson) and 2 others [2015] KEHC 6869 (KLR).

government to develop an entirely new policy framework where the precise legal duty is uncertain. This distinction is significant when assessing non-implementation. An unsuccessful application is not an example of governmental disobedience. Rather, it demonstrates a judicial limitation. The case also illustrates the implementation gradient. Structural reforms involving health policy, professional standards, funding and administrative coordination are more difficult to achieve through a single judicial order than correction of an individual document.[15]

v. Identity Documents and Partial Legal Identity

The struggle to obtain identity documents reflecting a person's changed name and gender demonstrates the limitations of fragmented legal recognition. The Mbugua litigation showed that one institution could be compelled to correct a particular document. Yet, the underlying identity problem extended beyond KNEC. A transgender person's legal identity may be distributed across birth registration records, national identity records, immigration records, academic records, employment records and financial records. Changing one record does not necessarily change the other. This produces what is referred to as partial legal identity, whereby the State recognizes one component of a person's identity while continuing to maintain a contradictory classification elsewhere. In the Kenyan context, transgender persons may successfully change their names while remaining unable to alter sex or gender markers on official documents, thereby creating inconsistencies between their legally recognized name, gender identity and official records. Such documentary inconsistencies can expose transgender persons to stigma, discrimination and repeated disclosure of their gender identity when official documents are required to verify identity. The High Court's decision in SC v Director of Public Prosecutions & 3 others further illustrates the consequences of this disconnect. The consequences are not merely administrative. Every discrepancy creates another occasion on which the individual may be required to explain themselves. The administrative system can

15 Fair Administrative Action Act 2015, sections 4 and 7; Constitution of Kenya 2010, arts 22, 23 and 47.

therefore become a source of vulnerability. This is particularly important because legal identity should not be understood merely as an individual's personal characteristic. It is also the product of the relationship between the individual and the State's multiple identification systems.[16]

vi. The Broader Association Jurisprudence

The Supreme Court's decision in *NGOs Co-ordination Board v EG & 4 others* [2023] KESC 17 is not exclusively a transgender case and should not be represented as one. It is nevertheless relevant to the broader legal environment within which transgender organizations operate. The court protected the constitutional right of an organization representing persons within the LGBTQI community to register and associate. The court's reasoning distinguished freedom of association from broader questions such as same-sex marriage or decriminalization. The case is significant because it demonstrates that Kenyan constitutional litigation can protect rights of gender minorities through specific constitutional guarantees without necessarily resolving every broader political or social question surrounding those communities. For transgender persons, freedom of association is particularly important because organized advocacy has played a central role in bringing cases before courts and monitoring implementation. The development of transgender rights is therefore inseparable from the ability of transgender organizations to exist, organize and advocate.[17]

vii. *SC v Director of Public Prosecutions*: From Documents to the Person

The 2025 judgment in *SC v Director of Public Prosecutions & 3 others* represents an

16 Milka Wahu Kuria and Shelmith Gatwiri Maranya, 'The Legal Impunity for Gender-Based Violence against Intersex, Transgender, and Gender Diverse Persons in Kenya: A Legal Recognition Issue for the African Human Rights System' (2022) 33(1) Stellenbosch Law Review 100; Nelly Wamaitha, Socio-Legal Dynamics Affecting the Wellbeing of Transgender Persons (Ssali Publishing House in collaboration with University of South Africa Press 2025); SC v Director of Public Prosecutions and 3 others; Amka Africa Justice Initiative and another (Interested Parties) [2025] KEHC 11929 (KLR) (12 August 2025).
17 NGOs Co-ordination Board v EG and 4 others; Katiba Institute (Amicus Curiae) [2023] KESC 17 (KLR) (24 February 2023).

important doctrinal development. The petitioner, SC, is a transgender woman who was arrested and detained in circumstances that led to intrusive searches and medical examinations after prison authorities questioned her sex. The litigation raised fundamental questions concerning dignity, privacy, equality, bodily integrity and treatment by criminal justice institutions. The petitioner sought recognition as a transgender person, declarations concerning violations of privacy and dignity, protection against cruel, inhuman or degrading treatment, appropriate detention arrangements, legislative reforms concerning transgender prisoners, damages and costs. The High Court made significant declarations. It held that limitations imposed upon rights protected by Articles 25, 27, 28, 29 and 31 of the Constitution were not reasonable and justifiable. It recognized the petitioner as a transgender individual, affirmed the right of transgender persons to determine their self-identified gender and directed the State to grant legal recognition of such gender identity within the legal framework. The court also recommended legislative measures and called for appropriate facilities for transgender persons who come into conflict with the law. The significance of *SC case* lies in the fact that the court moved beyond documentary correction and moved to address the question as to how should the State treat a transgender person. This is a much broader constitutional question. The judgment has implications for, police, prisons, courts, medical practitioners, detention policies, legislation and administrative procedures. Yet, this also creates an implementation challenge. A court can declare that intrusive searches violate constitutional rights. It is more difficult to determine whether: prison procedures have changed; officers have been trained; appropriate facilities have been established; transgender prisoners are now treated consistently; or whether the relevant legislation has been amended. Thus, *SC* case represents strong judicial recognition but less readily verifiable systemic implementation.[18]

viii. *AMI & 2 Others v Attorney General*: The 2026 Turning Point

The 2026 decision in AMI & 2 others v Attorney General & 6 others [2026] KEHC

18 SC v Director of Public Prosecutions and 3 others; Amka Africa Justice Initiative and another (Interested Parties) [2025] KEHC 11929 (KLR) (12 August 2025).

6906 (KLR), Petition 27 of 2020, represents the most important recent development in transgender-rights jurisprudence. The case concerns alteration of sex or gender markers in official documents and directly engages the relationship between gender identity and the State's civil-registration and identification systems. The significance of the decision lies in its movement beyond the correction of one individual document. The court's approach requires the relevant State agencies to receive, consider and determine applications concerning alteration of gender markers, rather than treating such applications as categorically prohibited. The relevant agencies were given a 60-day period for this process, and applications were to be considered on a case-by-case basis pending a more permanent legislative framework. This is fundamentally different from the Audrey Mbugua litigation. The earlier case addressed whether the particular academic certificate could be corrected, while the 2026 case raised the question whether the State's administrative machinery could receive and determine applications for legal gender recognition. This represents a potential transition from exceptional judicial relief to ordinary administrative recognition. It is also significant because the court appears to have treated civil registration as an ongoing administrative function rather than an immutable historical record. The judgment therefore potentially changes the implementation question from one of individual compliance to one of institutional practice.[19]

The Implementation Gradient

The Kenyan jurisprudence reveals a consistent pattern. The easiest judicial orders to implement tend to be those requiring a specific institution to take a specific action concerning a specific individual. For instance, register TEA or correct an examination certificate or pay compensation. These remedies are relatively contained. The difficulty increases where the remedy requires changes to multiple government agencies, institutional policies, legislation, databases, prescribed forms, professional practices, detention systems or public attitudes. This paper calls this relationship the implementation gradient. At one end lies the individual remedy (correct this person’s document). At the other end lies

19 AMI and 2 others v Attorney General and 6 others, Petition 27 of 2020 [2026] KEHC 6906 (KLR) (20 May 2026).

structural transformation (create a functioning national system through which transgender persons can obtain coherent legal recognition). Between these two extremes lie institution-specific administrative reform, cross-institutional coordination, legislative reform and changes in institutional culture. The broader the remedy, the more actors are required to implement it.

This helps explain why favourable judicial decisions do not automatically produce social transformation. The court controls the judgment, but its ability to produce broader institutional change is necessarily mediated by other branches and institutions of government. Courts do not themselves administer government databases, allocate public budgets, enact legislation or directly determine the conduct and institutional culture of frontline officials. Kenya's constitutional framework recognizes this institutional division through the doctrine of separation of powers, under which the Judiciary, Legislature and Executive exercise distinct but mutually accountable functions. Kenyan courts have nevertheless emphasized that separation of powers does not shield unconstitutional governmental action from judicial scrutiny. Each organ must exercise its mandate consistently with the Constitution.[20]

Nevertheless, a constitutional court may open a legal door by declaring a right or directing an institution to act, without being able by itself to guarantee the administrative, legislative, financial and social changes necessary to make that right effective in practice. The experience of strategic litigation demonstrates that the broader impact of a judgment depends upon actors and processes beyond the courtroom, including government institutions, political processes, civil society and wider social attitudes.[21]

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20 Constitution of Kenya 2010, arts 1(3), 94, 129 and 159; Commission for the Implementation of the Constitution v National Assembly of Kenya and 2 others [2013] KEHC 6919 (KLR); Law Society of Kenya v Attorney General and another; Centre for Enhancing Democracy and Good Governance and 5 others (Interested Parties); International Commission of Jurists and 2 others (Amicus Curiae) [2016] KEHC 5101 (KLR).

21 Open Society Foundations, Strategic Litigation Impacts: Insights from Global Experience (Open Society Foundations 2018); Nicholas Wasonga Orago, Siri Gloppen and

Why Has Implementation Been Uneven?

i. Legislative ambiguity

The absence of a comprehensive legal framework governing gender identity recognition in Kenya has historically created legal and administrative uncertainty, particularly concerning the alteration of sex or gender markers in official documents. However, the jurisprudence demonstrates that legislative silence is not necessarily a complete explanation. The Court of Appeal's reasoning in the KNEC litigation established that the absence of a policy or legislative framework could not itself prevent enforcement of constitutional rights. Thus, the problem is better described as the interaction between legislative silence and administrative discretion, whereby the absence of an express statutory procedure leaves room for public authorities to interpret and apply existing legal powers inconsistently.[22]

ii. Administrative discretion

Government agencies exercise substantial discretion over identity documents. Discretion is not inherently unlawful; however, it becomes problematic where it is exercised inconsistently, arbitrarily, discriminatorily, unreasonably, or without regard to relevant considerations and applicable legal standards. The Fair Administrative Action Act expressly permits judicial review where an

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Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107.

22 Milka Wahu Kuria and Shelmith Gatwiri Maranya, 'The Legal Impunity for Gender-Based Violence against Intersex, Transgender, and Gender Diverse Persons in Kenya: A Legal Recognition Issue for the African Human Rights System' (2022) 33(1) Stellenbosch Law Review 100; Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107; Kenya National Examinations Council v Republic and 2 others [2019] KECA 493 (KLR).

administrator abuses discretion, fails to consider relevant matters, acts unreasonably or unfairly, or makes a decision that is not rationally connected to the purpose of the empowering provision. The KNEC litigation demonstrates precisely why administrative discretion must remain subject to constitutional review. The 2026 AMI decision places the same issue at the centre of gender marker applications. The key implementation question therefore remains what criteria will administrators use to decide whether an application should be approved or not.[23]

iii. Institutional fragmentation

Kenya's identity system is administered through multiple institutions. Birth registration, national identification and immigration documentation are not necessarily governed by one unified process or legal framework. This means that an amendment to one record may not automatically resolve discrepancies in another. This fragmentation is a significant source of partial legal identity.

iv. Administrative bureaucracy

Judicial doctrine can change overnight while administrative systems usually do not. A judgment may therefore establish a new legal principle immediately while forms, databases and manuals remain unchanged or staff continue using old categories. This produces a gap between legal change and bureaucratic change.

v. Institutional culture

Legal rules are ultimately implemented by individual officials. A transgender applicant may therefore experience the law differently depending on the officer handling the application. The officer may understand the law accurately, misunderstand it, apply it conservatively or introduce requirements that do not appear in the governing framework. This phenomenon can be described as

23 Constitution of Kenya 2010, art 47; Fair Administrative Action Act 2015, sections 4 and 7; Kenya National Examinations Council v Republic and 2 others (n 5); AMI and 2 others v Attorney General and 6 others, Petition 27 of 2020 [2026] KEHC 6906 (KLR) (20 May 2026) (official copy not independently located; see Editor's Notes).

frontline constitutionalism: the constitutional right is ultimately experienced at the service counter.

vi. Financial barriers

Financial considerations operate at both institutional and individual levels. Government institutions may require resources to reform information systems, databases, forms, staff capacity-building and inter-agency procedures. For transgender applicants, administrative obstacles can generate substantial personal costs through repeated applications, travel, legal fees and lost working time. The existence of a formal legal remedy therefore does not necessarily mean that the remedy is economically accessible. Research on transgender and gender diverse persons in Kenya documents the practical and financial burdens associated with attempts to obtain or amend identity documentation, including repeated engagement with registration authorities and significant expenditure in unsuccessful attempts to correct official records. The 2026 Count Me In study reports that 94% of respondents had visited civil-registration offices seeking identity-related services, 78% reported denial of service, some respondents reported costs exceeding KSh 500,000, and approximately three in four reported being turned away, humiliated or denied service at a government registration office at least once.[24]

vii. Social and political contestation

Transgender rights remain socially and politically contested in Kenya. Although the Constitution of Kenya 2010 has strengthened the protection of marginalized groups, transgender persons continue to encounter social, legal, religious and economic challenges that affect their wellbeing and access to rights. Kenyan scholarship further demonstrates that gender minorities operate within a context

24 . Kenya Human Rights Commission, Jinsiangu Kenya and National Transgender Advocacy Network, 'Count Me In: Assessing Civil Registration Systems for Transgender and Gender Diverse Persons in Kenya' (Kenya Human Rights Commission 2026) khrc.or.ke accessed 17 October 2026.

shaped by conservative socio-cultural and religious norms, which can influence public attitudes towards gender diversity and the implementation of rights. Such contestation is relevant because judicial decisions operate within, rather than outside, this social environment. However, social or political opposition should not automatically be equated with demonstrated political interference in the implementation of a particular judicial order. While political, religious and cultural resistance can be established through public discourse, advocacy and documented positions, attributing non-implementation of a specific judgment to a particular politician, religious organization or government official requires direct evidence of causation. The more defensible conclusion is therefore that Kenyan transgender rights jurisprudence operates within a contested social environment in which constitutional recognition may coexist with social resistance, institutional uncertainty and continuing barriers to legal recognition.[25]

Conclusion

Kenyan transgender-rights jurisprudence demonstrates significant judicial progress. Through the protection of dignity and privacy, freedom of association, documentary recognition, broader constitutional recognition and the emerging legal gender-recognition framework, Kenyan courts have progressively expanded the legal protection available to transgender persons. Judicial intervention can therefore be described neither as a failure nor as evidence that the State has ignored every favourable judgment. There have been genuine victories; the problem lies elsewhere. Judicial recognition has outpaced institutionalization. The Kenyan experience demonstrates three related phenomena. Firstly, transgender rights have become individualized because

25 David Kuria Mbote, Theo G M Sandfort, Esther Waweru and Andrew Zapfel, 'Kenyan Religious Leaders' Views on Same-Sex Sexuality and Gender Nonconformity: Religious Freedom versus Constitutional Rights' (2018) 55(4–5) Journal of Sex Research 630; Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107; Nelly Wamaitha, Socio-Legal Dynamics Affecting the Wellbeing of Transgender Persons (Ssali Publishing House in collaboration with University of South Africa Press 2025).

their practical enjoyment has often depended upon litigation by particular claimants. Secondly, transgender persons have experienced partial legal identity because different institutions have recognized different components of their identity at different times. Thirdly, there has been implementation without full institutionalization, where a State institution complies with a particular judgment without necessarily transforming the administrative system for similarly situated persons.[26]

The concept of the implementation gradient explains this pattern. Individualized remedies are generally easier to implement than structural reforms. For instance, correcting one certificate is easier than transforming a national identification system, registering one organization is easier than changing institutional culture, paying damages is easier than reforming prisons and declaring a right to legal gender recognition is easier than creating a predictable administrative mechanism through which that right can be exercised. The 2026 *AMI* judgment is therefore particularly significant. Success will not ultimately be measured by the judgment alone but the same will be measured by what happens afterwards. If government agencies receive applications, apply clear criteria, make reasoned decisions, issue amended documents and establish procedures accessible to similarly situated persons, *AMI* may mark the transition from judicial recognition to institutional recognition. If transgender persons must instead continue returning to court to obtain individual remedies, the jurisprudential victories will remain only partially transformative.[27]

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26 ANN v Attorney General [2013] KEHC 6004 (KLR); Republic v Non-Governmental Organizations Co-ordination Board and another ex parte Transgender Education and Advocacy and 3 others [2014] KEHC 8130 (KLR); Kenya National Examinations Council v Republic and 2 others [2019] KECA 493 (KLR); SC v Director of Public Prosecutions and 3 others; Amka Africa Justice Initiative and another (Interested Parties) [2025] KEHC 11929 (KLR); AMI and 2 others v Attorney General and 6 others, Petition 27 of 2020 [2026] KEHC 6906 (KLR) (20 May 2026) (official copy not independently located; see Editor's Notes).

27 Nicholas Wasonga Orago, Siri Gloppen and Matthew Gichohi, 'Queer Lawfare in Kenya: Shifting Opportunities for Rights Realization' in Adrian Jjuuko, Siri Gloppen, Alan Msosa and Frans Viljoen (eds), Queer Lawfare in Africa: Legal Strategies in Contexts of LGBTIQ+ Criminalisation and Politicization (Pretoria University Law Press 2022) 107;

The central lesson of Kenyan transgender rights jurisprudence is therefore that a judicial victory is a beginning rather than an end. The ultimate question is not how many cases have transgender persons won. The real question is whether a transgender can exercise the right recognized by those judgments without first becoming a constitutional litigant. That is the point at which judicial recognition becomes administrative recognition. It is the point at which administrative recognition becomes institutionalization. And it is only when institutionalization becomes routine, accessible and non-discriminatory that Kenya can move from rights on paper to lived equality.

Recommendations

This paper makes the following recommendations:

1. The government should develop a comprehensive legal and administrative framework for legal gender recognition. Such a framework should establish clear eligibility requirements, application procedures, evidentiary standards, confidentiality safeguards, decision-making authority, time limits and appeal mechanisms.[28]
2. The government should operationalize the *AMI* judgment through clear and publicly accessible procedures. A right should not depend upon an applicant discovering an unpublished administrative practice.[29]
3. Identity systems should be coordinated. Where an individual's identity has been lawfully amended, the relevant government systems should be capable of reflecting that change coherently.
4. Frontline government officers should receive training concerning constitutional rights, dignity, privacy, equality, non-discrimination, gender identity and confidentiality.

Michael Ramsden and Kris Gledhill, 'Defining Strategic Litigation' (2019) 38(4) Civil Justice Quarterly 407; Open Society Foundations, Strategic Litigation Impacts: Insights from Global Experience (Open Society Foundations 2018).

28 Constitution of Kenya 2010, arts 10, 27, 28, 31 and 47; Births and Deaths Registration Act (Cap 149, Laws of Kenya); Registration of Persons Act (Cap 107, Laws of Kenya).

29 AMI and 2 others v Attorney General and 6 others (n 6), subject to verification against the official judgment.

5. Implementation should be monitored through administrative data. The responsible agencies should be capable of reporting the number of applications received, decisions made, approvals, refusals, reasons and processing periods.
6. There should be accessible mechanisms for challenging administrative refusals.
7. Courts should, where appropriate, design remedies that anticipate implementation. Orders directed at systemic problems should identify responsible institutions, timelines and reporting obligations where legally appropriate.
8. Once a constitutional principle has been judicially settled, similarly situated persons should not be required repeatedly to litigate the same issue. The ultimate purpose of strategic litigation should be to make further litigation unnecessary.

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Declared Complete, Still Unadopted: Part V Obligations and the Missing Dispute Annex of the AfCFTA Protocol on Investment

By: David Onsare*

Abstract

The AfCFTA Protocol on Investment couples extensive investor obligations in Part V with an investor–State dispute mechanism deferred to an Annex. The Secretariat's July 2025 progress report confirms that a draft exists and records continuing negotiation over the inclusion of investor–State arbitration. Read with the subsequent adoption record, this supports a distinction between political completion and an adopted enforcement instrument. Through doctrinal analysis of the Protocol, African investment instruments and counterclaim awards, this article develops a confined model of reciprocal enforcement. Its contribution is to connect express consent, the proper duty bearer, standing, proportionate relief and domestic proceedings in a single drafting framework. African precedents demonstrate that investor obligations, counterclaims and home-State civil liability can be designed together. The resulting clauses preserve article 47 and community remedies while preventing jurisdiction from creating substantive obligations or automatic parent-company liability.

Keywords: *AfCFTA; investment protocol; dispute settlement; investor obligations; counterclaims; ESG; African investment law*

I. Introduction

The AfCFTA Protocol on Investment contains an extensive investor-obligations chapter. It binds investors and investments to domestic and applicable international law, business ethics, human-rights and labour standards, environmental protection, local-community obligations, anti-corruption rules and corporate governance. Yet the Protocol leaves a central institutional question

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unfinished.[1]

Article 46 requires investor and Host State first to seek amicable resolution and refers unresolved disputes to mechanisms to be provided in an Annex. Article 46(3) required the Annex to be finalised within 12 months at the latest from the date of adoption, which set a deadline of February 2024. The 2025 AU Assembly decision then directed the Council of Ministers to conclude negotiations on the Annex on Rules and Procedures for the Prevention, Management and Resolution of Disputes to the Protocol on Investment and submit the finalised Annex to the Assembly in February 2026.[2]

In July 2025 the Secretariat reported that a draft Annex was under negotiation and that five Member States' request to include investor–State arbitration remained an open negotiating issue. Its account of the Sixteenth Council of Ministers meeting also urged expedited negotiations. The published February 2026 decisions subsequently congratulated the Council on concluding Phase II negotiations and urged implementation and ratification, while the instruments expressly adopted comprised eight Intellectual Property Rights Annexes and did not include the Investment dispute Annex.[3,4,5]

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[1] Protocol to the Agreement Establishing the African Continental Free Trade Area on Investment (adopted 19 February 2023) ('AfCFTA Protocol on Investment') pt V, arts 31–40.

[2] AfCFTA Protocol on Investment (n 1) art 46(3); African Union Assembly, Decision on the Annual Report of the Union and its Organs, Assembly/AU/Dec.854(XXXVI) (18–19 February 2023) para 13; African Union Assembly, Decision on the Progress Report on the AfCFTA, Assembly/AU/Dec.911(XXXVIII) (15–16 February 2025) para 9.

[3] African Union Assembly, Decision on the Report of the First (1st) Meeting of the Assembly Committee of Heads of State and Government on the Implementation of the AfCFTA, Assembly/AU/Dec.975(XXXIX) (14–15 February 2026) paras 3–6.

[4] African Union Assembly, Decision on the Adoption of Draft Legal Instruments, Assembly/AU/Dec.957(XXXIX) (14–15 February 2026) para 2(c)(i)–(viii).

[5] AfCFTA Secretariat, Progress Report on the Implementation of the African Continental Free Trade Area to the Executive Council, EX.CL/1625(XLVII) (July 2025) paras 48 and 65(e). Paragraph 47's reference to adoption in February 2024 differs from the original adoption decision, Assembly/AU/Dec.854(XXXVI) (n 2) para 13; the latter is used for the article 46(3) deadline.

This article examines the gap between those political declarations and the adopted enforcement architecture. Its public-record assessment is confined to the Protocol, Assembly decisions and Secretariat report examined as at 20 October 2026. The July 2025 report establishes that the inclusion of arbitration was then unsettled; it does not show which questions remain open today. No adopted Investment dispute Annex was located in that record. A negotiating draft, an agreed text and an adopted Annex are distinct legal events. Against that methodological baseline, the article asks how Part V can receive reciprocal international effect alongside domestic enforcement and article 47, subject to entry into force under article 48.[6]

The point of departure is therefore conditional. If State Parties retain investor–State adjudication, its scope should accommodate enforceable investor obligations on a defined and consensual basis. If they choose another route, Part V still requires credible implementation and coordination with domestic remedies. The analysis assesses those legal functions without predicting the final institutional model.

The contemporary scholarly discussion offers competing institutional accounts. Pirzada anticipates a move away from conventional ISDS, although discussing an earlier draft, whereas Ogunranti proposes a trade-inspired AfCFTA dispute settlement regime and challenges mandatory domestic exhaustion. This article neither adopts a prediction of exclusion nor selects an institutional model. It adds an obligation-centred inquiry: what legal relationships must any chosen mechanism accommodate if Part V is to have reciprocal effect?[7]

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[6] AfCFTA Protocol on Investment (n 1) arts 46(3) and 48; Assembly/AU/Dec.975(XXXIX) (n 3) paras 5–6.

[7] Muhammad Siddique Ali Pirzada, 'The AfCFTA Investment Protocol: A New Age for Regional Investment and Dispute Resolution' (Harvard International Law Journal Online, 11 April 2025) s IV <https://journals.law.harvard.edu/ilj/2025/04/the-afcfta-investment-protocol-a-new-age-for-regional-investment-and-dispute-resolution/> accessed 20 October 2026; Akinwumi Ogunranti, 'Investment Dispute Settlement Reform in Africa: A Proposal for an AfCFTA Investment-related Dispute Settlement System' (2026) 42 Arbitration International 133, ss 4–5 <https://doi.org/10.1093/arbint/aiaf025>.

II. African precedents and the substantive architecture

The closest drafting precedents are African. The non-binding Draft Pan-African Investment Code places investor obligations in chapter 4 and expressly addresses counterclaims in article 43. Paragraph (1) connects proven investor breaches to their relevance to the claim and damages; paragraph (2) separately permits a State counterclaim for Code breaches. That separation anticipates two different consequences of investor misconduct: a defence or adjustment to the investor's claim and an affirmative claim for relief.[8]

The SADC Model BIT Template is likewise a non-binding drafting resource. Article 19 distinguishes materially relevant investor misconduct, express counterclaim authority and civil proceedings in the Host and Home States. The signed Morocco–Nigeria BIT supplies a further comparator: article 18 addresses post-establishment investor obligations, article 20 home-State civil liability and articles 26–27 dispute prevention and investor access to adjudication. These provisions are comparators, not obligations imported into the AfCFTA Protocol. Their treaty effect depends on their own legal status and conditions of operation.[9] Mbengue and Schacherer place the PAIC's direct investor duties within an African reform of investment law; Zugliani analyses the Morocco–Nigeria BIT's human-rights obligations and the potential for counterclaims despite its investor-facing submission clause. Together these accounts show that a catalogue of investor duties does not settle access to a remedy. The AfCFTA contribution lies in connecting duties, consent and article 47, rather than presenting investor

[8] African Union, Draft Pan-African Investment Code (December 2016) ('PAIC') ch 4, arts 19–24 and art 43(1)–(2).

[9] Southern African Development Community, SADC Model Bilateral Investment Treaty Template with Commentary (July 2012) ('SADC Model BIT') introduction and arts 19.1–19.4; Reciprocal Investment Promotion and Protection Agreement between the Government of the Kingdom of Morocco and the Government of the Federal Republic of Nigeria (signed 3 December 2016) ('Morocco–Nigeria BIT') arts 18, 20 and 26–27. These are drafting comparators; no assertion of current entry into force of the bilateral treaty is necessary to the comparison.

obligations or counterclaims as novel African inventions.[10]
Part V, headed 'Investor Obligations', runs from articles 31 to 40. Article 31 preserves State Party obligations and requires States to ensure investor compliance. Article 32 addresses compliance with national and international law. Articles 33–40 then address business ethics, human rights and labour standards, environmental protection, Indigenous peoples and local communities, socio-political obligations, anti-corruption, corporate social responsibility, corporate governance and taxation and transfer pricing.[11]

The drafting is not uniform. Article 38 uses 'shall endeavour' for corporate social responsibility while neighbouring provisions employ more direct mandatory language. That contrast matters. An obligation to endeavour may require reasonable efforts without guaranteeing a result; it should not automatically be treated either as legally empty or as an obligation to achieve every listed objective. Those distinctions must survive procedural design. Jurisdiction over a dispute cannot enlarge the substantive duty imposed by the relevant provision.[12]
The Protocol also distinguishes investor from investment. Part V often binds both. That choice reduces but does not eliminate corporate-structure problems. The investor may be a foreign parent while the investment is a local enterprise. The enforcement text has to identify whether a State may proceed against the investor, the investment or both and how any award reaches the proper legal person.[13]

The result is a substantive instrument waiting for procedural definition. The

[10] Makane Moïse Mbengue and Stefanie Schacherer, 'The "Africanization" of International Investment Law: The Pan-African Investment Code and the Reform of the International Investment Regime' (2017) 18 Journal of World Investment & Trade 414, 434–437 and 444–445 <https://doi.org/10.1163/22119000-12340047>; Niccolò Zugliani, 'Human Rights in International Investment Law: The 2016 Morocco–Nigeria Bilateral Investment Treaty' (2019) 68 International & Comparative Law Quarterly 761, s IV <https://doi.org/10.1017/S0020589319000174>.
[11] AfCFTA Protocol on Investment (n 1) pt V, arts 31–40.
[12] AfCFTA Protocol on Investment (n 1) art 38(1)–(2).
[13] AfCFTA Protocol on Investment (n 1) art 1 and arts 32–40.

Annex is therefore capable of shaping the practical meaning of Part V more than a conventional procedural schedule would.

III. Enforcement routes and article 47

The Protocol provides for State-State dispute settlement through article 44, a dispute-prevention and grievance-management function through article 45 and investor-State dispute resolution through article 46. Article 47 separately preserves home-State and host-State civil liability. The published Protocol therefore envisages several enforcement routes even before the Annex is examined.[14]

The July 2025 report supplies affirmative evidence of an unresolved institutional choice, rather than mere silence in an adoption list. It supports scrutiny of whether investor–State arbitration will be included, but does not establish the negotiating status of particular provisions on counterclaims, standing or remedies. Those provisions are evaluated below as design requirements, not as a reconstruction of the negotiations.

If the Annex were to provide only investor claims, Part V's mandatory investor obligations would depend largely on domestic enforcement and article 47. If it permits State counterclaims, the text still has to identify their substantive basis and the persons against whom they may run. Those are interpretive consequences of the Protocol whether or not the negotiators have already chosen between them.

Likewise, a broad international jurisdiction over all investor misconduct would sit uneasily with the Protocol's preservation of domestic liability. Article 47 makes that point concrete. Any Annex text must be read together with, rather than as a replacement for, home-State and host-State judicial routes.

Article 47 provides for an enforcement route outside the future Annex. Investors

[14] AfCFTA Protocol on Investment (n 1) art 44 ('State-State Dispute Settlement'), art 45 ('Dispute Prevention and Grievance Management') and art 46 ('Dispute Resolution').

and their investments are, where applicable and in accordance with domestic law, subject to civil actions in the judicial process of their Home State for acts, decisions or omissions made in the Host State in relation to the investment where those acts lead to damage, personal injury or loss of life. State Parties must develop rules and procedures that allow, or do not prevent or unduly restrict, such home-State actions and must take account of conflict-of-laws rules and recognition and enforcement of foreign judgments. The Protocol expressly preserves civil actions in the Host State. It does not itself dispense with domestic requirements of jurisdiction, standing, cause of action or proof, and its treaty obligations must be distinguished from their implementation and entry into force.[15]

Article 47 changes the design problem. The Annex is not being written onto an empty enforcement field. It will sit beside at least three routes: host-State domestic proceedings, home-State civil actions under article 47 and whatever investor-State mechanism article 46 ultimately creates. The legal question is therefore one of coordination. An Annex counterclaim should not extinguish a victim's home-State action merely because the State seeks related public relief in arbitration. Equally, an investor should not face double recovery for the same legally compensable loss.

The provision also exposes a useful division of institutional labour. Article 47 is capable of giving injured persons access to the investor's Home State, subject to the applicable domestic liability rules. A counterclaim, by contrast, ordinarily belongs to the respondent State and depends on arbitral consent. The Annex can therefore address public claims, treaty obligations and connected State losses while article 47 preserves a route for private civil liability. Treating the mechanisms as cumulative but coordinated is more faithful to the Protocol than choosing one and ignoring the other.[16]

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[15] AfCFTA Protocol on Investment (n 1) art 47 ('Investor Liability'), paras 1–3.

[16] AfCFTA Protocol on Investment (n 1) art 47. The division of institutional labour proposed here follows the distinct claimants and causes of action envisaged by that provision.

IV. Counterclaim jurisprudence: consent, duty and domestic law

Aven is the cautionary case. The tribunal accepted prima facie jurisdiction over Costa Rica's counterclaim but held that the DR-CAFTA provisions relied upon did not themselves impose the affirmative investor obligation asserted. It also dismissed the counterclaim because the facts, causation and relief had not been pleaded with sufficient precision.[17]

For the AfCFTA, the first difficulty is reduced because Part V contains direct investor-facing language. The second remains. A State counterclaim therefore needs to identify the precise Part V obligation or other applicable cause of action, the facts constituting breach, the responsible person and the relief sought.

Al-Warraq shows the value of explicit treaty obligations. The tribunal treated article 9 of the OIC Agreement as a positive investor obligation and read it together with the dispute clause, the procedural rules and the parties' agreement in upholding counterclaim jurisdiction. The counterclaim nevertheless failed because Indonesia did not establish the claimant's personal liability and an adequate legal basis for recovering the alleged losses. That sequence is desirable: treaty drafting can open the forum without predetermining liability.[18]

Urbaser provides the complementary warning. A tribunal may possess jurisdiction over a counterclaim while the asserted substantive obligation does not exist in the form pleaded. Jurisdiction cannot be allowed to expand the

[17] *David R Aven and others v Republic of Costa Rica*, ICSID Case No UNCT/15/3, Final Award (18 September 2018) paras 742–747. Dominican Republic–Central America–United States Free Trade Agreement (signed 5 August 2004) ('DR-CAFTA') arts 10.9(3)(c), 10.11 and 10.15–10.16.

[18] *Hesham Talaat M Al-Warraq v Republic of Indonesia*, UNCITRAL, Final Award (15 December 2014) paras 658–672; Agreement on Promotion, Protection and Guarantee of Investments amongst the Member States of the Organization of the Islamic Conference (1981) ('OIC Investment Agreement') arts 9 and 17.

substantive content of Part V.[19]

The AfCFTA Protocol deliberately connects investor conduct with domestic law. That is sensible. Environmental licences, labour duties, community consultation and corporate regulation are usually administered nationally. That regulatory structure is better preserved than centralised in arbitration.

Burlington demonstrates how a counterclaim can proceed on domestic tort law where the parties and tribunal have jurisdiction.[20] *Perenco* shows the technical depth that environmental remediation can require, including independent expertise and detailed quantification.[21] These cases are useful precisely because they do not depend on a free-standing international ESG cause of action.

Shao argues that many environmental and human-rights counterclaims are necessarily grounded in domestic law and that weaknesses in domestic rules, including parent-company liability, carry into the arbitration. That point matters to the AfCFTA architecture. Procedural language cannot cure weak substantive law.[22]

The Annex can nevertheless add value. It can provide an international forum for connected claims where the Protocol or applicable law creates the duty. It can also reach the foreign investor where Part V binds that investor directly. That is a meaningful difference from domestic proceedings against a thinly capitalised local subsidiary.

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[19] *Urbaser SA and Consorcio de Aguas Bilbao Bizkaia, Bilbao Biskaia Ur Partzuergoa v Argentine Republic*, ICSID Case No ARB/07/26, Award (8 December 2016) paras 1143–1155, 1195–1210.

[20] *Burlington Resources Inc v Republic of Ecuador*, ICSID Case No ARB/08/5, Decision on Counterclaims (7 February 2017) paras 60–62 and 71–74.

[21] *Perenco Ecuador Ltd v Republic of Ecuador*, ICSID Case No ARB/08/6, Award (27 September 2019) paras 423–429 and 1023.

[22] Xuan Shao, 'Environmental and Human Rights Counterclaims in International Investment Arbitration: at the Crossroads of Domestic and International Law' (2021) 24 Journal of International Economic Law 157, ss II and IV.C <https://doi.org/10.1093/jiel/jgab001>.

V. An integrated drafting framework

The following eight illustrative articles combine each proposed rule with the problem it addresses. They are recommendations for a reciprocal adjudicative mechanism if State Parties choose one, rather than statements of the negotiated Annex. Article 1 also addresses applicable law, which must accompany consent if domestic-law counterclaims are admitted.

Consent, scope and applicable law

Article 46(1) describes an investor–Host State dispute "relating to an alleged breach of this Protocol", without specifying a breach by the Host State. Read with Part V, that formulation accommodates disputes concerning investor misconduct as well as State conduct. It is a stronger textual starting point for reciprocity than an inference from policy alone. It nevertheless introduces amicable settlement, while paragraphs (2) and (3) defer the available mechanisms to the Annex. Broad subject matter is therefore not, by itself, a perfected offer to arbitrate a State counterclaim.[23]

The stronger model treats the State's international claim ordinarily as a counterclaim within proceedings initiated by the investor rather than creating an unrestricted right to commence arbitration for every investor breach. Domestic institutions remain the primary enforcement mechanism for most corporate regulation. That preserves hierarchy while avoiding one-sided treaty adjudication.

A limited category of direct State claims remains possible if State Parties deliberately choose that policy. Any such category needs exhaustive identification. Anti-corruption or specific remediation duties may justify different treatment from general CSR provisions.

The comparison with *Al-Warraq* and *Aven* is useful within that limit. *Al-Warraq*

[23] AfCFTA Protocol on Investment (n 1) art 46(1)–(3); *Al-Warraq* (n 18) paras 658–667; *Aven* (n 17) paras 738–747; UNCITRAL Arbitration Rules (as revised in 2010) art 21(3).

read the OIC Agreement's broad dispute clause with its investor obligations and the parties' procedural arrangements. *Aven* treated DR-CAFTA's general references to investment disputes as capable of encompassing counterclaims, yet rejected the pleaded counterclaim. These decisions support inclusive drafting, not the proposition that article 46(1) alone supplies consent. The Annex should state whose consent is given, how the investor accepts it and which connected claims fall within it.[24]

An applicable-law article can distinguish the Protocol from domestic law. The tribunal applies the Protocol, relevant rules of international law and host-State law governing any domestic-law counterclaim. That formulation avoids the fiction that every ESG duty becomes international merely because the dispute is arbitrated internationally.

Article 1, Consent, Scope and Applicable Law: 'Each State Party consents to adjudication under this Annex of an investor claim alleging breach of a protection expressly made enforceable through this mechanism. An investor commencing such a claim accepts jurisdiction over a counterclaim directly connected with the investment and based on Part V, an applicable Host State obligation or an investment agreement expressly covered by this Annex. The adjudicating body shall apply the Protocol, relevant international law and the domestic law governing any domestic-law cause of action. Consent supplies a forum and does not create a duty absent from the applicable law.' This combines the PAIC and SADC preference for express counterclaim authority with the jurisprudential distinction between jurisdiction and obligation.[25]

The duty bearer

Part V often addresses both investors and investments. The Annex needs to translate that into procedural identity. A local investment enterprise may not be

[24] *Al-Warraq* (n 18) paras 658–672; OIC Investment Agreement (n 18) art 17; *Aven* (n 17) paras 738–747; DR-CAFTA (n 17) arts 10.15–10.16.
[25] PAIC (n 8) arts 43–44; SADC Model BIT (n 9) art 19.2; *Al-Warraq* (n 18) paras 658–672; *Urbaser* (n 19) paras 1143–1155.

capable of appearing as a respondent if it is not a party to the arbitration agreement. The foreign investor may be a party but may not be liable for every act of the enterprise.

The better approach connects procedure to the substantive duty. A counterclaim against the investor requires an obligation binding that investor. Conduct of the investment reaches the investor only where Part V or applicable law produces that consequence. Control or ownership cannot silently become enterprise liability.[26]

Article 2, Duty Bearer: 'A counterclaim shall identify the person against whom relief is sought and the substantive obligation binding that person. An investor shall be liable for conduct relating to its investment only to the extent that this Protocol or applicable law imposes liability on that investor, including for its own participation in or direction of the relevant conduct. No person shall become a party to the proceeding without the requisite consent.' The provision addresses the parent-subsidiary problem without creating automatic enterprise liability.[27]

Standing and community interests

Part V protects interests that may belong to communities as well as the State. Article 34 concerns environmental protection. Article 35 addresses Indigenous peoples and local communities. The enforcement architecture therefore has to identify what legal interest a state counterclaim represents.[28]

The State must identify the legal interest for which it seeks relief. Public remediation expenditure, State-owned natural resources or a statutory representative power may support recovery. Private loss suffered by community members does not automatically become State loss. *Al-Warraq* illustrates the point: the tribunal rejected recovery where the State had not demonstrated the

[26] *Al-Warraq* (n 18) paras 669–672; Shao (n 22) s IV.C.
[27] *Al-Warraq* (n 18) paras 669–672; Shao (n 22) s IV.C.
[28] AfCFTA Protocol on Investment (n 1) arts 34–35.

legal basis on which losses initially suffered by a bank could be recovered by the State.[29]

The Annex should provide that an award does not determine or extinguish the independent rights of persons who are not parties to the proceeding. Affected communities should retain access to domestic or other lawful remedies, subject to the rules governing those remedies. Amicus participation can add relevant evidence and argument without substituting for party status.[30]

This safeguard is not merely procedural. It prevents the rhetoric of community protection from producing an award in which the State and investor settle a dispute while the people directly affected receive no remedy.

Article 3, Standing and Third-Party Rights: 'A respondent State seeking relief for injury affecting persons other than the State shall identify the legal basis upon which it is entitled to claim such relief. No award shall determine or extinguish the independent rights of a person who is not a party to the proceeding.' This clause prevents public-interest rhetoric from replacing juridical standing.[31]

Consequences and remedies

The remedial architecture should specify the relief available for State counterclaims. Compensation can address proven State loss and the cost of environmental remediation where the applicable law supports recovery. The Annex could also authorise restitution, remediation orders or declaratory relief, subject to the substantive law and the tribunal's remedial powers. Punitive damages should not be inferred from a general remedial clause. These are

[29] *Al-Warraq* (n 18) paras 669–672, especially para 670; AfCFTA Protocol on Investment (n 1) art 47. The examples of State interests are proposed categories requiring a basis in the applicable law.
[30] AfCFTA Protocol on Investment (n 1) art 47(1)–(3); UNCITRAL Rules on Transparency in Treaty-based Investor-State Arbitration (effective 1 April 2014) art 4. Preservation of non-party rights is proposed here as an express safeguard.
[31] *Al-Warraq* (n 18) para 670; AfCFTA Protocol on Investment (n 1) art 47.

proposed drafting choices; the compensation awards in *Burlington* and *Perenco* do not by themselves establish a general power to order every form of relief.[32]
A graduated-consequences clause should start with article 1: the definition of investment makes conformity with Host State law material at establishment, acquisition or expansion. Article 37(3), which treats a breach of the anti-corruption article as a breach of domestic law, supplies an additional anchor. Illegality at the point of entry may therefore affect whether the investment qualifies for protection, subject to the relevant provision, facts and applicable law. Later operational misconduct should be analysed separately through the pleaded duty, counterclaim, compensation or costs. Neither provision warrants automatic forfeiture of all protection for every regulatory breach.[33]

The tribunal requires power to prevent double recovery. *Burlington* and *Perenco* illustrate the risk of overlapping claims arising from the same environmental operations. Disclosure of parallel proceedings allows the tribunal to account for remedies already obtained.[34]

Proportionality also protects the credibility of Part V. A minor reporting error cannot automatically extinguish treaty protection. Serious corruption, environmental destruction or deliberate human-rights abuse cannot sensibly be reduced to technical non-compliance. The remedy has to fit the duty and the breach.

Article 4, Consequences and Relief: 'Relief shall follow the obligation breached and the powers conferred by this Annex. Compensation, restitution, restoration or a declaration may be ordered where supported by the applicable law. The adjudicating body shall distinguish illegality relevant to investment qualification

[32] *Perenco* (n 21) para 1023. On the need for an identified legal basis, see also *Al-Warraq* (n 18) paras 669–672.
[33] AfCFTA Protocol on Investment (n 1) art 1 (definition of investment) and art 37(3). The differentiated consequences are proposed here, rather than a prescribed automatic sanction.
[34] *Burlington* (n 20) paras 1080–1086; *Perenco* (n 21) paras 890–905 and 965–966.

from misconduct during operation, assess the gravity and legal effect of the breach and account for satisfaction obtained elsewhere for the same loss. Duplicate recovery is prohibited; punitive relief requires express authorisation.' This implements article 1's legality threshold without treating every operational breach as jurisdictional, while addressing the overlapping environmental claims illustrated by *Burlington* and *Perenco*.[35]

Pleading and evidence

Aven demonstrates why pleading rules matter. A counterclaim that identifies an environmental problem but omits attribution, causation and relief can fail even after jurisdiction is accepted. A credible counterclaim regime therefore requires the legal basis, material facts, causal link and remedy to be pleaded with sufficient particularity.[36]

Environmental claims may require site access, technical sampling and independent expertise. Human-rights claims may depend on testimony from affected communities and confidential records. The Annex can authorise tribunals to use expert procedures while protecting due process.[37]

Early review can determine whether a counterclaim identifies a legally actionable obligation. It can exclude claims that merely assert failure to achieve a CSR objective without pleading breach of the actual standard, while preserving any properly pleaded obligation of effort under article 38.

Case management remains a question of proportionality. Excessive procedural detail would invite satellite litigation. Core guarantees of notice, equality, evidence and reasoned decision are more important than an exhaustive list of techniques.

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[35] AfCFTA Protocol on Investment (n 1) arts 1 and 37(3); *Burlington* (n 20) paras 1080–1086; *Perenco* (n 21) paras 890–905 and 965–966.
[36] *Aven* (n 17) paras 742–747.
[37] *Perenco* (n 21) paras 423–429; UNCITRAL Arbitration Rules (n 23) arts 17 and 27–29.

Article 5, Pleading and Evidence: 'Each claim or counterclaim shall identify the person alleged to be responsible, the binding legal obligation, the acts or omissions said to breach it, any causal link to the injury claimed and the remedy requested. Each party shall have an effective opportunity to answer the opposing case. The adjudicating body may direct proportionate disclosure, inspections and independent expert evidence with appropriate safeguards.' The *Aven* pleading failure and *Perenco*'s environmental expertise explain why enforceability requires both legal particularity and workable proof procedures.[38]

Transparency and participation

Article 6, Transparency and Participation: 'Proceedings shall be transparent subject to protection of confidential or protected information. The tribunal may receive submissions from non-disputing State Parties and other persons with a significant interest in the dispute, having regard to the rights of the disputing parties and the efficient conduct of the proceeding.' This formulation can be developed by reference to the UNCITRAL model rather than recreated from first principles. The UNCITRAL Transparency Rules offer publication, hearing and third-party submission safeguards; the Mauritius Convention illustrates implementation for older treaties, rather than automatically extending that regime to this Protocol.[39]

Article 7, Coordination with Domestic Proceedings: 'Submission of a claim or counterclaim under this Annex shall not prevent a competent authority or court of the Host State from exercising regulatory, administrative, civil or criminal jurisdiction in accordance with domestic law. Nothing in this Annex shall prevent or unduly restrict a civil action available in the investor's Home State under Article 47 of the Protocol. The disputing parties shall disclose proceedings

[38] *Aven* (n 17) paras 744–747; *Perenco* (n 21) paras 423–429; UNCITRAL Arbitration Rules (n 23) arts 20(2)–(4), 21(3)–(4) and 27–29.

[39] UNCITRAL Rules on Transparency in Treaty-based Investor-State Arbitration (n 30) arts 1 and 3–7; United Nations Convention on Transparency in Treaty-based Investor-State Arbitration (adopted 10 December 2014, entered into force 18 October 2017) ('Mauritius Convention') arts 1–2.

concerning substantially the same injury or remedy, and the tribunal shall take appropriate steps to prevent double recovery while preserving the independent rights of non-parties.' The clause places the Annex beside, rather than above, the Protocol's existing judicial routes.[40]

Article 8, Preliminary Review: 'A tribunal may, after giving the parties an opportunity to be heard, dismiss a claim or counterclaim that manifestly falls outside its jurisdiction or manifestly fails to identify an obligation capable of giving rise to the relief sought.' This protects both sides from expensive proceedings that fail to plead breach of the applicable legal standard.[41]

These clauses address recurrent legal problems without selecting a court or arbitral institution. Express counterclaim consent and applicable law make reciprocity predictable; identification of the duty bearer and State interest limits its reach; participation and coordination protect people whose claims remain outside the proceeding.

VI. Dispute prevention and domestic remedies

Article 45 already creates a foundation for grievance management. Any dispute architecture can build on that mechanism. Many investment disputes begin with regulatory disagreement rather than an immediate treaty breach. Early engagement can resolve technical problems before positions harden.[42]

Any additional local-remedies condition requires a separate policy choice. Ogunranti challenges models that make domestic exhaustion the gateway to international adjudication, pointing to access, institutional capacity and sovereignty concerns, and proposes an AfCFTA investment-related dispute settlement regime modelled on the trade mechanism. That critique cautions against treating exhaustion as an automatic consequence of articles 45–46. If

[40] AfCFTA Protocol on Investment (n 1) arts 45 and 47; SADC Model BIT (n 9) arts 19.3–19.4; Morocco–Nigeria BIT (n 9) art 20.
[41] *Aven* (n 17) paras 742–747; AfCFTA Protocol on Investment (n 1) art 38.
[42] AfCFTA Protocol on Investment (n 1) arts 45–46(1).

adopted, a local-remedies period should have a defined duration and exceptions for unavailable or manifestly ineffective relief; coordination under article 47 does not itself require exhaustion.[43]

Domestic enforcement remains available for State claims unless the final text expressly provides otherwise. Arbitration does not by itself suspend criminal proceedings or regulatory measures merely because related facts appear in a counterclaim.

Complementarity here concerns distinct causes of action, claimants and remedies. It does not presume either a hierarchy in which international adjudication routinely overrules domestic courts or a duty to exhaust every domestic remedy before bringing a treaty claim.

VII. Objections, interpretation and institutional choice

The first objection concerns the decision to include arbitration at all, an issue expressly recorded in July 2025. The clauses do not resolve that political choice. They specify the safeguards required if an investor–State adjudicative route is retained, whether through arbitration, a court or a mixed arrangement. A decision against that route would instead require attention to the capacity of domestic and State–State enforcement to deliver the Protocol's substantive commitments.

A second objection is that counterclaims may internationalise domestic regulation. That risk supports the limited-consent model. Domestic institutions remain the primary forum for most Part V obligations. Counterclaims become relevant when an investor has already invoked the treaty mechanism and the State has a closely connected claim. The mechanism need not grant States a general right to arbitrate every regulatory breach.

[43] Ogunranti (n 7) ss 4–5; AfCFTA Protocol on Investment (n 1) arts 45–46. The defined period and exceptions discussed here are proposed choices.

Third, some may argue that domestic-law counterclaims weaken continental predictability because national laws differ. Uniformity is not the only value. Part V itself requires compliance with domestic law. Where the Protocol preserves national environmental and labour regimes, the dispute mechanism has to be capable of applying those rules when they form the legal basis of a connected claim.

Fourth, community participation may increase cost and complexity. That concern is legitimate, but exclusion carries its own cost where the dispute directly concerns community land, consultation or environmental harm. The answer is controlled participation, not automatic party status. The tribunal can require submissions to address defined issues and protect confidential or sensitive information.

Fifth, reciprocal enforcement may be said to discourage investment. The stronger answer is legal certainty. Investors need to know in advance which Part V obligations can be enforced internationally, against which entity and with which remedies. Ambiguity is a greater source of risk than carefully confined responsibility.

Finally, the mechanism has to remain administrable for States with different levels of litigation capacity. That argues against unnecessary complexity. Express consent, clear pleading, transparent applicable law and a short list of remedies do more for predictability than elaborate procedural innovation. The design is strongest when it solves problems already visible in the jurisprudence before creating new ones.

The Annex remains procedural in character. Interpretation of Part V continues to follow the ordinary law of treaties, and the different drafting choices within articles 31–40 must retain their meaning. An obligation to achieve a specified result cannot be equated with article 38's 'shall endeavour' formulation merely because both appear in Part V; equally, that formulation should not automatically be denied legal effect. A preliminary-review mechanism can remove claims that

fail to identify an actionable obligation without allowing procedure to rewrite substance.[44]

Institutional form also affects access, costs and legitimacy. Ogunranti's trade-inspired proposal deserves consideration on those grounds. The present framework makes a narrower contribution: any model that adjudicates investor claims and State counterclaims must address consent, legal personality, standing, proof and relief. Those requirements inform institutional selection without establishing that every model performs equally well.[45]

Periodic review and publication of reasoned decisions can then address experience rather than speculation. If article 47 litigation, host-State proceedings and Annex counterclaims begin to overlap, the State Parties will have an evidential basis for refining coordination rules. The objective is a system in which the Protocol's substantive ambition is matched by predictable enforcement without converting the Annex into a general court of corporate regulation.

VIII. Conclusion

Part V places investor responsibility within continental investment governance. The Secretariat's report shows why the unfinished Annex matters: disagreement in July 2025 concerned the inclusion of investor–State arbitration itself, not merely procedural detail. Political declarations of completion cannot substitute for an adopted instrument defining its legal operation.

African drafting precedents and counterclaim awards point towards a confined form of reciprocity if international investor–State adjudication is retained. Express consent and applicable law must accompany the substantive duties; liability must attach to the proper person; the State must establish its entitlement to relief; and remedies must preserve article 47 proceedings and independent

[44] Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331, arts 31–32; AfCFTA Protocol on Investment (n 1) art 38(1)–(2).
[45] Ogunranti (n 7) s 5.

community rights. The integrated clauses translate those requirements into reviewable drafting choices.

The central finding is that enforceable investor obligations require a coordinated architecture, not simply a counterclaim label. Article 46(1) leaves textual room for reciprocal claims, while article 1 and Part V define substantive limits. An Annex faithful to those choices can strengthen accountability without becoming a general court of corporate regulation.

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Environmental Justice for Sustainability: Reconciling the Right to Development with the Precautionary Principle

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Abstract

This paper discusses how the ideal of environmental justice can be realised by reconciling the right to development with the precautionary principle. The paper observes that the right to development is a fundamental human right and the environment plays a key role in actualising this right. However, the paper also notes that the pursuit of the right to development also raises environmental injustices and inequalities. It discusses how the right to development can affect the ideal of environmental justice. Due to its impact on environmental justice, the paper posits that the precautionary principle provides an effective solution towards fostering the right to development while protecting people and planet for environmental justice. Consequently, the paper proposes how environmental justice can be attained by reconciling the right to development with the precautionary principle for sustainability.

1.0 Introduction

Environmental justice has emerged as a key principle and movement that seeks to ensure sound environmental conservation and protection, and respect for environmental rights towards sustainability. It has been observed that environmental justice seeks to ensure the fair, just and equal treatment and effective and meaningful involvement of all people regardless of race, colour, nationality, or income, with respect to the development, implementation, and

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enforcement of environmental laws, policies and regulations[1]. In addition, it has been observed that environmental justice envisages the fair, inclusive, equitable and just allocation and distribution of environmental benefits and burdens, in order to ensure that all people and communities, particularly those historically marginalised, have the right to a clean, healthy and sustainable environment[2]. At its core, environmental justice means that every person regardless of race, colour, nationality, origin, or income has the right to the same environmental protection and benefits, as well as meaningful involvement in environmental policy making[3].

It has been observed that environmental justice has developed into a fundamental ideal and movement in the global pursuit for sustainability[4]. For instance, this concept correctly acknowledges that some individuals, groups and communities face disproportionate exposure to environmental hazards, bear an inequitable share of the costs associated with environmental policies, and face more barriers in accessing information, participating and accessing justice in environmental matters[5]. Environmental justice therefore highlights the plight of vulnerable people and communities who bear the most burden when it comes to environmental damage and seeks to give them a voice through access to environmental information, participation in environmental decision-making processes and access to justice in order to ensure inclusive, just, sustainable and

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[1] What is Environmental Justice?., Available at https://www.clientearth.org/latest/news/what-is-environmental-justice/ (Accessed on 07/10/2026)

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[5] Ibid

equitable development[6].

Promoting environmental justice is therefore necessary for sustainability. In particular, it has been observed that fostering environmental justice is key towards confronting global environmental threats including climate change, pollution and biodiversity loss while ensuring equity, justice, fairness and human rights for every person[7]. By upholding environmental justice, it is possible to ensure that all people and communities enjoy the right to live and thrive in clean, safe, healthy and sustainable environments with equal environmental protections and meaningful involvement environmental decision-making processes[8].

This paper discusses how the ideal of environmental justice can be realised by reconciling the right to development with the precautionary principle. The paper observes that the right to development is a fundamental human right and the environment plays a key role in actualising this right. However, the paper also notes that the pursuit of the right to development also raises environmental injustices and inequalities. It discusses how the right to development can affect the ideal of environmental justice. Due to its impact on environmental justice, the paper posits that the precautionary principle provides an effective solution towards fostering the right to development while protecting people and planet for environmental justice. Consequently, the paper proposes how environmental justice can be attained by reconciling the right to development with the

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[8] American Public Health Association., 'Environmental Justice' Available at https://www.apha.org/topics-and-issues/environmental-health/environmental-justice (Accessed on 07/10/2026)

precautionary principle for sustainability.

2.0 Impact of the Right to Development on Environmental Justice

Development is a fundamental human right. It has been observed that the right to development is the right of every human being to participate in, to contribute to, and to benefit from economic, social, cultural and political development[9]. The right to development seeks to ensure that development takes a human rights-based approach for sustainable, equitable, fair and just outcomes[10]. The basis of the right to development is that development, as both a process and an outcome, must uphold human rights, and that human rights cannot be realized without development, since adequate resources are required for the fulfillment of the majority of human rights and freedoms[11]. The right to development puts people at the center of all development processes in order to ensure that development improves the well-being of the entire population and of all individuals on the basis of their active, free and meaningful participation in development and in the fair, just and equitable distribution of the resulting benefits[12].

The *Declaration on the Right to Development*[13] provides a global framework towards promoting the right to development. The Declaration provides that the right to

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[9] Office of the United Nations High Commissioner for Human Rights., 'About the right to development' Available at https://www.ohchr.org/en/special-procedures/sr-development/about-right-development (Accessed on 08/10/2026)

[10] The Right to Development: A Review of the Current State of the Debate for the Department for International Development., Available at https://media.odi.org/documents/2317.pdf (Accessed on 08/10/2026)

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[13] United Nations General Assembly, Declaration on the Right to Development : Resolution adopted by the General Assembly, A/RES/41/128, 4 December 1986,

development is a fundamental and inalienable human right by virtue of which every person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized[14]. In order to promote the right to development, the Declaration notes that human beings are central subjects of all development processes and priorities and should therefore be active participants and beneficiaries of the right to development[15]. In addition, the Declaration provides the key elements and principles under the right to development including people-centred development, a human rights-based approach to development, active, free and meaningful participation of individuals and populations in development policies and processes, equity and non-discrimination in development, and self-determination for people and nations including full sovereignty over natural wealth and resources towards development[16].

The right to development has also been embraced as a fundamental human right in Africa as stipulated under the *African Charter on Human and Peoples Rights*[17]. The Charter notes that it is essential to pay a particular attention to the right to development in Africa and that civil and political rights cannot be dissociated from economic, social and cultural rights in their conception[18]. The Charter explicitly acknowledges that all people in Africa shall have the right to their *economic, social and cultural development* with due regard to their freedom and identity and in the equal enjoyment of the common heritage of humankind[19]. The Charter further notes that all people in Africa have the right to a general satisfactory environment favorable to their development[20].

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[14] Ibid, article 1
[15] Ibid, article 2 (1)
[16] Ibid
[17] Organization of African Unity (OAU), *African Charter on Human and Peoples' Rights ("Banjul Charter")*, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), 27 June 1981
[18] Ibid, Preamble
[19] Ibid, article 22 (1)
[20] Ibid, article 24

The right to development is therefore a fundamental right both globally and in Africa. The right to development has been described as one of the most important human rights since this right provides a comprehensive approach to the realisation of other human rights by according attention to structures, processes and outcomes, and recognising the entitlements of individuals as well as collectives including future generations[21]. It has been pointed out that the right to development puts equity, equality and justice as primary determinants of development, and promotes the full realisation of all other fundamental human rights and freedoms[22].

The environment plays a crucial role in fostering the right to development. It has been observed that a clean, healthy and sustainable environment is necessary for the full enjoyment of a wide range of human rights, including the rights to life, health, food, water and sanitation and development, among others[23]. In addition, the environment also supports vital economic activities including agriculture, tourism, mining, fishing, energy production among others which sustain livelihoods and foster economic growth towards human progress and development[24]. In particular, natural resources have been described as the foundation of social and economic development and human progress and prosperity[25]. Natural resources including oil, gas, forests, land, water and

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[21] Office of the United Nations High Commissioner for Human Rights., 'About the right to development' Op Cit

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[24] European Environment Agency., 'Caring for the Environment is Caring for Ourselves' Available at https://www.eea.europa.eu/en/newsroom/editorial/editorial-caring-for-the-environment#:~:text=It%20gives%20us%20clean%20air,harm%20our%20own%20well%2Dbeing (Accessed on 08/10/2026)

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minerals are at the heart of economic and social progress, providing raw materials for many industries while also supporting livelihoods[26]. It has been correctly observed that the abundance of natural resources is a great advantage for a country's economic and social development, while resource shortage is associated with underdevelopment[27].

The environment therefore provides natural resources and ecosystem services that can unlock the right to development. However, the right to development can also cause environmental injustices. For example, failure to uphold resource sovereignty, especially in Africa and the Global South, affects the ability of states and citizens to fully and freely manage and utilise their natural resources for economic, social and cultural development[28]. Further, it has been observed that the concept of state sovereignty over natural resources, which is key in utilising natural resources for development, has often been misused especially in the context of unsustainable development projects which lead to transboundary ecological harm[29]. Unsustainable extraction and use of natural resources to promote development can also lead to biodiversity loss, environmental degradation, pollution, climate change, and environmental and natural resource-

[26] Organisation for Economic Co-operation and Development., 'Natural Resources and Development' Available at https://www.oecd.org/en/topics/sub-issues/natural-resources-and-development.html#:~:text=If%20well%20managed%2C%20oil%2C%20gas,economic%2C%20social%20and%20environmental%20hazards. (Accessed on 08/10/2026)

[27] Bridge. G., 'Natural Resources' *International Encyclopedia of Human Geography*, 2009., pp 261-268

[28] Ngang. C.C., & Kamga. S.D., 'Natural Resource Sovereignty and the Right to Development in Africa' Available at https://www.taylorfrancis.com/books/edit/10.4324/9781003195115/natural-resource-sovereignty-right-development-africa-carol-chi-ngang-serges-djoyou-kamga (Accessed on 08/10/2026)

[29] Hongbo. Li., 'Development and the Environment: The Conflict and Balance in the View of Human Rights Law' Available at https://doi.org/10.1163/9789004364455_009 (Accessed on 08/10/2026)

based conflicts fuelling environmental injustices[30]. In addition, it has been observed that exclusion of marginalized groups including indigenous peoples, local communities and women, and the youth from environmental decision-making processes undermines equity, inclusivity and fairness in development processes leading to environmental injustices[31].

In light of the foregoing concerns, it is imperative to ensure that the pursuit of the right to development adheres to the tenets of environmental justice for sustainability.

3.0 Reconciling the Right to Development with the Precautionary Principle

The right to development is a fundamental human right. This right ensures that development, both as a process and an outcome, ensures equity, fairness, justice and human rights. However, the right to development can also undermine environmental justice due to unsustainable development processes which affect human and environmental rights. Promoting environmental justice is therefore key towards actualising the right to development in a sustainable manner for the benefit of both people and planet.

Reconciling the right to development with the precautionary principle is an effective solution towards ensuring that development processes and outcomes promote environmental justice. The precautionary principle is fundamental tenet of Sustainable Development which guides decision-makers to take action to protect the environment, safety, and public health especially in cases of scientific uncertainties in the assessment and management of risks[32]. This principle

[30] United Nations Environment Programme., 'Our Work in Africa' Available at https://www.unep.org/regions/africa/our-work-africa (Accessed on 08/10/2026)
[31] United Nations Development Programme., 'Environmental Governance: Bolstering Inclusive and Effective Governance Systems that Champion Environmental Justice and Sustainability' Available at https://www.undp.org/nature/our-work-areas/environmental-governance (Accessed on 08/10/2026)
[32] United Nations Educational, Scientific and Cultural Organization., 'The Precautionary Principle' Available at https://unesdoc.unesco.org/ark:/48223/pf0000139578 (Accessed on 08/10/2026)

provides that when an activity, policy or decision raises threats of harm to human and environmental, precautionary measures should be taken even if some cause-and-effect relationships are not fully established[33]. It has been observed that the precautionary principle is usually applied where a safety risk is known to exist, but the probability and magnitude of harm are uncertain or unknown[34].

The precautionary principle plays a key role in promoting environmental justice. For example, this principle emphasizes the need for environmental protection when there is presence of threat or risk of serious environmental damage by stipulating that a lack of scientific certainty should not be used to avoid taking action to prevent that damage[35]. The precautionary principle has developed as a key approach weighing in favour of environmental protection in the case of uncertainty[36].

The *Rio Declaration on Environment and Development*[37] provides the legal basis for the precautionary principle. The Declaration provides that in order to protect the environment, the *precautionary approach* shall be widely applied by States

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[33] Hayes. W.A., 'The Precautionary Principle' Available at https://pubmed.ncbi.nlm.nih.gov/15968832/ (Accessed on 08/10/2026)

[34] Organisation for Economic Co-operation and Development., 'Understanding and Applying the Precautionary Principle in the Energy Transition' Available at https://www.oecd.org/en/publications/understanding-and-applying-the-precautionary-principle-in-the-energy-transition_5b14362c-en.html (Accessed on 08/10/2026)

[35] International Institute for Sustainable Development., 'The precautionary Principle' Available at https://www.iisd.org/articles/deep-dive/precautionary-principle (Accessed on 08/10/2026)

[36] International Union for Conservation of Nature., 'The Precautionary Principle in Biodiversity Conservation and Natural Resource Management' Available at https://portals.iucn.org/library/sites/library/files/documents/pgc-002.pdf (Accessed on 08/10/2026)

[37] United Nations General Assembly., 'Report of the United Nations Conference on Environment and Development: Rio Declaration on Environment and Development.' A/CONF. 151/26 (Vol.1)

according to their capabilities[38]. In particular, the Declaration states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation[39].

Applying the precautionary principle is therefore key towards strengthen environmental protection especially in cases of scientific uncertainty. In particular, reconciling the right to development with the precautionary principle can ensure that development processes and outcomes promote environmental justice. For instance, it has been observed that in the development discourse, the precautionary principle shifts the balance in decision-making towards prudent foresight thus supporting environmental monitoring and the prevention and mitigation of uncertain potential threats[40]. The precautionary principle plays a significant role in determining whether development processes and outcomes are sustainable or not[41].

With the right to development fuelling environmental injustices, applying the precautionary principles can promote sustainable development processes and outcomes for people and planet. For example, the precautionary principle ensures that development activities that are likely to cause serious and irreversible environmental damage are stopped and prevented towards environmental justice and sustainability[42]. In addition, the precautionary principle can support sound and informed decision-making including through involving indigenous and local communities in development processes[43]. For

[38] Ibid
[39] Ibid
[40] International Union for Conservation of Nature., 'The Precautionary Principle in Biodiversity Conservation and Natural Resource Management' Op Cit
[41] Environmental Law Principles-Precautionary Principles., Available at https://lpr.adb.org/resource/environmental-law-principles-precautionary-principle (Accessed on 08/10/2026)
[42] Ibid
[43] International Union for Conservation of Nature., 'The Precautionary Principle in Biodiversity Conservation and Natural Resource Management' Op Cit

instance, when there is no scientific certainty about the impact and outcome of development processes especially at local levels, indigenous and local communities who have better understanding about local needs, priorities and ecosystems can support informed decision-making processes[44]. In particular, through this approach, it is possible to leverage on indigenous and traditional ecological knowledge for Sustainable Development when there is no consensus on modern science[45].

Reconciling the right to development with the precautionary principle therefore provides an effective solution towards promoting environmental justice for sustainability.

4.0 Conclusion

The right to development is a fundamental human right whose attainment is necessary for justice, equity and fairness. However, since this right can undermine the ideal of environmental justice, there is need for a sustainable approach on the right to development. In particular, reconciling the right to development with the precautionary principle provides a pathway towards promoting environmental justice for sustainability.

[44] Ibid
[45] Ibid

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The Legal Architecture of ESG Disclosure in Kenya: Substantive Standards, Procedural Safeguards, and Institutional Enforcement in an Evolving Regulatory Regime

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Abstract

This article examines the legal framework governing environmental, social and governance disclosure in Kenya, with particular attention to the substantive content of disclosure obligations and the case law that has begun to give those obligations practical weight. It traces the standards derived from the Constitution of Kenya 2010, the Companies Act 2015, the Capital Markets Act, the Environmental Management and Coordination Act 1999, and the guidance instruments issued by the Nairobi Securities Exchange and the Capital Markets Authority. Rather than repeating the institutional fragmentation argument developed elsewhere in this field, the article concentrates on what Kenyan law actually requires a company to disclose, how courts and tribunals have treated environmental accountability as a justiciable matter, and where the social and governance pillars of disclosure remain underdeveloped relative to the environmental pillar. It draws on Kenyan environmental jurisprudence, the scholarship of Kenyan environmental law academics, and international instruments including the IFRS Sustainability Disclosure Standards, the Global Reporting Initiative Standards and the United Nations Guiding Principles on Business and Human Rights, to argue that Kenya has assembled a credible but substantively uneven architecture for ESG accountability, one that is comparatively mature on environmental disclosure and comparatively thin on social and human rights disclosure.

1. Introduction

The phrase environmental, social and governance, commonly reduced to the acronym ESG, has migrated from the vocabulary of specialist investors into the mainstream of corporate law, securities regulation and public policy.[1] In Kenya,

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[1] Kariuki Muigua, Embracing Environmental, Social and Governance (ESG) Tenets for Sustainable Development (Glenwood Publishers 2023).

this migration is neither complete nor uniform across the three pillars the acronym describes.[2] Companies listed on the Nairobi Securities Exchange, financial institutions supervised by the Central Bank of Kenya, and large private enterprises subject to the Companies Act all face growing pressure from investors, lenders, regulators and civil society to account for their environmental impact, their treatment of workers and communities, and the quality of their internal governance.[3] Yet the depth of Kenyan law on each of these three pillars is markedly uneven, and that unevenness is the central concern of this article.[4]

ESG disclosure, in its simplest form, is the practice by which an organisation reports publicly on how it manages risks and opportunities connected to the environment, its social relationships and its governance structures.[5] When a listed company publishes data on its carbon emissions, describes its approach to labour rights in its supply chain, or explains how its board oversees executive remuneration, it is making ESG disclosures.[6] Investors use this information to assess long-term financial risk, lenders factor it into credit decisions, and courts increasingly consult it when adjudicating disputes about environmental harm or fiduciary duty.[7]

Kenya's legal framework for ESG disclosure rests on several overlapping foundations.[8] The Companies Act 2015 establishes baseline transparency requirements for public companies.[9] The Capital Markets Act and its subsidiary regulations govern disclosure by listed issuers and investment intermediaries.[10] The Environmental Management and Coordination Act 1999 imposes

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[2] ibid.
[3] Kariuki Muigua, 'Embracing Environmental, Social and Governance (ESG) Principles for Sustainable Development in Kenya' (2022) 9(2) Journal of Conflict Management and Sustainable Development.
[4] Muigua (n 1).
[5] Muigua (n 3).
[6] ibid.
[7] Muigua (n 1).
[8] ibid.
[9] Companies Act 2015 (Kenya), Act No 17 of 2015.
[10] Capital Markets Act (Kenya), Cap 485A, Laws of Kenya.

environmental reporting obligations on regulated entities.[11] Beyond these statutes, the Nairobi Securities Exchange ESG Disclosures Guidance Manual and the Capital Markets Authority Code of Corporate Governance Practices provide operational guidance.[12] The institutional fragmentation across these instruments and the regulators that administer them has been examined in depth elsewhere, and this article does not repeat that analysis.[13] Its focus instead is on the substantive content of what Kenyan law and Kenyan courts actually require, pillar by pillar, and on the case law that gives those requirements practical consequence.[14]

2. The Constitutional and Environmental Foundation of ESG Obligations

Any serious analysis of ESG law in Kenya must begin with the Constitution of 2010.[15] Article 42 guarantees every person the right to a clean and healthy environment, and Article 69 imposes affirmative obligations on the state, including the duty to work with communities to manage, protect and conserve the environment.[16] These provisions are not mere aspirations.[17] They have been invoked successfully in litigation to impose environmental accountability on both public authorities and private enterprises, and the constitutional significance of environmental rights shapes the legal environment in which ESG disclosure operates because it provides a basis on which courts can scrutinise corporate environmental conduct even where specific disclosure statutes are silent.[18]

The Environmental Management and Coordination Act 1999 is the principal

[11] Environmental Management and Coordination Act 1999 (Kenya), Act No 8 of 1999.
[12] Nairobi Securities Exchange, ESG Disclosures Guidance Manual (NSE, November 2021); Capital Markets Authority, Code of Corporate Governance Practices for Issuers of Securities to the Public, 2015 (Gazette Notice No 1420 of 2015).
[13] Muigua (n 1).
[14] ibid.
[15] Constitution of Kenya 2010.
[16] Constitution of Kenya 2010, arts 42, 69.
[17] Mui Coal Basin Local Community and 15 others v Permanent Secretary Ministry of Energy and 17 others [2015] eKLR, Constitutional Petition No 305 of 2012 (Consolidated).
[18] ibid.

statutory instrument for environmental governance.[19] It establishes the National Environment Management Authority as the primary regulatory body with oversight over environmental impact, pollution control, environmental auditing and enforcement.[20] Large industrial and commercial operators are required to conduct environmental impact assessments before commencing projects and to submit periodic environmental audits once operations are underway, and these audit reports represent a mandatory form of environmental disclosure that is submitted to the Authority and is, in principle, accessible to the public.[21]

Kenyan courts and tribunals have given these environmental obligations considerable practical weight.[22] In the consolidated Mui Coal Basin petitions, the High Court considered a challenge brought by members of a community affected by a coal exploration project in Kitui County, and the court's analysis of what constitutes adequate public participation in environmental decision making has since become the leading authority cited in Kenyan environmental litigation.[23] The court held that a government agency proposing a project with environmental consequences must fashion a programme of public participation appropriate to the nature of the subject matter, and that meaningful participation requires access to the information necessary to make consultation effective.[24] This reasoning has direct relevance to ESG disclosure, because a company's environmental disclosures are one of the principal means by which the information necessary for meaningful public engagement is made available.[25]

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[19] Environmental Management and Coordination Act 1999 (n 11).
[20] ibid.
[21] Environmental (Impact Assessment and Audit) Regulations 2003 (Kenya), Legal Notice 101 of 2003. Note that the National Environment Management Authority has since introduced the Environmental Management and Co-ordination (Strategic and Integrated Environmental Assessments and Environmental Audits) Regulations 2025, which update aspects of this framework and should be consulted alongside the 2003 Regulations for current practice.
[22] Mui Coal Basin (n 17).
[23] ibid.
[24] ibid.
[25] Muigua (n 1).

The National Environment Tribunal's decision in the Save Lamu case is equally significant for ESG accountability.[26] The Tribunal set aside an environmental impact assessment licence that the National Environment Management Authority had granted to a coal power developer, holding that the assessment was procedurally deficient and that the developer's environmental and social impact study had inadequately considered the requirements of the Climate Change Act 2016.[27] The Tribunal's willingness to subject a completed regulatory approval to searching scrutiny, and to treat the quality of an environmental and social impact assessment as a matter capable of being tested and overturned, establishes that the underlying data behind a company's environmental claims is not merely a regulatory filing but a matter of justiciable fact.[28] Kariuki Muigua has argued that this jurisprudence reflects a broader shift in Kenyan environmental law toward treating public participation and environmental information as substantive rights rather than procedural formalities, a shift with direct implications for how ESG disclosures are drafted and defended.[29]

3. The Capital Markets Disclosure Framework

The most technically developed ESG disclosure requirements in Kenya are found within the capital markets framework.[30] The Capital Markets Authority, established under the Capital Markets Act as the primary regulator of Kenya's securities market, has built a body of guidance and regulation that touches on corporate governance, transparency and, more recently, sustainability.[31] The Code of Corporate Governance Practices for Issuers of Securities to the Public sets out principles of accountability, disclosure and board responsibility that are directly relevant to the governance dimension of ESG, and companies listed on the Nairobi Securities Exchange are expected to comply with these principles or

[26] Save Lamu and 5 others v National Environmental Management Authority and another, Tribunal Appeal No NET 196 of 2016 (26 June 2019).
[27] ibid.
[28] ibid.
[29] Muigua (n 1).
[30] Muigua (n 3).
[31] Capital Markets Act (n 10).

explain publicly why they have not.[32]

The Nairobi Securities Exchange ESG Disclosures Guidance Manual, published in November 2021, represents the most explicit attempt to create a structured ESG reporting framework within Kenya's capital markets.[33] The Manual draws on international frameworks including the Global Reporting Initiative Standards and the recommendations of the Task Force on Climate-related Financial Disclosures, and adapts them to the Kenyan market context.[34] It identifies a set of core indicators covering environmental metrics such as energy consumption and greenhouse gas emissions, social indicators covering workforce composition and community investment, and governance indicators addressing board structure and anti-corruption measures.[35] Kariuki Muigua has observed that the material issues a Kenyan company should prioritise in its ESG reporting vary considerably by sector, and that a materiality assessment tailored to the company's own operating context produces more useful disclosure than mechanical adherence to a generic indicator list.[36]

The Capital Markets (Securities) (Public Offers, Listing and Disclosures) Regulations 2002 impose detailed and enforceable obligations on listed companies to disclose financial information, including annual accounts, interim results and material events.[37] The asymmetry between this mandatory financial disclosure regime and the voluntary character of ESG reporting has been the subject of academic comment, and Muigua's own account of Kenya's ESG architecture identifies this asymmetry as the central structural weakness of the

[32] Capital Markets Authority (n 12).
[33] Nairobi Securities Exchange (n 12).
[34] Global Reporting Initiative, GRI Standards 2021 (GRI, Amsterdam 2021); Task Force on Climate-related Financial Disclosures, Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD, 2017).
[35] Nairobi Securities Exchange (n 12).
[36] Kariuki Muigua, 'What are the Material Issues for ESG Reporting in Kenya?' (The Lawyer Africa, 5 June 2022).
[37] Capital Markets (Securities) (Public Offers, Listing and Disclosures) Regulations 2002 (Kenya).

current framework, one that this article does not revisit at length given its detailed treatment elsewhere.[38] What this article instead examines is a related but distinct question, namely how the substantive quality of environmental, social and governance disclosure differs across the three pillars once a company does choose, whether voluntarily or under market pressure, to report.[39]

The Companies Act 2015 adds a further layer to the capital markets framework.[40] For public companies that do not qualify for the small companies regime, the Act requires the directors' report to include a business review describing the company's principal risks and uncertainties, a requirement that stops short of the standalone strategic report found in comparable Commonwealth jurisdictions but achieves a similar disclosure outcome within the directors' report itself.[41] This requirement means that a public company's board of directors must actively consider material risks, including environmental and social risks, as part of preparing that report, creating a point of intersection between directors' duties under company law and ESG disclosure obligations under securities regulation.[42]

4. International Standards and Their Domestic Reception

Kenya does not operate in isolation from the global ESG disclosure framework.[43] The most relevant international instruments include the Global Reporting Initiative Standards, the Task Force on Climate-related Financial Disclosures recommendations, and the IFRS Sustainability Disclosure Standards issued by the International Sustainability Standards Board in 2023.[44] The Institute of Certified Public Accountants of Kenya has adopted a phased roadmap for the

[38] Muigua (n 1).
[39] ibid.
[40] Companies Act 2015 (n 9).
[41] ibid.
[42] Muigua, 'Reconceptualizing Corporate Governance for Sustainable Development' (2023) 10(5) Journal of Conflict Management and Sustainable Development.
[43] Muigua (n 3).
[44] Global Reporting Initiative (n 34); Task Force on Climate-related Financial Disclosures (n 34); International Sustainability Standards Board, IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (IFRS Foundation 2023).

domestic reception of these standards, beginning with voluntary application in 2024 and moving to mandatory application for Public Interest Entities from 2027.[45] Companies with international investor bases are already under market pressure to align their reporting with these requirements ahead of the mandatory deadline.[46]

Kenya's Constitution provides in Article 2(5) and 2(6) that the general rules of international law and international treaties ratified by Kenya form part of the domestic legal order.[47] Kenya is a party to the Paris Agreement on climate change and has submitted a nationally determined contribution committing to reduce greenhouse gas emissions and build climate resilience.[48] These international commitments create a backdrop of legal obligation against which domestic ESG disclosure rules must be assessed, and a regulatory framework that permits companies to remain silent about their climate related risks sits uneasily beside a government that has publicly committed to ambitious climate action.[49]

The reception of international ESG frameworks in Kenya is uneven in practice as well as in law.[50] Large listed companies with significant foreign shareholders or international debt financing tend to report more comprehensively and to align their reports with the Global Reporting Initiative or the Task Force on Climate-related Financial Disclosures frameworks, while smaller listed companies with predominantly domestic investor bases report much less.[51] This pattern reflects a broader reality of emerging market ESG disclosure identified in comparative scholarship, namely that standards developed primarily in the context of large, liquid and internationally integrated capital markets travel imperfectly to smaller and less integrated markets, and that the task facing Kenyan regulators is to raise

[45] Institute of Certified Public Accountants of Kenya, Roadmap for Adoption of IFRS Sustainability Disclosure Standards in Kenya (ICPAK, September 2023).
[46] ibid.
[47] Constitution of Kenya 2010, art 2(5)-(6).
[48] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016).
[49] Muigua (n 1).
[50] ibid.
[51] Muigua (n 3).

the floor of disclosure rather than merely to set aspirational ceilings for the best performing companies.[52]

5. Social Disclosure: Labour, Community and Human Rights

The social dimension of ESG disclosure is the least developed area of Kenya's regulatory framework, and it is here that this article departs most from the environmental and governance analysis that precedes it.[53] Environmental obligations under the Environmental Management and Coordination Act and the Constitution are reasonably well established through both statute and case law.[54] The obligation to disclose information about labour practices, community relations and human rights performance, by contrast, lacks a single organising statute and relies instead on a patchwork of sector specific and general legislation.[55] The Employment Act, the Occupational Safety and Health Act, and Kenya's commitments under the fundamental conventions of the International Labour Organization create substantive obligations for employers in these areas, but they do not in themselves require companies to publish this information in a structured, comparable and publicly accessible form.[56]

The Nairobi Securities Exchange Guidance Manual addresses social disclosure through indicators covering workforce composition by gender and age, employee training and development expenditure, occupational health and safety statistics, and community investment.[57] These indicators are drawn from the Global Reporting Initiative framework and represent a reasonable starting point for social disclosure, but because they are voluntary and non-standardised, the quality and comparability of social disclosure by Kenyan listed companies is highly variable.[58] Some companies publish detailed, independently assured social reports, while others satisfy themselves with a brief general description of

[52] Muigua (n 1).
[53] ibid.
[54] Mui Coal Basin (n 17); Save Lamu (n 26).
[55] Employment Act (Kenya), Cap 226, Laws of Kenya.
[56] ibid.
[57] Nairobi Securities Exchange (n 12).
[58] Muigua (n 3).

corporate social responsibility activities in their annual report, and neither approach is legally mandated nor subject to meaningful regulatory scrutiny.[59]

The governance of supply chains adds further complexity to the social pillar.[60] Many Kenyan listed companies, particularly in the agricultural, manufacturing and extractive sectors, rely on extended supply chains that may involve smallholder farmers, artisanal producers or labour contractors, and the ESG risks associated with these supply chains, including child labour, unsafe working conditions and land rights disputes, are material but are often invisible in company level ESG reporting.[61] The United Nations Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct call for companies to conduct human rights due diligence across their supply chains and to disclose the results of that due diligence.[62] Kenya has not legislated on mandatory human rights due diligence, and the current ESG disclosure framework does not require companies to report on supply chain social performance, a gap that Patricia Kameri-Mbote and Nkatha Kabira have identified as particularly significant given the gendered dimensions of labour precarity within Kenyan agricultural export supply chains, where women workers are disproportionately concentrated in the least secure and least visible positions.[63] This is a significant gap in Kenya's ESG architecture, particularly given Kenya's role as a major exporter to jurisdictions such as the European Union that are now imposing mandatory human rights and environmental due diligence obligations on their importing companies through instruments such as the Corporate Sustainability Due Diligence Directive.[64]

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[59] ibid.

[60] Muigua (n 1).

[61] ibid.

[62] UN Guiding Principles on Business and Human Rights (UN, 2011); OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (OECD, 2023).

[63] Patricia Kameri-Mbote and Nkatha Kabira, 'Gender equality and climate change in plural legal contexts: A critical analysis of Kenya's law and policy framework' in Cathi Albertyn and others (eds), Feminist Frontiers in Climate Justice (Edward Elgar Publishing 2023) ch 7.

[64] Corporate Sustainability Due Diligence Directive (EU) 2024/1760.

6. Governance Disclosure: Boards, Audit and Anti-Corruption

Governance disclosure is the dimension of ESG where Kenya's regulatory framework is most developed.[65] The Code of Corporate Governance Practices for Issuers of Securities to the Public addresses board composition, independence and diversity, the role and composition of audit, remuneration and nominations committees, and the company's approach to anti-corruption and ethics.[66] The Code operates on a comply-or-explain basis, meaning that listed companies must either confirm compliance with each principle or explain their reasons for non-compliance in their annual report, a mechanism borrowed from the United Kingdom's corporate governance code model and intended to give companies flexibility while maintaining accountability to shareholders.[67] Kariuki Muigua has argued that Kenyan corporate governance practice would benefit from a reconceptualisation that treats governance disclosure not as a compliance exercise but as a substantive account of how a board actually exercises oversight, since generic comply-or-explain narratives currently offer shareholders little genuine insight into board practice.[68]

The Companies Act 2015 reinforces governance disclosure through its provisions on directors' duties and the preparation and audit of financial statements.[69] Directors of public companies owe a general duty to act in good faith in what they consider to be in the best interests of the company, and this duty provides the underlying legal basis on which a director's approach to ESG risk could, in principle, be tested.[70] The Act requires that companies include in their annual report information about significant risks to the business, which in a modern regulatory environment must be taken to include material ESG risks, and a director who approves an annual report that omits a material ESG risk could be

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[65] Muigua, 'Reconceptualizing Corporate Governance for Sustainable Development' (n 42).
[66] Capital Markets Authority (n 12).
[67] ibid.
[68] Muigua, 'Reconceptualizing Corporate Governance for Sustainable Development' (n 42).
[69] Companies Act 2015 (n 9).
[70] ibid.

exposed to scrutiny for breach of the duty to maintain accurate and adequate disclosure, although this specific application of directors' duties to ESG risk has not yet been tested before Kenyan courts.[71]

Anti-corruption and bribery are critical governance disclosure issues in Kenya, given the country's standing on international transparency indices and the significance of procurement corruption in both the public and private sectors.[72] The Anti-Corruption and Economic Crimes Act and the Bribery Act 2016 create criminal offences for bribery and corruption, and the latter imposes an obligation on commercial organisations to put in place adequate procedures to prevent bribery by persons associated with them.[73] ESG disclosure frameworks require companies to report on their anti-corruption policies and training programmes, but there is no requirement in Kenya for companies to disclose the outcome of external anti-corruption investigations to which they are subject or to confirm compliance with the Bribery Act's adequate procedures standard, and closing this gap would significantly strengthen the governance dimension of ESG disclosure.[74]

7. Green Bonds, ESG-Linked Finance and Pension Fiduciary Duty

Kenya's green bond market, though small by global standards, provides a useful illustration of sector specific ESG disclosure operating through market infrastructure rather than general regulatory guidance.[75] The Kenya Green Bond Programme, launched in 2017 through a collaboration between the Nairobi Securities Exchange, the Kenya Bankers Association, the Climate Bonds Initiative and Financial Sector Deepening Africa, and later supported by a Capital Markets Authority policy guidance note, established green bond principles that require issuers to disclose the intended use of proceeds, the process for project evaluation and selection, the management of proceeds, and regular reporting on

[71] ibid.
[72] Muigua (n 1).
[73] Anti-Corruption and Economic Crimes Act (Kenya), Act No 3 of 2003; Bribery Act (Kenya), Act No 47 of 2016.
[74] Bribery Act (n 73).
[75] Muigua (n 1).

environmental impact.[76] These requirements go beyond the general ESG guidance applicable to listed companies because they attach to a specific financial instrument and are subject to independent verification before issuance, although Kenya's own policy guidance note notably exempts issuers from liability for a breach of the green requirements, in contrast to the Climate Bonds Standard, under which a certifying body may withdraw certification entirely, meaning that market discipline and reputational consequence, rather than contractual liability, remain the principal enforcement mechanisms in Kenya's green bond market.[77]

The green bond model nonetheless illustrates a broader principle worth developing here rather than in the disclosure architecture literature generally, namely that ESG disclosure tends to be more consistent where it is anchored in verification and market discipline than where it is left to entirely voluntary guidance, even where formal legal liability for inaccurate disclosure remains limited.[78] Investors who subscribe to a green bond are purchasing an instrument whose credibility depends in part on the accuracy of the issuer's ESG representations, which creates a reputational and market based incentive to monitor disclosure quality even in the absence of a strict liability regime, and a comparable dynamic is emerging around ESG-linked loans, where the interest rate payable by the borrower is tied to the achievement of agreed ESG targets and is therefore monitored closely by the lender.[79]

For pension funds, the fiduciary duty owed by trustees to scheme members has begun to acquire ESG implications in Kenya as it has elsewhere.[80] Pension trustees who invest beneficiary assets have a fiduciary duty to act in the best financial interests of scheme members, and in a growing number of jurisdictions

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[76] Green Bond Programme Kenya, Policy Guidance Note on Green Bonds (Capital Markets Authority, January 2019).

[77] Green Bond Programme Kenya (n 76); Kenya Green Bond Guidelines Background Document (Nairobi Securities Exchange, 2019).

[78] Muigua, 'Reconceptualizing Corporate Governance for Sustainable Development' (n 42).

[79] Muigua (n 1).

[80] Retirement Benefits Act (Kenya), Cap 197, Laws of Kenya.

regulators and courts have concluded that this duty requires trustees to consider material ESG risks in their investment decisions because those risks are financially material over the long investment horizons relevant to pension savings.[81] Kenya's Retirement Benefits Authority has not yet formally adopted this position, but the logic of fiduciary duty and the growing evidence of financial materiality suggest that Kenyan pension trustees will increasingly be expected to account for ESG considerations as part of the discharge of their fiduciary obligations.[82]

8. Practical Compliance and the Experience of Regulated Entities

For the legal practitioner advising a listed company on ESG disclosure, the current framework presents a set of overlapping obligations, voluntary commitments and reputational considerations that must be integrated into a coherent compliance strategy.[83] The starting point is the identification of applicable legal obligations, namely the Companies Act requirement to describe principal risks in the directors' report, the listing rules and corporate governance code administered by the Capital Markets Authority, any sector specific environmental reporting requirements under the Environmental Management and Coordination Act, and any ESG-linked conditions attached to the company's financing instruments.[84]

A recurring practical challenge is the verification of ESG data.[85] Financial accounts are subject to independent audit by a registered auditor, and the audit process provides a measure of quality assurance that investors rely upon, but ESG disclosures are rarely subject to independent assurance in the Kenyan market.[86] Companies may prepare their ESG reports internally, without external verification, and publish them alongside but separately from their audited

[81] Muigua, 'Embracing Environmental, Social and Governance (ESG) Principles for Sustainable Development in Kenya' (n 3).
[82] Retirement Benefits Act (n 80).
[83] Muigua, 'Role of Sustainability Manager in ESG Reporting in Kenya' (The Lawyer Africa, 4 June 2022).
[84] ibid.
[85] Muigua (n 1).
[86] ibid.

financial statements, and the absence of assurance creates a credibility gap in which even a well-intentioned company that prepares its ESG report carefully cannot demonstrate to investors that the data has been independently verified.[87] Building an assurance profession capable of providing meaningful ESG verification, whether by expanding the mandate of existing auditors or by certifying specialist ESG assurance providers, is an important infrastructure challenge for Kenya's regulatory framework.[88]

For smaller and medium sized companies, the practical burden of ESG disclosure is a genuine concern.[89] The Global Reporting Initiative Standards run to hundreds of pages, and comprehensive climate reporting aligned with the Task Force on Climate-related Financial Disclosures requires quantitative analysis of climate scenarios that most Kenyan companies do not currently have the analytical capacity to perform.[90] Comparative experience suggests that proportionality is a critical design principle for effective ESG disclosure frameworks, and that the depth of disclosure requirements should be calibrated to the size, sector and risk profile of the reporting entity, a distinction the Nairobi Securities Exchange Guidance Manual encourages through its materiality based approach but does not yet make explicit in its formal requirements.[91]

9. Conclusion

Kenya's legal architecture for ESG disclosure is a work in progress, but it is not evenly unfinished.[92] It has solid constitutional foundations in the environmental rights provisions of the 2010 Constitution, and Kenyan courts and tribunals, through decisions such as Mui Coal Basin and Save Lamu, have given those foundations genuine practical weight by treating environmental information and public participation as matters of justiciable right rather than administrative

[87] Muigua, 'Role of Sustainability Manager in ESG Reporting in Kenya' (n 83).
[88] ibid.
[89] Muigua (n 3).
[90] Global Reporting Initiative (n 34); Task Force on Climate-related Financial Disclosures (n 34).
[91] Nairobi Securities Exchange (n 12).
[92] Muigua (n 1).

discretion.[93] The governance pillar is similarly well developed on paper, anchored in the Companies Act and the Capital Markets Authority's corporate governance code, even if the quality of comply-or-explain reporting in practice often falls short of its aspirations.[94]

The social pillar is where Kenya's ESG architecture is weakest, and this article has argued that this weakness deserves more direct attention than it has so far received.[95] The absence of a single organising statute for labour, community and human rights disclosure, combined with the absence of any mandatory human rights due diligence obligation comparable to those now emerging in Kenya's major export markets, leaves a substantial gap in the overall coherence of Kenya's ESG framework.[96] Addressing this gap will require Kenya's regulators to look beyond the environmental and governance template that has so far dominated ESG policy development, and to engage directly with the specific legal and institutional questions that social disclosure raises, including the gendered dimensions of labour precarity in export supply chains and the practical mechanics of extending due diligence obligations down those chains.[97]

Green finance instruments, including green bonds and ESG-linked loans, point toward a promising model in which disclosure quality is reinforced by contractual accountability rather than left to regulatory guidance alone, and this model deserves wider consideration as Kenya's ESG framework continues to develop.[98] The direction of travel is clear even where the pace differs across the three pillars, and the legal architects of Kenya's ESG regime, its legislators, regulators, practitioners and courts, have a genuine opportunity to build a framework that closes the gap between its strong environmental foundations and

[93] Mui Coal Basin (n 17); Save Lamu (n 26).
[94] Muigua, 'Reconceptualizing Corporate Governance for Sustainable Development' (n 42).
[95] Kameri-Mbote and Kabira (n 63).
[96] Corporate Sustainability Due Diligence Directive (n 64).
[97] Kameri-Mbote and Kabira (n 63).
[98] Muigua (n 1).

its comparatively underdeveloped social pillar.[99]

[99] Muigua, 'Realising Environmental, Social and Governance Tenets for Sustainable Development' (Kariuki Muigua & Co Advocates, July 2022).

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Artificial Intelligence, Gender Bias, and Equality Rights: Examining the Emerging Legal Challenges of Algorithmic Decision-Making in Kenya

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Abstract

Artificial intelligence (AI) increasingly influences decisions concerning employment, finance, education, healthcare and public services. Although often presented as objective and neutral, AI systems may reproduce or amplify historical gender inequalities embedded in data, design choices and institutional practices. This article examines algorithmic gender bias as an emerging equality and constitutional challenge in Kenya. Using doctrinal legal research supported by comparative and interdisciplinary analysis, it considers Article 27 of the Constitution of Kenya, 2010, the Data Protection Act, 2019, the Fair Administrative Action Act, 2015, and relevant international and regional frameworks. It argues that algorithmic gender bias is fundamentally an equality problem rather than merely a technical defect. Formal neutrality may conceal discriminatory effects where apparently neutral variables function as gender proxies. The article proposes a Gender-Responsive Artificial Intelligence Governance Framework comprising six pillars: constitutional compliance by design, gender impact assessments, transparency and explainability, independent audits, coordinated institutional oversight, and accessible remedies. It advocates preventive, lifecycle-based AI governance grounded in substantive gender equality.

Keywords: artificial intelligence; algorithmic gender bias; gender equality; substantive equality; indirect discrimination; Kenya.

1. Introduction

Artificial intelligence (AI) increasingly shapes decisions affecting access to employment, financial services, education, healthcare and public administration.

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AI systems can process large volumes of information, identify patterns and generate predictions that may improve efficiency and support evidence-informed decisions. Yet their use also raises questions about the distribution of power, the reproduction of social inequalities and the protection of fundamental rights [1]. This article focuses not on technological innovation in itself, but on the implications of algorithmic decision-making for gender equality and freedom from discrimination in Kenya.

Kenya's Artificial Intelligence Strategy 2025–2030 signals a policy commitment to AI development and adoption [2]. At the continental level, the African Union's Continental Artificial Intelligence Strategy promotes an Africa-centred, development-oriented and inclusive approach to AI [3]. These developments create an opportunity to ensure that technological progress is consistent with constitutional equality and human dignity. They also raise a central question: how can AI be adopted without embedding existing gender inequalities into emerging systems of decision-making?

AI systems do not operate independently of the social contexts in which they are developed and deployed. Their data may reflect historical inequalities, while decisions about objectives, variables, testing and use shape which outcomes a system treats as successful. Barocas and Selbst [4] explain that data-driven decision-making can produce discriminatory outcomes even without an intention to

1 Solon Barocas and Andrew D Selbst, 'Big Data's Disparate Impact' (2016) 104(3) *California Law Review* 671–732; Harini Suresh and John Guttag, 'A Framework for Understanding Sources of Harm throughout the Machine Learning Life Cycle' (2021) *Proceedings of the 1st ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization*.

2 Ministry of Information, Communications and the Digital Economy, Kenya Artificial Intelligence Strategy 2025–2030 (2025) <https://www.ict.go.ke/node/641> accessed 10 October 2026.

3 African Union, Continental Artificial Intelligence Strategy (9 August 2024) <https://au.int/en/documents/20240809/continental-artificial-intelligence-strategy> accessed 10 October 2026.

4 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1).

discriminate. Suresh and Guttag [5] identify potential sources of harm throughout the machine-learning lifecycle, from data collection and model development to deployment. Algorithmic discrimination is therefore not confined to defective code; it may arise from the interaction between technological design, social structures and institutional practices.

Gender bias may emerge where datasets reflect unequal participation in employment, education, financial services or other areas of social and economic life. If historical patterns of exclusion are treated as reliable indicators of future performance, an algorithm may convert past disadvantage into an apparently objective basis for future exclusion. Removing sex or gender from a model does not necessarily solve the problem because employment history, income, educational pathways and patterns of service use may operate as proxies for gender [6]. Empirical work illustrates the importance of examining group-specific effects. Buolamwini and Gebru [7], for example, found substantial differences in the accuracy of commercial gender-classification systems across gender and skin-tone groups, with darker-skinned women experiencing the highest error rates among the groups studied. Their findings concern particular facial-analysis systems and should not be generalized to all AI applications, but they demonstrate how aggregate performance can conceal unequal effects. Noble [8] similarly shows how search-engine systems can reproduce gendered and racialized stereotypes.

The Kenyan Constitution provides a strong normative foundation for examining these risks. Article 27 guarantees equality and freedom from discrimination. Article 27(3) affirms the equal treatment of women and men, including equal opportunities in political, economic, cultural and social spheres; Articles 27(4)

5 Suresh and Guttag, 'Framework for Understanding Sources of Harm' (n 1).
6 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1).
7 Joy Buolamwini and Timnit Gebru, 'Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification' (2018) 81 *Proceedings of Machine Learning Research* 77–91.
8 Safiya Umoja Noble, Algorithms of Oppression: How Search Engines Reinforce Racism (New York University Press 2018).

and 27(5) prohibit direct and indirect discrimination; and Article 27(6) requires measures to address disadvantages arising from past discrimination. These provisions support an inquiry not only into whether an AI system applies identical rules, but also into whether its operation perpetuates gendered disadvantage. This reflects the distinction between formal equality, which emphasizes consistent treatment, and substantive equality, which examines the practical effects of rules and the structural conditions that shape access to rights and opportunities.[9]

Kenya's legal framework also includes the Data Protection Act, 2019, particularly section 35 on certain decisions based solely on automated processing, and the Fair Administrative Action Act, 2015, where AI informs or determines administrative action. These protections must be considered alongside Article 27 rather than treated as substitutes for equality analysis. The key issue is whether existing protections, taken together, adequately prevent, detect and remedy algorithmic gender discrimination across the AI lifecycle.[10]

This article advances two arguments. First, algorithmic gender bias should be understood fundamentally as an equality and non-discrimination issue, rather than merely as a technical defect or a question of data protection. Secondly, although Kenya's constitutional and statutory framework provides a foundation for addressing the problem, further institutional and regulatory measures are needed to integrate gender equality systematically into AI governance. This does not presume that every automated decision is discriminatory; it maintains that decisions with significant implications for rights and opportunities warrant appropriate scrutiny where there is a credible risk of gendered harm. The article's contribution is a proposed Gender-Responsive Artificial Intelligence Governance Framework with six interrelated pillars: constitutional compliance by design; gender impact assessments; transparency and explainability; independent algorithmic audits; coordinated institutional oversight; and accessible remedies

9 Constitution of Kenya 2010, art 27.
10 Data Protection Act No 24 of 2019 (Kenya), s 35; Fair Administrative Action Act No 4 of 2015 (Kenya).

and enforcement.

2. Research Methodology

This article employs doctrinal legal research supported by comparative and interdisciplinary analysis. Doctrinal research is appropriate because the central inquiry concerns the interpretation, coherence and adequacy of existing legal rules and principles in addressing discrimination arising from automated decision-making. It involves the systematic identification, analysis and synthesis of legal sources to clarify the law and assess its application to a particular problem [11].

The analysis focuses on the Constitution of Kenya, 2010, the Data Protection Act, 2019, the Fair Administrative Action Act, 2015, relevant judicial decisions and scholarly materials, and international and regional frameworks. Article 27 is the principal constitutional provision, while Articles 10, 28, 31 and 47 are considered insofar as constitutional values, dignity, privacy and fair administrative action complement equality protection. The article examines section 35 of the Data Protection Act in conjunction with, rather than in place of, constitutional equality and administrative justice.

Comparative analysis considers the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the UNESCO Recommendation on the Ethics of Artificial Intelligence, the African Union Continental Artificial Intelligence Strategy and selected European regulatory developments. These materials are used to identify relevant principles and safeguards, not to assume that foreign regulatory approaches can be transferred wholesale to Kenya. The interdisciplinary component draws on feminist legal theory and scholarship on algorithmic accountability, disparate impact and sources of machine-learning harm. The article is normative and does not test a particular Kenyan AI system, conduct interviews or generate original quantitative data. It therefore does not claim to establish the prevalence of algorithmic gender discrimination in Kenya.

11 Terry Hutchinson and Nigel Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) *Deakin Law Review* 83–119.

Its purpose is to assess the adequacy of the legal framework and identify safeguards justified by foreseeable risks.

3. Algorithmic Gender Bias: Concepts and Equality Theory

3.1 AI and the transformation of decision-making

AI systems can classify individuals, predict outcomes and generate recommendations for human decision-makers. In consequential settings, such as recruitment, credit assessment, education, healthcare and public administration, these outputs may affect livelihoods, financial independence and access to important opportunities. The legal significance of AI therefore depends not only on technical sophistication but also on the consequences of its use and the possibility of meaningful accountability [12].

AI does not necessarily eliminate human judgment. It may relocate judgment into the selection of training data, definition of success, choice of variables, design of predictive models and decision to rely on their outputs. Selbst et al. [13] caution that fairness interventions can fail when technical systems are treated as isolated objects rather than as parts of wider social and institutional arrangements. A system may be technically accurate according to its stated objective while reproducing unjustified disadvantage because the objective, data or criteria reflect historical inequalities.

Recruitment illustrates the concern. An employer may use AI to rank applicants according to characteristics associated with the performance of previous employees. If the historical workforce was predominantly male, or prior recruitment practices disadvantaged women, the model may favour profiles

12 Joshua A Kroll and others, 'Accountable Algorithms' (2017) 165(3) *University of Pennsylvania Law Review* 633–705; Brent D Mittelstadt and others, 'The Ethics of Algorithms: Mapping the Debate' (2016) 3(2) *Big Data & Society*.
13 Andrew D Selbst and others, 'Fairness and Abstraction in Sociotechnical Systems' in Proceedings of the Conference on Fairness, Accountability, and Transparency (ACM 2019) 59–68.

resembling those of existing employees. Raghavan et al. [14] identify challenges concerning the validity, fairness and accountability of algorithmic employment assessment tools, including the need to examine vendors' claims and validation practices. The point is not that all recruitment algorithms discriminate, but that their design and outcomes require scrutiny.

Nor is gender bias necessarily eliminated by excluding sex or gender from model inputs. Employment continuity, salary progression, occupational experience and career gaps may correlate with gendered social conditions. Where women's employment histories have been affected by unequal caregiving responsibilities or occupational segregation, such variables may operate as proxies. A gender-responsive assessment must therefore consider data, assumptions, objectives, context and actual outcomes, not merely whether gender appears as an explicit variable[15].

3.2 Formal neutrality, substantive equality and indirect discrimination

Formal equality emphasizes consistent treatment, whereas substantive equality asks whether people can enjoy rights and opportunities on genuinely equal terms. Fredman [16] argues that a meaningful approach to equality must address disadvantage and the structural conditions that perpetuate it. CEDAW General Recommendation No. 25 similarly emphasises that equality in practice may require attention to the effects of laws and policies and to underlying social and cultural structures [17]. Applied to AI, identical computational treatment does not necessarily produce equitable outcomes if the criteria reflect unequal circumstances.

Indirect discrimination is especially relevant where an apparently neutral rule

14 Manish Raghavan and others, 'Mitigating Bias in Algorithmic Hiring: Evaluating Claims and Practices' in *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency* (ACM 2020) 469–481.
15 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1); Suresh and Guttag, 'Framework for Understanding Sources of Harm' (n 1).
16 Fredman, *Discrimination Law* (n 9).
17 CEDAW Committee, General Recommendation No 25 (n 9).

places persons sharing a protected characteristic at a particular disadvantage, subject to the applicable legal test and any lawful justification. Barocas and Selbst [18] show how data-driven systems may generate disparate outcomes because data encode historical discrimination, existing inequality or variables correlated with protected characteristics. The appropriate legal classification of algorithmic discrimination depends on the facts, the system's operation and the applicable legal standard. Wachter et al. [19] demonstrate more broadly that statistical fairness measures cannot simply replace context-sensitive legal analysis under non-discrimination law.

Accordingly, a statistical difference between women and men does not automatically establish unlawful discrimination. The evidence, context, causal relationship, nature of disadvantage and relevant justification must be assessed. Nevertheless, the absence of discriminatory intent cannot by itself resolve a claim concerning the adverse effects of a seemingly neutral decision-making process. Article 27 of the Constitution, including its express prohibition of direct and indirect discrimination, provides a foundation for considering the effects of algorithmic decisions as well as their design and purpose.

3.3 Feminist legal theory and algorithmic neutrality

Feminist legal theory challenges the assumption that formally neutral rules and institutions necessarily produce equitable outcomes. MacKinnon [20] examines how legal structures can reflect and legitimize established relations of power. In the data context, D'Ignazio and Klein [21] argue that data practices must be understood in relation to power: what is collected, whose experiences are represented and how information is interpreted are not socially neutral decisions.

18 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1).
19 Sandra Wachter, Brent Mittelstadt and Chris Russell, 'Why Fairness Cannot Be Automated: Bridging the Gap between EU Non-*Discrimination Law* and AI' (2021) 41 *Computer Law & Security Review* 105567.
20 Catharine A MacKinnon, *Toward a Feminist Theory of the State* (Harvard University Press 1989).
21 Catherine D'Ignazio and Lauren F Klein, *Data Feminism* (MIT Press 2020).

Noble [22] demonstrates how search technologies can reproduce harmful representations, particularly of women of colour. These works do not establish that every AI system is biased; they show why technological objectivity should not be presumed merely because an output is generated computationally.

An intersectional perspective is also important. Crenshaw [23] demonstrates that discrimination may arise through the interaction of social categories and cannot always be understood by examining one category in isolation. Buolamwini and Gebru's [24] findings on facial-analysis accuracy illustrate why aggregate performance may obscure errors experienced by particular groups. For Kenya, a gender-responsive assessment should therefore recognise that women are not a homogeneous group and that gender may interact with disability, age, socioeconomic circumstances, geography and other factors. This does not require indiscriminate collection of sensitive data; it requires carefully governed and proportionate ways to identify and evaluate relevant disparities.

4. International and Regional Frameworks

4.1 CEDAW and State obligations

CEDAW provides an important international legal foundation for addressing gender discrimination in technological contexts. Article 1 defines discrimination against women in terms of distinctions, exclusions or restrictions based on sex that have the purpose or effect of impairing women's equal enjoyment of rights. The reference to effects is particularly relevant where an algorithm disadvantages women without an explicit instruction to do so. Article 2 requires States parties to pursue a policy of eliminating discrimination and to take appropriate measures to address discrimination by public authorities, organizations and

22 Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York University Press 2018).
23 Kimberlé Crenshaw, 'Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics' (1989) 1989(1) *University of Chicago Legal Forum*, article 8.
24 Buolamwini and Gebru, 'Gender Shades' (n 7).

enterprises [25].

General Recommendation No. 25 explains the importance of substantive equality and measures directed at addressing disadvantage [26]. General Recommendation No. 28 clarifies States parties' obligations to address discrimination in law and practice, including discrimination by public and private actors [27]. General Recommendation No. 33 on women's access to justice is relevant where opacity, lack of information or fragmented responsibility make it difficult to challenge an adverse automated decision [28].

CEDAW does not prescribe a particular AI regulatory model, nor does every difference in algorithmic outcomes necessarily violate the Convention. Its principles nevertheless support scrutiny of whether States have adequate measures to protect women when public or private entities rely on automated systems. In Kenya, Article 2(6) of the Constitution provides that ratified treaties form part of Kenyan law. CEDAW can therefore inform the interpretation of Article 27 and the development of appropriate preventive measures and remedies.

4.2 UNESCO's Recommendation on the Ethics of Artificial Intelligence

UNESCO's Recommendation on the Ethics of Artificial Intelligence, adopted in 2021, is a non-binding international standard-setting instrument that expressly addresses gender equality throughout the AI lifecycle. Paragraph 87 states that ethical impact assessment should include a transversal gender perspective and that women's and girls' rights should not be violated at any stage of the lifecycle. Paragraph 90 calls for gender stereotyping and discriminatory bias to be

25 Convention on the Elimination of All Forms of Discrimination against Women (adopted 18 December 1979, entered into force 3 September 1981) 1249 UNTS 13.
26 CEDAW Committee, General Recommendation No 25 (n 9).
27 Committee on the Elimination of Discrimination against Women, General Recommendation No 28 on the Core Obligations of States Parties under Article 2 of the Convention, UN Doc CEDAW/C/GC/28 (2010).
28 Committee on the Elimination of Discrimination against Women, General Recommendation No 33 on Women's Access to Justice, UN Doc CEDAW/C/GC/33 (2015).

prevented, identified and proactively addressed [29]. Paragraphs 50 and 53 also support impact assessment, oversight, auditability, traceability, explainability and external review.

The Recommendation is important because it promotes prevention rather than relying exclusively on complaints after harm has occurred. UNESCO's Ethical Impact Assessment methodology provides a practical reference for identifying potential impacts, engaging stakeholders and developing mitigation measures [30]. In Kenya, these principles could inform gender impact assessments and regulatory guidance for high-risk AI systems. The Recommendation is not a treaty and should not be described as creating the same binding obligations as a ratified convention; its value lies in the standards and practices it offers for national policy development.

4.3 The African Union's Continental AI Strategy

The African Union's Continental Artificial Intelligence Strategy promotes an Africa-centred, development-oriented and inclusive approach to AI, while recognising the need to manage risks and promote ethical, responsible and equitable use [31]. Its regional orientation matters because AI governance should respond to African social, economic and institutional contexts rather than simply transplanting external models. It also provides a basis for strengthening local data capacity, technical skills, institutional readiness and regional cooperation.

For Kenya, the strategy supports the opportunity to embed gender equality within AI development and adoption. Potential areas of concern include digital finance, employment, education and public administration, where existing social inequalities may be reflected in data and decision criteria. These are risks requiring investigation, not proof that all Kenyan systems currently discriminate. A locally grounded approach should combine constitutional obligations with

29 UNESCO, Recommendation on the Ethics of Artificial Intelligence (adopted 23 November 2021).

30 UNESCO, 'Ethical Impact Assessment' <https://www.unesco.org/ethics-ai/en/eia> accessed 10 October 2026.

31 African Union, Continental Artificial Intelligence Strategy (n 3).

proportionate technical safeguards and context-sensitive evidence.

4.4 Comparative risk-based regulation

The European Union's Artificial Intelligence Act adopts a risk-based approach and imposes requirements on specified high-risk uses, including certain systems in employment, education and access to essential services [32]. The EU framework does not determine Kenya's legal obligations, but it illustrates how the consequences of a system can inform the intensity of regulatory scrutiny. Kenya could consider a proportionate approach that focuses stronger safeguards on systems capable of significantly affecting rights and opportunities, while tailoring obligations to local institutional capacity and constitutional requirements.

5. Kenya's Constitutional and Statutory Framework

5.1 Article 27 and constitutional values

Article 27 is the principal constitutional foundation for addressing algorithmic gender bias. Article 27(3) guarantees equal treatment and opportunities for women and men; Articles 27(4) and 27(5) prohibit direct and indirect discrimination; and Article 27(6) requires legislative and other measures to address disadvantages arising from past discrimination [33]. These provisions are relevant whether the decision is made by a human, supported by an algorithm or generated automatically. The legal question is whether the decision and the process producing it comply with constitutional equality, not whether the decision-maker used a particular technology.

Article 10's national values and principles of governance, including human dignity, equity, social justice, inclusiveness, equality, human rights, transparency and accountability, further inform public decision-making. These values are pertinent where public institutions adopt AI systems to allocate resources or determine access to services. Technological efficiency does not displace the need

32 Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence [2024] OJ L 2024/1689.
33 Constitution of Kenya 2010, arts 10, 27, 28, 31, 47 and 2(6).

for constitutional accountability.

5.2 Dignity, privacy and fair administrative action

Article 28 protects human dignity. Algorithmic systems may threaten dignity when individuals are reduced to opaque scores of employability, creditworthiness, risk or suitability without an opportunity to understand or challenge the assumptions underlying those assessments. The concern is not that scoring is inherently undignified, but that consequential decisions should not treat individuals as unanswerable outputs of a system.

Article 31 protects privacy and is relevant to the collection and processing of personal information, including sensitive information. Gender data may be needed to audit whether a system produces disparate outcomes, but its use must be lawful, proportionate and protected. A blanket prohibition on considering gender may prevent discrimination monitoring, while unrestricted collection and use may create privacy risks. Governance must distinguish between using data to discriminate and appropriately protected use of data to detect or mitigate discrimination.

Article 47 guarantees fair administrative action. The Fair Administrative Action Act, 2015, gives statutory expression to procedural protections, including fairness and access to reasons and relevant information in the circumstances provided by law. These protections matter when public authorities use AI to inform decisions affecting rights or interests. Wekesa and Otieno [34] examine the role of reasons under Article 47 and the Act, including the value of reasons in enabling challenge and improving administrative decision-making. Where an algorithm materially informs an administrative decision, technical complexity should not automatically excuse the institution from explaining the decision in a meaningful way. The precise duties will depend on the nature of the decision and the applicable statutory requirements.

34 S Wekesa and N Otieno, 'The Duty to Give Reasons under Kenya's Fair Administrative Action Act, 2015 in Kenya: Seven Years Later' (2022) 6(1) *Kabarak Journal of Law and Ethics* 99–122.

5.3 The Data Protection Act and automated decision-making

Section 35 of the Data Protection Act, 2019, addresses decisions based solely on automated processing, including profiling, where the statutory conditions concerning legal or similarly significant effects apply. This is an important safeguard and should not be overlooked when assessing Kenya's legal framework. However, it does not resolve every equality concern. Algorithmic gender bias may arise even where processing complies with data protection requirements, and a data-protection analysis is not a substitute for assessing compliance with Article 27.

The phrase "solely automated" may also raise practical questions where a human formally approves an algorithmic recommendation but does not meaningfully reconsider it. Human involvement should be assessed by its substance, not merely its presence at the end of a workflow. In addition, section 35 alone does not establish a comprehensive regime requiring gender impact assessments and independent gender audits for every high-risk AI system. Mbogori [35] identifies broader challenges concerning the opacity of algorithmic decisions, the difficulty of obtaining and interpreting evidence, and limitations associated with the scope and enforcement of existing legal protections. These concerns support an integrated approach that connects data protection, constitutional equality and AI governance.

Taken together, Articles 27 and 47, the Data Protection Act and the Fair Administrative Action Act provide important legal tools. The principal gap is not an absolute absence of law but the lack of a fully integrated, gender-responsive and preventive framework that consistently addresses algorithmic risks across the AI lifecycle.

6. Manifestations of Algorithmic Gender Bias

35 Franklin Nkonge Mbogori, 'The Legal Challenges Facing Algorithmic Decision-Making in Kenya' *University of Nairobi Law Journal*, DOI: 10.66563/6hwtwb33 <https://doi.org/10.66563/6hwtwb33> accessed 10 October 2026.

6.1 Employment and recruitment

Employment systems illustrate how historical patterns may be reproduced by automated assessment. A recruitment model trained on past employee data may favour profiles similar to those of a historically male workforce. Criteria such as continuous employment, prior job titles or salary progression may appear relevant to performance but can reflect unequal caregiving responsibilities and occupational segregation. Raghavan et al. [36] show why claims about the fairness and validity of hiring tools require scrutiny of data, prediction targets, validation and vendor practices. Employers should not avoid responsibility simply because a third-party vendor supplied the system.

6.2 Digital finance and credit

Automated credit assessment may use income, transaction history, employment stability, repayment records and other variables to estimate risk. If historical data reflect unequal access to formal employment, property, financial services or income, models may reproduce those patterns. A predictive model can be accurate against historical repayment data while still perpetuating disadvantage if the historical conditions themselves were unequal. This is a risk-based analysis, not a claim that all digital lending systems in Kenya discriminate against women. Gender-responsive testing should examine whether outcomes and error rates differ across relevant groups and whether any disparity is justified under the applicable law.

6.3 Education and healthcare

AI used in admissions, scholarships, student-risk prediction or educational guidance may reproduce historical patterns if past participation is treated as a neutral measure of potential. For example, underrepresentation in a field should not automatically be interpreted as evidence of lower suitability. In healthcare, systems trained on unrepresentative data may perform differently for groups whose symptoms, experiences or access to care are inadequately reflected in the training material. In both sectors, overall accuracy may conceal differential

36 Raghavan and others, 'Mitigating Bias in Algorithmic Hiring' (n 15).

errors. Institutions should evaluate relevant group-specific performance and ensure that AI supports, rather than replaces, accountable professional judgment.

7. Why Existing Equality Mechanisms May Be Insufficient

Several features of algorithmic decision-making complicate the application of conventional equality protections. First, opacity may prevent an affected person from knowing that AI was used or which factors influenced the result. Secondly, causation can be difficult to establish because discriminatory effects may arise from interactions among datasets, model design, variables and institutional practices. Thirdly, responsibility may be distributed among developers, vendors, data providers, procuring bodies and deploying institutions. Fourthly, technical complexity may make evidence difficult to obtain or interpret without specialized expertise. Finally, automated systems can reproduce a pattern at scale, affecting many people before the problem is recognized.

These difficulties do not make legal accountability impossible, but they weaken a response that depends exclusively on individual complaints after harm. Mbogori [37] argues that existing Kenyan legal tools may not adequately address the opacity and evidentiary challenges of algorithmic discrimination, notwithstanding progressive aspects of the Data Protection Act. Barocas and Selbst [38] likewise show how apparently neutral data practices can produce disparate effects, while Kroll et al. [39] emphasize the importance of mechanisms that make algorithmic systems accountable.

Kenyan case law also illustrates the evidentiary difficulty. In Gwer & 5 others v Kenya Medical Research Institute & 3 others [2020] KESC 66 (KLR), the Supreme Court addressed the initial evidential burden in a discrimination claim and recognized that, although indirect discrimination may be difficult to prove, a claimant must provide sufficient evidence to establish the claim. The case did not concern AI or gender and does not create a separate rule for algorithmic disputes.

37 Mbogori, 'Legal Challenges Facing Algorithmic Decision-Making' (n 36).
38 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1).
39 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1).

Its narrower relevance is that, where model logic and data are inaccessible, obtaining the evidence needed to substantiate a claim may be especially difficult. This supports the proposed use of documentation, transparency and proportionate auditing; it does not remove the claimant's evidential obligations.[40] The answer is not to presume that every disparity is unlawful or to treat all AI applications alike. It is to develop proportionate requirements for high-risk systems, make relevant information available for legitimate scrutiny, clarify responsibility and ensure that affected persons have meaningful avenues to seek review. Such measures are particularly important where gender inequality may be embedded in the data or institutional practices that an algorithm reproduces.

8. A Gender-Responsive Artificial Intelligence Governance Framework for Kenya

This article proposes a six-pillar framework to translate constitutional equality principles into practical safeguards throughout the AI lifecycle. The pillars are interrelated and should be understood as proposed reforms, not as a claim that Kenyan law already mandates every measure for every AI system.

8.1 Constitutional compliance by design

Developers, procuring institutions and deploying organizations should assess high-risk AI systems against applicable constitutional and legal obligations before deployment. The assessment should ask not only whether a system performs its intended function, but also whether its data, objectives, variables and foreseeable effects are compatible with Article 27. This approach treats equality as a design and procurement consideration rather than a concern raised only after harm. It is consistent with scholarship showing that data-driven systems can reproduce disparate effects and that fairness must be assessed in social context [41].

8.2 Gender impact assessments

40 Gwer & 5 others v Kenya Medical Research Institute & 3 others [2020] KESC 66 (KLR).
41 Barocas and Selbst, 'Big Data's Disparate Impact' (n 1); Andrew D Selbst and others, 'Fairness and Abstraction in Sociotechnical Systems' in *Proceedings of the Conference on Fairness, Accountability, and Transparency* (ACM 2019) 59–68.

Gender impact assessments should be required for AI systems likely to have significant effects on employment, finance, education, healthcare or access to public services. Assessments should examine the representativeness of data, historical inequalities, possible proxy variables, gender-disaggregated performance, foreseeable harms and available mitigation measures. They should occur before deployment and be revisited after significant system changes or when monitoring identifies new risks. UNESCO's Ethical Impact Assessment approach offers a useful reference for lifecycle-based, multidisciplinary assessment [42]. Any collection or use of gender-related data must remain lawful, proportionate and secure.

8.3 Transparency and explainability

People affected by consequential algorithmic decisions should receive meaningful information about the role of AI, the principal factors relevant to the decision and available routes for review. This does not necessarily require public disclosure of source code or every technical detail. It does require enough information for an affected person or authorized reviewer to understand the basis of a decision and challenge material errors or unfairness. The duty to provide reasons in administrative decision-making reinforces this concern where Article 47 and the Fair Administrative Action Act apply [43]. Technical complexity should not become a blanket excuse for withholding meaningful explanations.

8.4 Independent algorithmic audits

High-risk systems should undergo independent, periodic audits proportionate to their potential effects. Audits should examine data quality, validation, performance across relevant gender groups, error rates, proxy variables, changes in system behaviour and the effectiveness of mitigation measures. Auditors need adequate access and competence, and their independence should be protected against commercial or institutional pressure. Where material disparities are identified, the deploying institution should investigate, implement corrective

42 UNESCO, 'Ethical Impact Assessment' <https://www.unesco.org/ethics-ai/en/eia> accessed 10 October 2026.
43 Wekesa and Otieno, 'Duty to Give Reasons' (n 36).

measures and document the response. The research on gender-classification disparities illustrates the value of subgroup testing rather than reliance on aggregate accuracy alone [44].

8.5 Coordinated institutional oversight

Effective governance requires coordination among relevant institutions, potentially including the Office of the Data Protection Commissioner, the Kenya National Commission on Human Rights, the Commission on Administrative Justice, sector regulators and public bodies deploying AI. Each institution should act within its existing mandate; any new responsibilities would require appropriate legal or administrative measures. Coordination can reduce regulatory gaps, support consistent guidance and help ensure that data protection, equality and administrative fairness are considered together. It should also enable regulators to develop technical capacity and seek specialist input where necessary.

8.6 Accessible remedies and enforcement

Affected persons should have practical ways to learn when AI materially influences consequential decisions, obtain relevant reasons, request meaningful human reconsideration where appropriate, correct inaccurate data and challenge unlawful outcomes. Remedies should be accessible and should not depend on the individual having advanced technical expertise. Depending on the applicable law and circumstances, routes may include internal review, regulatory complaints, administrative review or judicial remedies. Individual redress should be complemented by measures that address systemic problems, such as correcting a model, changing a decision process or suspending a system where necessary. CEDAW's emphasis on access to justice supports attention to barriers that may prevent women from obtaining effective protection [45].

9. Policy and Legislative Implications

44 Buolamwini and Gebru, 'Gender Shades' (n 7).
45 CEDAW Committee, General Recommendation No 33 (n 30).

Several reforms follow from the analysis. Kenya should consider a more comprehensive legal and regulatory framework for high-risk AI systems, with obligations proportionate to the likely effects on rights and opportunities. Legislation or binding regulatory standards should require gender impact assessments for consequential applications and should set expectations for documentation concerning datasets, model objectives, validation, testing and known limitations. Public procurement rules should require vendors to provide sufficient information for equality and human-rights risk assessment, while respecting legitimate confidentiality interests without allowing them to obstruct accountability.

Independent audits should become a requirement for high-risk applications, supported by clear standards for investigating and correcting material disparities. Regulatory guidance should clarify the relationship between Article 27, section 35 of the Data Protection Act and Article 47, including the circumstances in which explanations and review may be available. Standards should also define meaningful human review: placing a person at the end of an automated workflow is insufficient if that person simply endorses the recommendation without genuine reconsideration.

Finally, gender expertise should be incorporated into AI governance. Technical expertise alone cannot identify every gendered consequence of automated decision-making. Lawyers, technologists, gender scholars, social scientists, ethicists, regulators and affected communities should contribute to the development, assessment and oversight of consequential systems. These reforms would help bridge the gap between constitutional commitments and practical safeguards.

10. Discussion

The legal problem presented by algorithmic gender bias differs from the traditional understanding of discrimination as conduct attributable to a single individual. Conventional inquiries may ask, “Who discriminated?” Algorithmic equality analysis must also ask, “What process produced the discriminatory outcome?” The second question matters because outcomes may arise from the

interaction of data collection, model design, procurement, deployment and institutional use. Responsibility should therefore be considered across the AI lifecycle rather than attributed exclusively to a programmer or final decision-maker.

The constitutional principle of equality must follow the decision. If a human makes a discriminatory decision, Article 27 applies. If a human relies on an algorithm, the use of technology does not remove the obligation to comply with equality rights. If a decision is automated, the constitutional status of the person affected remains unchanged. The absence of the words "artificial intelligence" from the Constitution does not create a rights vacuum. The challenge is to operationalize existing constitutional principles through requirements suited to opacity, scale, distributed responsibility and the difficulty of obtaining evidence. The proposed framework shifts attention from what a woman can do after an algorithm discriminates against her to what an institution must do before deploying a system that may produce discriminatory effects. This preventive focus is consistent with substantive equality because it addresses foreseeable risks before they become entrenched. It does not eliminate the need for remedies, nor does it mean every statistical disparity is unlawful. Rather, it combines prevention, evidence-based assessment, oversight and accessible redress. The objective is not to prevent AI use, but to ensure that its adoption remains compatible with constitutional equality.

11. Conclusion

AI presents Kenya with opportunities for innovation, economic development and improved decision-making, but technological efficiency cannot be separated from equality. Because algorithms are developed and deployed within social environments, they may reproduce historical gender inequalities even without deliberate discriminatory intent. Algorithmic gender bias should therefore be understood as an equality and constitutional governance problem.

Article 27 of the Constitution provides the principal legal foundation, while Articles 10, 28, 31 and 47 offer complementary protections concerning constitutional values, dignity, privacy and fair administrative action. Section 35 of the Data Protection Act addresses certain decisions based solely on automated

processing where statutory conditions are met, and the Fair Administrative Action Act provides procedural safeguards in the administrative context. These are important protections, but they do not necessarily constitute an integrated and preventive regime for gender-responsive AI governance.

The article has proposed six pillars: constitutional compliance by design; gender impact assessments; transparency and explainability; independent algorithmic audits; coordinated institutional oversight; and accessible remedies and enforcement. The framework seeks to embed equality in dataset selection, model development, procurement, deployment and ongoing monitoring. It also recognizes the need to assess context, proportionality, privacy and differences in the experiences of women.

The objective is not to prohibit AI, but to ensure that technological innovation develops within the boundaries of constitutional equality. An algorithm should not acquire greater legal legitimacy merely because discrimination is expressed through code rather than through a human decision-maker. Where AI influences employment, education, finance, healthcare or public services, the constitutional rights of affected persons must remain central. Kenya's approach to AI governance should therefore be technologically responsible, gender-responsive and committed to substantive equality.

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Beyond Consultation: Indigenous Knowledge Systems and Community-Centred Sustainability in Environmental Governance

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Abstract

Indigenous knowledge systems represent a valuable repository of locally developed knowledge, practices, beliefs, and experiences that have guided communities in managing social, cultural, economic, and ecological challenges for generations. The systems are increasingly recognized as vital to achieving environmentally sustainable, socially inclusive and locally legitimate development. Yet, despite their long-standing and significant contribution to biodiversity conservation, sustainable living, climate adaptation, natural resource governance and community resilience, these indigenous

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knowledge systems remain increasingly threatened by cultural erosion, modernization, globalization, inadequate documentation as well as insufficiently integrated into contemporary sustainability frameworks, limited institutional recognition and environmental decision-making.

This article examines how indigenous knowledge systems can advance community-centred sustainability, particularly in Africa, while addressing legal and governance challenges concerning their recognition, protection and use. It explores links between indigenous knowledge, environmental governance, participation, intergenerational equity, biodiversity conservation and sustainable development. The article highlights risks of appropriation, exploitation and exclusion, arguing that communities must be recognized as knowledge holders and decision-makers. Integrating indigenous knowledge with science, law and technology can foster more inclusive, legitimate, resilient and context-sensitive sustainability pathways.

1. Introduction

Indigenous knowledge refers to the cumulative knowledge, practices, beliefs, and innovations developed by local communities through long-term interaction with their social and natural environments.[1] It represents a dynamic knowledge system transmitted across generations through oral traditions, cultural practices, observation, and community experiences.[2] Unlike standardized development models, indigenous knowledge is deeply rooted in local contexts and reflects the ecological, social, and cultural realities of communities.[3] Niyitunga argues that indigenous knowledge refers to knowledge systems unique to a given culture.[4] Understanding how people and societies acquire and use knowledge is essential for improving people's lives, especially those of the poorest.[5] For much of modern environmental governance, the dominant assumption has been that the path to

[1] Gupta Chitra, Indigenous Knowledge and Sustainable Community Development
[2] Ibid
[3] Ibid
[4] Eric Blanco Niyitunga, Africa's indigenous knowledge: Essential ingredients for digital technology
[5] The World Bank, *World Development Report 1998/99: Knowledge for Development* (Oxford University Press 1999)

sustainability runs primarily through scientific expertise, technological innovation, formal institutions and centrally designed regulatory systems. Yet this assumption is increasingly difficult to sustain. Across the world, indigenous peoples and local communities have developed and maintained extensive bodies of ecological knowledge through generations of interaction with their territories, encompassing observations, practices and understandings concerning biodiversity, ecosystem dynamics and the sustainable use of natural resources.[6] This knowledge is not simply a collection of traditional beliefs or historical practices.[7]

It is often a living system of observation, experimentation, adaptation and transmission through which communities understand their environment and organize their relationship with it.[8] In an era characterized by climate change, biodiversity loss, environmental degradation and growing pressure on natural resources, the question is no longer whether indigenous knowledge has a place in sustainability governance, but whether contemporary governance systems are prepared to take that knowledge seriously.

The urgency of this question has become particularly apparent in recent years. Climate change is altering precipitation patterns and intensifying extreme weather events, placing increasing pressure on ecosystems, food and water security, and the livelihoods of communities whose social and economic well-being depends directly upon natural resources.[9] Indigenous Peoples and local communities are frequently among those most vulnerable to climate change because of their close dependence on ecosystems and natural resources; yet, they are not merely passive victims of environmental disruption, but active holders and producers of knowledge and adaptive strategies capable of strengthening

[6] Douglas Nakashima and others, *Indigenous Knowledge for Climate Change Assessment and Adaptation* (UNESCO and UNU-IAS 2018)
[7] Ibid
[8] Ibid
[9] IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2022), Summary for Policymakers, B.1.1–B.1.3.

climate resilience.[10]

Simply put, sustainable community development has become a significant concern in the contemporary world due to increasing challenges such as climate change, environmental degradation, biodiversity loss, poverty, and social inequality.[11] Conventional development approaches have often emphasized externally designed solutions based on universal models of progress.[12] However, these approaches frequently fail to address the diverse needs, cultural contexts, and lived realities of local communities.[13] Indigenous knowledge systems provide context-specific and community-driven alternatives by promoting ecological balance, collective responsibility, and sustainable utilization of resources.[14] Across different regions, particularly in rural and tribal communities, indigenous practices have contributed to sustainable agriculture, traditional healthcare, water conservation, forest management, and community governance.[15]

Their long experience of adapting to ecological variability has generated knowledge that can contribute to climate adaptation, biodiversity conservation, disaster-risk reduction, food security and sustainable resource management.[16] UNESCO, for example, recognizes that indigenous peoples have developed detailed knowledge of their territories and natural resources over generations and that local and Indigenous knowledge systems can contribute to climate adaptation and resilience.[17] In Africa, pastoralist communities possess detailed knowledge concerning rainfall, grazing patterns, water availability and seasonal ecological changes, demonstrating the practical value of locally generated

[10] Ibid
[11] Supra, note 3
[12] Ibid
[13] Ibid
[14] Ibid
[15] Ibid
[16] Supra, note 10
[17] UNESCO, 'Local and Indigenous Knowledge Systems and Climate Change'. Available at: https://www.unesco.org/en/climate-change/links. <Accessed on 16 August 2026>

environmental knowledge in responding to climatic uncertainty.[18] Despite their importance, indigenous knowledge systems continue to face significant challenges.

Colonial experiences, modernization processes, changing lifestyles, market-driven development, and the dominance of formal scientific knowledge systems have contributed to the gradual erosion and marginalization of indigenous knowledge.[19] Furthermore, limited documentation, insufficient policy recognition, and weak institutional mechanisms restrict the effective integration of indigenous practices into mainstream development frameworks.[20] Sillitoe observed that indigenous and local knowledge has historically occupied a marginal position within dominant development and formal knowledge systems, partly because of the difficulties involved in communicating, representing and integrating locally grounded knowledge across different cultural and epistemological contexts.[21]

1.1 Recognition of Indigenous Knowledge in International Environmental Governance

The significance of indigenous knowledge is therefore increasingly acknowledged within international environmental governance. Article 8(j) of the Convention on Biological Diversity (CBD) requires States, subject to national legislation, to respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities relevant to the conservation and sustainable use of biological diversity, while promoting their wider application only with the approval and involvement of the holders and encouraging

[18] UNESCO, 'Africa' (Local and Indigenous Knowledge Systems) (3 May 2024) https://www.unesco.org/en/links/africa <Accessed 16 August 2026>.
[19] Supra, note 15
[20] Ibid
[21] Paul Sillitoe, 'What, Know Natives? Local Knowledge in Development' (1998) 6(2) *Social Anthropology*

equitable sharing of benefits.[22] The provision is important because it moves indigenous knowledge away from the margins of environmental policy and places it within the architecture of biodiversity governance. More importantly, it recognizes that knowledge cannot be divorced from the communities that create, preserve and transmit it.

These knowledge systems are gradually declining due to rapid modernization, globalization, changing economic structures, loss of traditional lifestyles, and reduced intergenerational transmission of knowledge.[23] Many valuable indigenous practices remain undocumented and are at risk of disappearing.[24] At the same time, existing development approaches often rely on standardized, externally designed models that may not adequately consider local environmental conditions, cultural values, and community needs.[25] The limited recognition of indigenous knowledge within formal policies and development programs creates a disconnect between local wisdom and contemporary sustainability efforts.[26] Although several studies have highlighted the importance of indigenous knowledge in specific areas, there is insufficient comprehensive understanding of how these knowledge systems collectively contribute to sustainable community development.[27]

This recognition has developed considerably in contemporary international sustainability policy. The Kunming-Montreal Global Biodiversity Framework adopted at the fifteenth Conference of the Parties to the CBD in 2022 expressly recognizes Indigenous Peoples and local communities as custodians and partners in biodiversity conservation, restoration and sustainable use.[28] Its Target 21 calls

[22] Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79, art 8(j).
[23] Supra, note 20
[24] Ibid
[25] Ibid
[26] Ibid
[27] Ibid
[28] Convention on Biological Diversity, *Kunming-Montreal Global Biodiversity Framework* (CBD/COP/DEC/15/4, 19 December 2022), para 7.

for traditional knowledge, innovations, practices and technologies to be accessed only with the free, prior and informed consent of their holders, while Target 22 calls for full, equitable, inclusive and effective participation of indigenous peoples and local communities in biodiversity-related decision-making, including respect for their rights over lands, territories, resources and traditional knowledge.[29]

The human-rights dimension of this transformation is equally important. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) affirms the right of Indigenous Peoples to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, including knowledge concerning seeds, medicines, fauna, flora and genetic resources.[30] It further recognizes their right to participate in decision-making in matters affecting their rights and interests.[31] These principles challenge approaches to sustainability in which communities are invited to meetings merely to validate decisions that have already been made elsewhere. Genuine community-centred sustainability requires a deeper form of participation, one in which communities are recognized not merely as stakeholders or beneficiaries, but as knowledge holders, rights holders and governance partners.

This distinction is fundamental. There is a significant difference between consulting a community and enabling that community to participate meaningfully in environmental decision-making.[32] Consultation may involve seeking the views of affected communities on a proposed measure, but meaningful participation requires communities to have an opportunity to influence the formulation, implementation and evaluation of decisions that affect

[29] Ibid, Targets 21 and 22. Target 21 expressly addresses access to traditional knowledge with free, prior and informed consent, while Target 22 addresses equitable and effective participation in biodiversity decision-making.
[30] United Nations Declaration on the Rights of Indigenous Peoples, UNGA Res 61/295 (13 September 2007), art 31.
[31] Ibid
[32] Food and Agriculture Organization of the United Nations, *Free Prior and Informed Consent: An Indigenous Peoples' Right and a Good Practice for Local Communities* (FAO 2016).

their lives, territories and resources.[33] International and African jurisprudence increasingly recognizes that consultation must be conducted in good faith, through culturally appropriate procedures and sufficiently early to allow affected communities to understand, deliberate upon and influence proposed measures. In *Saramaka People v Suriname*, the Inter-American Court of Human Rights emphasized that effective participation requires more than formal consultation and, in the case of large-scale projects with significant impacts on Indigenous territories, may require free, prior and informed consent.[34]

Similarly, in *Endorois Welfare Council v Kenya*, the African Commission recognized the importance of effective participation, consultation and benefit-sharing in decisions concerning Indigenous peoples' ancestral lands and natural resources.[35] More recently, the Kenyan Environment and Land Court reaffirmed that participation involving the Endorois community must be meaningful and not merely a 'box ticking' exercise.[36] At paragraph 73, the Court held that if the community land were to be converted into a public forest, the process had to involve the Endorois community through transparency and meaningful participation, rather than "box ticking."[37] The Court consequently declared that decisions concerning the community's land rights could only be undertaken "in consultation and with participation of the Endorois Community" in compliance with Articles 10, 63 and 232 of the Constitution.[38]

1.2 Meaningful Community Participation in Environmental Governance

Consultation should not be understood as an end in itself; rather, it should form part of a broader participatory process through which affected communities can

[33] Ibid
[34] *Saramaka People v Suriname* (Judgment) Inter-American Court of Human Rights Series C No 172 (28 November 2007) paras 133–137.
[35] *Centre for Minority Rights Development (CEMIRIDE) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya* (2010) AHRLR 75 (ACHPR) (2009), Communication No 276/2003.
[36] *Endorois Welfare Council v Cabinet Secretary, Ministry of Environment, Climate Change and Forestry & 4 others* [2026] KEELC 432 (KLR) (4 February 2026).
[37] Ibid
[38] Ibid

meaningfully influence decisions concerning their lands, resources, livelihoods and environment. Community-centred sustainability therefore requires more than consultation; it requires meaningful participation in the formulation,[39] implementation and evaluation of environmental and development measures affecting communities, while recognizing their right to determine their own development priorities.[40] The latter approach recognizes that indigenous and local knowledge can provide forms of ecological understanding that complement, and in some contexts reveal dimensions of environmental change not readily captured by conventional scientific assessments.[41]

The value of such knowledge is particularly significant in Africa, where environmental livelihoods remain closely connected to land, biodiversity and natural resources. Pastoralism, small-scale agriculture, fishing, forestry and other nature-dependent livelihoods continue to underpin the social and economic life of many communities, particularly where livelihoods are closely dependent upon land, water, forests, rangelands and other natural resources.[42] UNESCO's work in Africa demonstrates that pastoralist communities, for instance, possess detailed knowledge of rainfall, grazing and water resources and are increasingly participating in climate research and policy processes.[43]

The implication is not that indigenous knowledge should replace modern science. Rather, the challenge is to create systems in which different knowledge traditions can interact on terms that respect their respective strengths, limitations and contexts.[44] Sustainability may be strengthened when scientific knowledge

[39] Indigenous and Tribal Peoples Convention 1989 (No 169), art 7
[40] United Nations Declaration on the Rights of Indigenous Peoples, UNGA Res 61/295 (13 September 2007), arts 18, 19 and 23.
[41] IPBES, *The Methodological Assessment Report on Scenarios and Models of Biodiversity and Ecosystem Services* (IPBES 2016) 56–57. Available at: https://files.ipbes.net/ipbes-web-prod-public-files/downloads/IPBES-4-INF-3.pdf. <Accessed on 16 August 2026>
[42] World Bank, *Kenya: Regional Pastoral Livelihoods Resilience Project – Environmental and Social Management Framework* (2013).
[43] Supra, note 8
[44] Ibid

and indigenous knowledge are treated as complementary rather than hierarchical systems.[45]

Kenya provides an especially important legal setting within which to examine this relationship. The Constitution of Kenya, 2010 places indigenous knowledge within the country's constitutional environmental and cultural architecture. Article 69(1)(c) requires the State to 'protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.' Article 69(1)(d) further requires the State to encourage public participation in the management, protection and conservation of the environment.[46] These provisions are significant because they connect indigenous knowledge with both environmental sustainability and participatory governance. The Constitution therefore does not treat environmental protection simply as a technical responsibility of the State; it rather recognizes the contribution and interests of communities in the management of environmental resources.

The statutory framework reinforces this constitutional position. The Protection of Traditional Knowledge and Cultural Expressions Act 2016 provides a legal framework for the protection and promotion of traditional knowledge and cultural expressions and recognizes traditional knowledge as including knowledge, know-how, skills, innovations, practices and learning embodied in the traditional lifestyle of communities, including agricultural and environmental knowledge and knowledge associated with genetic resources and biodiversity.[47] The Act is particularly important because it responds to a longstanding problem in the relationship between indigenous communities and external users of traditional knowledge: the possibility that knowledge developed collectively over generations may be appropriated, commercialized or transformed without meaningful consent or equitable benefit-sharing.[48]

[45] Ibid
[46] Constitution of Kenya 2010, art 69(1)(c)–(d).
[47] Protection of Traditional Knowledge and Cultural Expressions Act 2016, ss 2 and 3.
[48] Ibid

Kenya's environmental legislation similarly provides an important bridge between traditional knowledge and environmental governance. The Environmental Management and Co-ordination Act recognizes indigenous knowledge within the environmental regulatory framework and requires consideration of traditional knowledge in the conservation of biological diversity.[49] It further provides for the protection of traditional interests of local communities and requires that measures for co-management of critical habitats take into account the interests of communities living around those resources.[50] The Act also provides for measures concerning the recognition, protection and enhancement of indigenous knowledge associated with environmental and natural-resource conservation and the protection of community knowledge relating to biodiversity and genetic resources.[51] More recently, Kenya's 2025 access and benefit-sharing regulations have provided for community biodiversity registers, community protocols and partnerships between environmental authorities and local communities for incorporating traditional knowledge and practices into biodiversity conservation.[52]

Despite growing legal recognition of Indigenous knowledge, significant governance gaps remain. Traditional knowledge may be accessed, documented or commercialized without the meaningful participation and consent of its holders; benefits arising from biological resources and associated knowledge may not be shared fairly; and decision-making structures may inadequately reflect the communities that actually hold and transmit such knowledge.[53] Environmental interventions may consequently privilege externally defined models of sustainability while relegating community knowledge to a supplementary role rather than recognizing it as a legitimate and potentially

[49] Environmental Management and Co-ordination Act (Cap 387), s 51(f).
[50] Ibid, s 43
[51] Ibid, s 53(2)(f)–(g).
[52] Environmental Management and Co-ordination (Access to Biological Resources and Benefit Sharing) Regulations 2025, Legal Notice No 68 of 2025
[53] CBD, *Mo'otz Kuxtal Voluntary Guidelines for the Development of Mechanisms, Legislation or Other Appropriate Initiatives to Ensure the 'Prior and Informed Consent.*

foundational source of environmental knowledge.[54]

1.3 Protecting Knowledge, Empowering Communities for a Just Model of Sustainability

There are consequently deeper questions of environmental justice. If a community has protected a forest, wetland, pasture or biodiversity-rich landscape through generations of customary practices, can sustainability legitimately be pursued by excluding that community from decisions concerning the same ecosystem? If knowledge about medicinal plants, indigenous seeds, weather patterns or natural-resource management contributes to a commercially successful innovation, who should control that knowledge and who should receive the resulting benefits? And if conservation measures restrict customary access to resources upon which a community has historically depended, can such conservation genuinely be described as sustainable if it undermines the social and cultural conditions necessary for the community's survival?

These questions demonstrate why community-centered sustainability must be distinguished from the romanticization of indigenous knowledge. Indigenous knowledge should not be romanticized as inherently infallible, static or automatically environmentally benign; like scientific knowledge, it is dynamic, context-dependent, internally diverse and subject to adaptation and transformation.[55] Like all knowledge systems, indigenous knowledge is dynamic and capable of adaptation. Nor should the recognition of indigenous knowledge require a rejection of scientific knowledge;[56] rather, the two knowledge systems may interact in complementary ways, with each contributing distinct insights to environmental understanding and sustainability.[57]

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[54] Ibid

[55] Arun Agrawal, 'Dismantling the Divide Between Indigenous and Scientific Knowledge' (1995) 26 *Development and Change* 413

[56] Maria Tengö and others, 'Weaving Knowledge Systems in IPBES, CBD and Beyond—Lessons Learned for Sustainability' (2017)

[57] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Approach to Recognizing and Working with Indigenous and Local Knowledge in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* IPBES/5/15

The protection of indigenous knowledge must also confront the growing danger of misappropriation and commodification. As technological advances expand the capacity to collect, digitize, analyze and commercialize biological and cultural information, traditional knowledge may become increasingly vulnerable to misappropriation,[58] extraction and exploitation where such processes occur without meaningful community authority, consent and control over access and use.[59] Digitization may preserve knowledge that might otherwise disappear, but it can also expose culturally sensitive information to unauthorized access.[60] The principles of prior informed consent and equitable benefit-sharing therefore become central components of sustainable knowledge governance.

This concern is especially relevant at a time when environmental governance is becoming increasingly data-driven. Satellite remote sensing, artificial intelligence, digital biodiversity databases and other data-driven technological systems are increasingly transforming the ways in which ecosystems are monitored, understood and managed.[61] While digital technologies can complement community knowledge, their integration into environmental governance may also reproduce existing epistemic hierarchies by privileging technologically mediated and externally generated datasets over indigenous and local knowledge developed through long-term, place-based relationships with particular landscapes.[62] A genuinely inclusive sustainability model should therefore ask not only whether technology can improve environmental decision-

[58] World Intellectual Property Organization (WIPO), 'Documentation of Traditional Knowledge and Traditional Cultural Expressions'. Available at: https://www.wipo.int/en/web/traditional-knowledge/resources/tk-and-tces. <Accessed on 18 August 2026>

[59] Ibid

[60] Chidi Oguamanam, 'Information Systems and Digitization of Traditional Knowledge: Trends in Cultural Heritage and Memory Institutions and the WIPO Genetic Resources Treaty' (2026) *Journal of World Intellectual Property*.

[61] Nathalie Pettorelli and others, 'Deep Learning and Satellite Remote Sensing for Biodiversity Monitoring and Conservation' (2025) 11 *Remote Sensing in Ecology and Conservation*

[62] Åsa Nordin-Jonsson and others, 'Digital technologies and ILK in the Arctic: In search of epistemological pluralism' (2022) 133 *Environmental Science & Policy*

making,[63] but also whether the people whose knowledge has historically sustained those environments have meaningful authority within the technological systems being developed.[64]

Against this background, this paper advances the argument that sustainability is ultimately a question of relationships: the relationship between people and nature, between knowledge systems, between present and future generations, and between communities and institutions exercising environmental power. Indigenous knowledge systems provide an important opportunity to rethink these relationships.[65] Their value lies not merely in supplying additional information to policymakers, but in offering alternative ways of understanding stewardship, responsibility, reciprocity and ecological interdependence.[66]

The central argument of this scholarship is therefore that community-centered sustainability requires a shift from treating indigenous peoples and local communities as passive recipients of environmental policy towards recognizing them as active participants in environmental governance. Such a shift requires more than symbolic consultation. The Kenyan experience provides a particularly useful case study because its constitutional and statutory framework already contains important foundations for such an approach, while recent developments in biodiversity governance demonstrate that the legal architecture is continuing to evolve.

Ultimately, the sustainability challenge of the twenty-first century cannot be addressed solely through new technologies, international agreements or technical environmental regulation.[67] It also requires listening to communities

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[63] Stephanie Russo Carroll and others, 'The CARE Principles for Indigenous Data Governance' (2020) 19(2) *Data Science Journal* 43
[64] Ibid
[65] Eduardo S Brondízio and others, 'Locally Based, Regionally Manifested, and Globally Relevant: Indigenous and Local Knowledge, Values, and Practices for Nature' (2021)
[66] Ibid
[67] United Nations Environment Programme, *Making Peace with Nature: A Scientific Blueprint to Tackle the Climate, Biodiversity and Pollution Emergencies* (UNEP 2021)

that have accumulated knowledge through generations of living with nature.[68] The task is not to position Indigenous knowledge in opposition to modern science, but to create an equitable epistemic space in which Indigenous, local and scientific knowledge systems can interact on respectful terms and contribute collectively to the pursuit of ecological sustainability.[69]

1.4 Community-Centered Sustainability

Community-centered sustainability may be understood as an approach to sustainable development that places communities at the centre of decisions concerning environmental protection, natural-resource management, economic development and social well-being. Rather than treating local populations as passive beneficiaries of policies designed by governments, corporations, development agencies or external experts, the approach recognizes communities as active participants in identifying problems, defining priorities, designing interventions and evaluating their outcomes.[70] Sustainable outcomes must also be socially legitimate, locally appropriate and capable of securing the participation and support of those whose lives, livelihoods and environments are directly affected by development and conservation decisions.[71]

The intellectual foundations of community-centered sustainability can be traced to broader critiques of centralized and top-down development. Participatory development scholarship has long challenged the assumption that external experts possess exclusive authority to define development problems and prescribe appropriate solutions. Robert Chambers, for example, argued for approaches that enable local people to exercise greater influence over knowledge production and development decision-making,[72] while Paulo Freire's work

[68] Ibid
[69] Jay T Johnson and others, 'Weaving Indigenous and Sustainability Sciences to Diversify Our Methods' (2016) 11 *Sustainability Science*
[70] Jules Pretty, 'Participatory Learning for Sustainable Agriculture' (1995) 23 *World Development*
[71] James Meadowcroft, 'Participation and Sustainable Development: Modes of Citizen, Community and Organizational Involvement' in William M Lafferty and James Meadowcroft (eds), *Democracy and the Environment: Problems and Prospects*
[72] Robert Chambers, *Whose Reality Counts? Putting the First Last*

similarly emphasized participation, agency and the capacity of individuals and communities to become active subjects rather than passive objects of development.[73]

This understanding is strongly reflected in international environmental law. Principle 10 of the Rio Declaration on Environment and Development provides that environmental issues are best handled with the participation of all concerned citizens at the relevant level and emphasizes access to environmental information, participation in decision-making and access to judicial and administrative remedies.[74] Principle 10 is particularly significant because it connects environmental protection with democratic participation and accountability. The principle has subsequently influenced international and regional instruments, including the Aarhus Convention, which establishes a more detailed legal framework based upon access to information, public participation in environmental decision-making and access to justice in environmental matters.[75]

The community-centered orientation of sustainability is equally evident in the contemporary international sustainable development framework. The 2030 Agenda for Sustainable Development expressly presents sustainable development as a people-centered enterprise and commits states to inclusive and participatory approaches to implementation.[76] Sustainable Development Goal 16.7 specifically calls for responsive, inclusive, participatory and representative decision-making at all levels, while Goal 11.3 promotes participatory and integrated approaches to human settlement planning and management.[77] These

[73] Paulo Freire, *Pedagogy of the Oppressed*
[74] Rio Declaration on Environment and Development, UN Doc A/CONF.151/26 (vol I) (1992) principle 10.
[75] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (adopted 25 June 1998, entered into force 30 October 2001) 2161 UNTS 447, arts 1, 4–9.
[76] UNGA Res 70/1, *Transforming Our World: The 2030 Agenda for Sustainable Development* (25 September 2015) UN Doc A/RES/70/1, paras 2, 4, 74.
[77] IbidGoals 11.3 and 16.7.

commitments demonstrate that sustainability is increasingly understood not simply as an outcome measured through environmental indicators, but also as a process whose legitimacy depends upon participation, inclusion and institutional responsiveness.

1.5 Key elements and dimensions of community-centered sustainability

One of central elements of community-centered sustainability is meaningful participation. Participation should not be understood as a formal exercise in which communities are merely informed about decisions that have already been taken or invited to attend consultations without any realistic capacity to influence the eventual outcome. Arnstein's influential concept of a "ladder of citizen participation" remains useful in distinguishing between symbolic participation and forms of participation that involve genuine influence and decision-making power.[78] Similarly, environmental governance scholarship has demonstrated that participatory institutions may fail to empower communities where significant inequalities of information, resources and power remain unaddressed.[79]

Community-centered sustainability also emphasizes local ownership. Development and conservation initiatives are unlikely to produce durable outcomes where communities perceive them as externally imposed projects that disregard local priorities or undermine established livelihoods. By contrast, communities are more likely to support and sustain initiatives when they participate in defining objectives and possess a meaningful sense of responsibility for their implementation.[80] This proposition is closely associated with the work of Elinor Ostrom, whose research on common-pool resources challenged the assumption that shared natural resources can only be governed effectively through either privatization or centralized state control.[81] Ostrom demonstrated that communities can, under appropriate institutional conditions, develop collective rules and systems for monitoring and managing shared

[78] Sherry R Arnstein, 'A Ladder of Citizen Participation' (1969)
[79] Andrea Cornwall, 'Unpacking "Participation": Models, Meanings and Practices' (2008) 43 *Community Development Journal*
[80] Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*
[81] Ibid

resources such as forests, fisheries, irrigation systems and grazing lands.[82]

However, community-centred sustainability does not imply that all communities are homogeneous or that local institutions are necessarily equitable. Communities may contain substantial inequalities based upon gender, age, wealth, social status, ethnicity or other forms of marginalization.[83] Consequently, an approach cannot properly be regarded as community-centred merely because certain local leaders or influential groups have been consulted. Effective community participation requires attention to the distribution of power within communities and deliberate measures to ensure that women, young people, indigenous peoples and other marginalized groups are able to participate meaningfully in decisions affecting their lives.[84] The commitment of the 2030 Agenda to ensuring that no one is left behind reinforces this broader understanding of inclusive sustainability.[85]

The importance of inclusion is particularly evident in relation to indigenous peoples and local communities. Indigenous and local knowledge systems frequently contain detailed understandings of ecosystems, biodiversity, seasonal patterns, land management and resource use that have developed through long-term interaction between communities and their environments.[86] Such knowledge may contribute to agriculture, forest management, biodiversity conservation, fisheries governance, climate adaptation and other dimensions of sustainability.[87] Fikret Berkes has described traditional ecological knowledge as a cumulative body of knowledge, practice and belief that evolves through adaptive processes and is transmitted across generations through cultural

[82] Ibid
[83] Supra, note 93
[84] Naila Kabeer, *Reversed Realities: Gender Hierarchies in Development Thought*
[85] Supra, note 90
[86] Darrell A Posey (ed), *Cultural and Spiritual Values of Biodiversity* (UNEP and Intermediate Technology Publications 1999).
[87] Partha Dasgupta, *The Economics of Biodiversity: The Dasgupta Review*

mechanisms.[88]

International biodiversity law increasingly recognizes the importance of such knowledge. Article 8(j) of the Convention on Biological Diversity requires parties, subject to national legislation, to respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities relevant to the conservation and sustainable use of biological diversity.[89] The provision is significant because it moves beyond the simple extraction of useful information from communities and recognizes the importance of participation, approval and benefit-sharing.[90] The Nagoya Protocol similarly reinforces the relationship between access to traditional knowledge, prior informed consent or approval and involvement, and the fair and equitable sharing of benefits.[91]

Community-centred sustainability is therefore especially important in preventing indigenous and local knowledge from being treated merely as a resource that can be extracted and incorporated into externally designed environmental policies. A genuinely community-centred approach requires knowledge holders to participate in determining how their knowledge is documented, used, shared and, where appropriate, commercialized.[92] This is increasingly important in an era in which digital technologies, biodiversity databases and other systems can facilitate the collection, storage and dissemination of information originating from indigenous and local communities. The question is consequently not simply whether indigenous knowledge should be integrated into modern environmental governance, but whether the processes of integration respect community agency, cultural

[88] Supra, note 86
[89] Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79, art 8(j).
[90] Secretariat of the Convention on Biological Diversity, 'Article 8(j): Traditional Knowledge, Innovations and Practices'.
[91] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization
[92] Rosemary Hill and others, 'A Typology of Indigenous Engagement in Australian Environmental Management: Implications for Knowledge Integration and Social-Ecological System Sustainability' (2012) 22 *Ecology and Society*

integrity and rights of self-determination.[93]

Another essential component is community empowerment. The formal existence of participatory opportunities does not necessarily guarantee effective participation where communities lack access to information, financial resources, legal assistance or technical expertise.[94] Environmental decision-making often takes place within a highly technical landscape shaped by scientific assessments, legal requirements and complex economic considerations. Recent work on environmental justice and environmental governance has similarly recognized that formally available opportunities for participation may remain inaccessible or ineffective where communities face barriers relating to information, resources, technology, time or institutional capacity.[95]

Community-centred sustainability also promotes collaborative and adaptive forms of governance. Environmental systems are complex and constantly changing, particularly in the context of climate change, biodiversity loss, land degradation and increasing pressure on natural resources.[96] Effective governance must therefore be capable of responding to uncertainty and changing ecological conditions.[97] Adaptive co-management scholarship emphasizes the importance of combining different forms of knowledge, encouraging collaboration among communities, governments and other actors, and developing institutions capable of learning from experience.[98] Such approaches may enable scientific and indigenous knowledge to interact without assuming that one knowledge system

[93] Melanie Zurba and Anastasia Papadopoulos, 'Indigenous Participation and the Incorporation of Indigenous Knowledge and Perspectives in Global Environmental Governance Forums: A Systematic Review' (2023)
[94] Lila Akerboom, 'How Law Structures Public Participation in Environmental Decision Making: A Comparative Law Approach' (2022)
[95] Ibid
[96] Carl Folke, 'Resilience: The Emergence of a Perspective for Social-Ecological Systems Analyses' (2006)
[97] Ibid
[98] Fikret Berkes, Johan Colding and Carl Folke (eds), *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change* (CUP 2003)

must necessarily replace the other.[99]

Equitable benefit-sharing is central to community-centered sustainability. Communities that contribute their land, labor, knowledge or environmental stewardship should fairly share in the social and economic benefits arising from conservation and development initiatives.[100] Benefit-sharing is therefore not simply an economic consideration; it forms part of a broader conception of environmental justice in which communities should not bear the burdens of conservation or development while external actors capture the resulting benefits.[101] It requires a shift away from treating indigenous knowledge merely as information that can be extracted for environmental management and towards recognizing indigenous and local communities as rights-holders and partners in defining sustainability itself.[102]

Their participation must extend to the formulation of priorities, the governance of resources, the protection of traditional knowledge and the distribution of benefits arising from its use.[103] In this sense, community-centered sustainability is not simply a method of improving the effectiveness of environmental projects; it is also a framework for pursuing a more democratic, equitable and legitimate form of sustainable development.[104]

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[99] Supra, note 110
[100] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization
[101] Ibid
[102] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Approaches and Procedures for Working with Indigenous and Local Knowledge in IPBES* (2016)
[103] Ibid
[104] Melanie Zurba and Anastasia Papadopoulos, 'Indigenous Participation and the Incorporation of Indigenous Knowledge and Perspectives in Global Environmental Governance Forums: A Systematic Review' (2023)

1.6 Some key challenges and barriers in integrating indigenous knowledge with modern development approaches

Despite its importance, the integration of indigenous knowledge with modern development approaches faces several challenges. Some are explained herein below;

1. Dominance of Western Scientific Paradigms

Modern development institutions often privilege scientific knowledge that is written, measurable, standardized and capable of verification through conventional scientific methods.[105] Indigenous knowledge, which may be oral, holistic, place-based and culturally embedded, can therefore be undervalued or dismissed as informal or unscientific.[106] This creates an epistemic barrier to its meaningful integration into development policy and practice.[107]

2. Lack of Legal and Policy Recognition

Even where indigenous knowledge is acknowledged as valuable, national laws and development policies may fail to provide clear mechanisms for its recognition, protection and incorporation into decision-making.[108] The absence of effective legal and institutional frameworks can result in indigenous knowledge remaining outside formal development planning processes.[109]

3. Power Imbalances and Tokenistic Participation

Indigenous and local communities often engage with governments, corporations, researchers and development agencies from positions of unequal political, economic and technical power.[110] Consequently, communities may be consulted without having any real influence over decisions.

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[105] Agrawal, A. (1995) 'Dismantling the divide between indigenous and scientific knowledge', Development and Change
[106] Ibid
[107] Ibid
[108] Government of Kenya, National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions (2009)
[109] Ibid
[110] Ibid

4. Cultural Erosion and Loss of Indigenous Knowledge

Globalization, urbanization, migration, changing lifestyles and formal education systems can weaken traditional cultural practices and institutions through which indigenous knowledge is preserved and transmitted.[111] The erosion of indigenous languages is particularly significant because knowledge is often embedded in language, cultural concepts and local worldviews.

5. Generational Gaps in Knowledge Transmission

Indigenous knowledge frequently depends upon intergenerational transmission from elders and knowledge holders to younger members of the community.[112] However, migration, formal employment, changing economic conditions and declining involvement in traditional livelihoods can disrupt this process.[113] As a result, valuable knowledge may gradually disappear before it can be preserved, revitalized or meaningfully integrated into contemporary development.

6. Intellectual Property, Misappropriation and Benefit-Sharing Challenges

Conventional intellectual property systems are often poorly suited to protect knowledge that is collectively held, orally transmitted and developed across generations.[114] This exposes indigenous knowledge to unauthorized appropriation or commercial exploitation without the consent of knowledge holders or equitable sharing of benefits.

7. Institutional and Capacity Limitations

Government agencies and development institutions may lack the expertise, resources and procedures necessary to engage effectively with indigenous

[111] United Nations Department of Economic and Social Affairs, Emerging Trends in the Generation, Transmission and Protection of Traditional Knowledge (2019)

[112] Minority Rights Group International, 'Urban Migration and the Loss of Traditional Culture among Endorois Youth in Kenya', in State of the World's Minorities and Indigenous Peoples 2015

[113] Ibid

[114] World Intellectual Property Organization, Traditional Knowledge and Intellectual Property, WIPO Background Brief No 1 (WIPO 2023)

knowledge systems.[115] Similarly, communities may lack access to technical expertise, financial resources, legal assistance or platforms through which they can participate effectively in development decision-making.[116] These institutional and capacity gaps can prevent indigenous knowledge from moving beyond policy rhetoric into practical implementation.[117]

8. Difficulties in Reconciling Different Knowledge Systems

Indigenous knowledge and modern scientific knowledge may differ in their methods, assumptions, validation processes and understanding of the relationship between humans and nature.[118] Scientific institutions may attempt to isolate and test individual components of indigenous knowledge, whereas indigenous knowledge may be holistic and inseparable from cultural, spiritual and social contexts.[119]

1.7 Strategies used to effectively integrate indigenous knowledge into contemporary development policies and practices.

The study suggests that the effective integration of indigenous knowledge into modern development requires a balanced, inclusive and collaborative approach that recognizes indigenous and local communities not merely as sources of information, but as active knowledge holders and partners in the development process. Indigenous knowledge should also be appropriately documented, preserved and promoted in ways that respect the rights, cultural values and

[115] Government of Kenya, The National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions (2009). Available on: https://www.wipo.int/wipolex/en/legislation/details/11300 <Accessed on 25 October 2026>

[116] Ibid

[117] Ibid

[118] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), The Global Assessment Report on Biodiversity and Ecosystem Services (IPBES Secretariat 2019). Available on: https://www.unesco.org/en/links/ipbes <Accessed on 24 October 2026>

[119] Munyaradzi Mawere, 'Indigenous Knowledge and Public Education in Sub-Saharan Africa' (2015) 50(2) International Journal of Sociology and Anthropology

interests of the communities from which it originates.[120]

Equally important is the promotion of interdisciplinary collaboration between indigenous knowledge holders, scientists, policymakers and other stakeholders.[121] Such collaboration can encourage the complementary use of indigenous and scientific knowledge,[122] promote knowledge co-production and contribute to the development of more context-sensitive, innovative and sustainable solutions to contemporary social, economic and environmental challenges.[123]

1.8 Suggestions and Recommendations

Based on the findings of the thematic analysis, the following recommendations are proposed:

a) Policy Recognition and Integration: Government agencies should formally recognize indigenous knowledge systems as valuable sources of knowledge and establish clear mechanisms for incorporating relevant indigenous practices into sustainable development policies and programmes.[124]

b) Documentation and Preservation of Knowledge: Systematic efforts should document and preserve indigenous knowledge through research, digital databases and community-led archives to prevent its loss.

c) Community-Cantered Development Approaches: Development initiatives should involve indigenous communities as active decision-makers, knowledge holders and partners.

d) Integration with Scientific Knowledge: Researchers and policymakers should foster collaboration between indigenous knowledge holders and scientific experts to develop innovative, locally relevant and sustainable solutions.[125]

e) Strengthening Educational Inclusion: Educational institutions should

[120] Ibid
[121] R Hill and others, 'Working with Indigenous, Local and Scientific Knowledge in Assessments of Nature and Nature's Linkages with People' (2020)
[122] Ibid
[123] Ibid
[124] Supra, note 118
[125] Ibid

incorporate indigenous knowledge into curricula, research and community engagement to promote awareness and intergenerational knowledge transfer.[126]

f) Institutional Support and Capacity Building: Dedicated institutional mechanisms should support the preservation, research and application of indigenous knowledge, alongside training programmes that strengthen the capacity of communities and other stakeholders.[127]

g) Promotion of Sustainable Livelihoods: Policies should promote indigenous practices that strengthen sustainable livelihoods, environmental conservation and economic resilience while ensuring that local communities equitably share in the resulting benefits.[128]

h) Ethical Recognition of Indigenous Knowledge Ownership: Future initiatives should respect community ownership, cultural rights and ethical principles in the documentation and application of indigenous knowledge.[129]

Conclusion

This study concludes that indigenous knowledge plays a vital role in promoting sustainable community development by providing locally relevant, culturally grounded and environmentally responsible solutions. It contributes to ecological conservation, sustainable livelihoods, natural resource management, healthcare, community governance and social cohesion. However, modernization, knowledge loss, inadequate documentation, institutional neglect and weak policy recognition continue to threaten its preservation and effective integration.

[126] Ibid
[127] Ibid
[128] Supra, note 122
[129] Ibid

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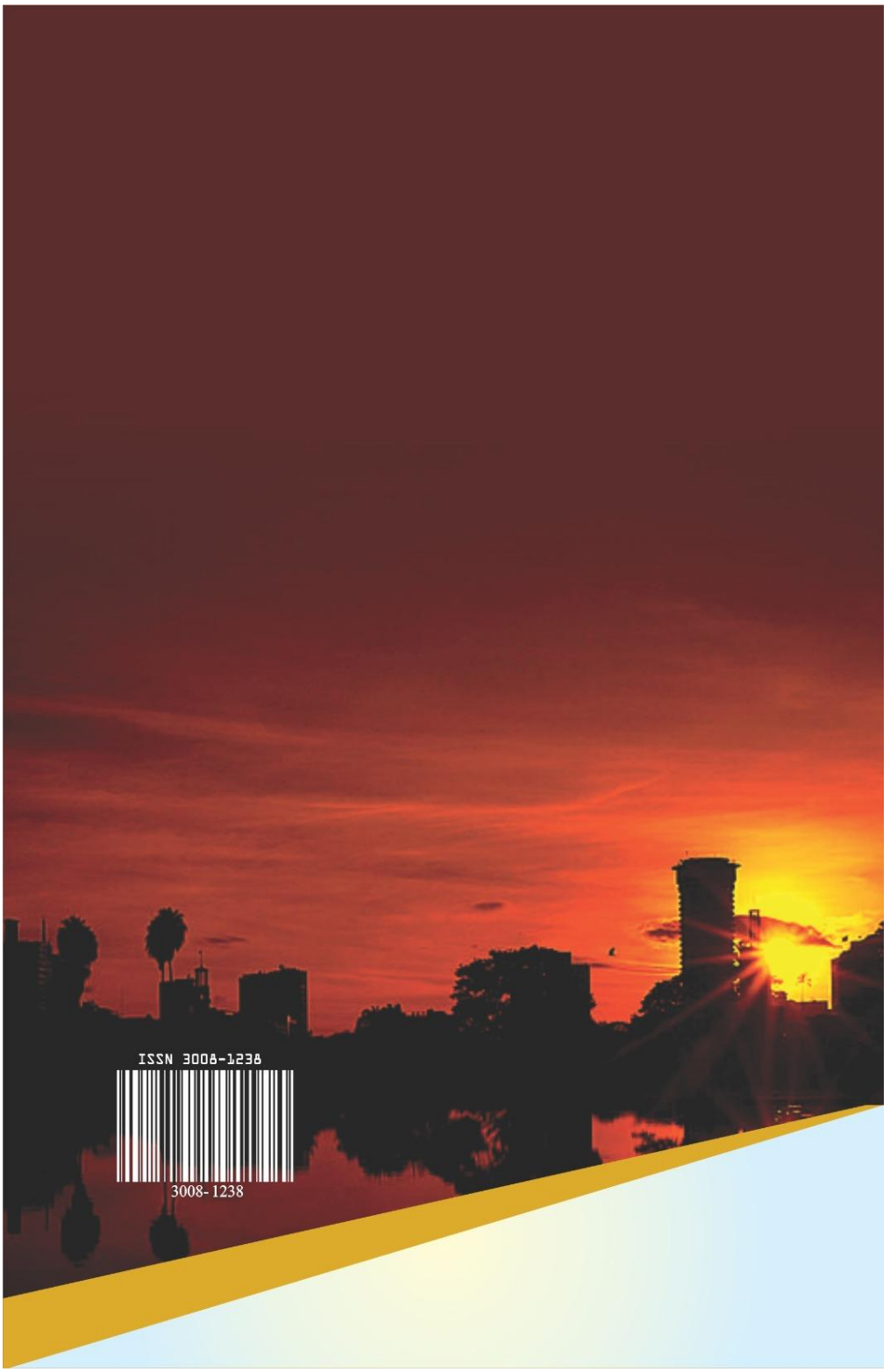
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