

Eradication of Epistemic Injustice in Environmental Governance: Ensuring the Legitimation of Indigenous Ecological Knowledge Systems

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Eradication of Epistemic Injustice in Environmental Governance?: Ensuring the Legitimisation of Indigenous Ecological Knowledge Systems

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Abstract

This paper discusses how the current environmental governance frameworks contribute to epistemic injustice. The paper defines epistemic injustice. It observes that environmental governance approaches in most countries contribute to epistemic injustice by excluding key stakeholders including indigenous peoples, local communities and women from environmental decision-making processes. Consequently, the paper argues that tackling epistemic injustice is vital towards bolstering environmental governance for Sustainable Development. In particular, the paper observes that eradicating epistemic injustice in environmental governance involves harnessing the contribution of environmental knowledge holders including indigenous peoples, local communities and women in environmental decision-making processes. In order to realise this ideal, the paper discusses how indigenous ecological systems can be recognised and legitimised towards eradicating epistemic injustice in environmental governance for Sustainable Development.

1.0 Introduction

Environmental governance is a concept that covers policy, rules and norms that govern human behavior in respect of the environment¹. It has been observed that environmental governance addresses who makes environmental decisions, how decisions relating to the environment are made and carried out, the scientific information needed for environmental decision-making and how the public and major stakeholders can participate in such decision-making processes². In addition, environmental governance has also be defined as the processes of decision-making involved in controlling and managing the environment and natural resources³. It has been observed that environmental governance covers a broad range of legal and other tools employed in both the private and public sectors to foster sound environmental protection⁴. This concept extends beyond government policies, regulations and interventions to involve other stakeholders

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¹ United Nations Environment Programme., 'Environmental Governance' Available at <https://www.unep.org/regions/west-asia/regional-initiatives/environmental-governance> (Accessed on 04/06/2026)

² Ibid

³ What is Environmental Governance., Available at <https://acrobat.adobe.com/id/urn:aaid:sc:EU:a6a47b07-e9e0-4590-8a49-9e55a3bb2a75> (Accessed on 04/06/2026)

⁴ Environmental Law Institute., 'Environmental Governance' Available at <https://www.eli.org/environmental-governance> (Accessed on 04/06/2026)

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including the private sector, non-governmental organizations (NGOs), and the public in environmental decision-making processes⁵. Environmental governance focuses on who makes environmental decisions, how such decisions are made and whether resultant policies and processes lead to environmentally and socially sustainable outcomes⁶.

Sound environmental governance is at the heart of Sustainable Development. For instance, it has been observed that effective environmental governance is key in maintaining and improving the ability of environmental systems to function and to produce ecosystem services through the persistence of species, habitats or biodiversity towards Sustainable Development⁷. The United Nations Environment Programme (UNEP) observes that through robust environmental governance systems, we can safeguard people and planet and accelerate progress towards the 17 Sustainable Development Goals (SDGs)⁸. By building effective, responsive and inclusive environmental governance frameworks, it is possible to achieve environmental goals including sound biodiversity conservation, pollution control, effective management of natural resources and strong climate action both globally and at regional, national and local levels therefore strengthening Sustainable Development efforts⁹. Since the environment contains virtually all resources needed to drive Sustainable Development, sound environmental governance ensures effective management of the environment and natural resources in a sustainable and transparent manner for Sustainable Development, peace and justice¹⁰.

Despite its role in driving Sustainable Development, achieving sound environmental governance remains an elusive dream all over the world. Many countries face challenges such as poor enforcement of environmental laws, policies and regulations, weak environmental institutions, inadequate investments in environmental protection, and lack of diversity and inclusivity in environmental decision-making processes undermining sound environmental governance¹¹. It has been observed that environmental governance systems in most countries are strained, with marginalized groups including indigenous peoples, local communities and women often excluded

⁵ Environmental Governance., Available at <https://www.manglai.io/en/glossary/environmental-governance> (Accessed on 04/06/2026)

⁶ Bennett. N., & Satterfield. T., 'Environmental governance: A Practical Framework to Guide Design, Evaluation, and Analysis' Available at <https://conbio.onlinelibrary.wiley.com/doi/10.1111/conl.12600> (Accessed on 04/06/2026)

⁷ Ibid

⁸ United Nations Environment Programme., 'About environmental rights and governance' Available at <https://www.unep.org/explore-topics/environmental-governance/about-environmental-rights-and-governance> (Accessed on 04/06/2026)

⁹ United Nations Environment Programme., 'Environmental Law and Governance' Available at <https://www.unep.org/topics/environmental-law-and-governance> (Accessed on 04/06/2026)

¹⁰ Bennett. N., & Satterfield. T., 'Environmental governance: A Practical Framework to Guide Design, Evaluation, and Analysis' Op Cit

¹¹ 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 04/06/2026)

from environmental decision-making processes¹². This contributes to epistemic injustice in environmental governance while also fuelling and worsening environmental threats including biodiversity loss, environmental degradation, pollution and climate change¹³. In light of these concerns, it is imperative to strengthen environmental governance towards Sustainable Development.

This paper discusses how the current environmental governance frameworks contribute to epistemic injustice. The paper defines epistemic injustice. It observes that environmental governance approaches in most countries contribute to epistemic injustice by excluding key stakeholders including indigenous peoples, local communities and women from environmental decision-making processes. Consequently, the paper argues that tackling epistemic injustice is vital towards bolstering environmental governance for Sustainable Development. In particular, the paper observes that eradicating epistemic injustice in environmental governance involves harnessing the contribution of environmental knowledge holders including indigenous peoples, local communities and women in environmental decision-making processes. In order to realise this ideal, the paper discusses how indigenous ecological systems can be recognised and legitimised towards eradicating epistemic injustice in environmental governance for Sustainable Development.

2.0 Epistemic Injustice in Environmental Governance

Epistemic injustice refers to the injustice that a person suffers specifically in their capacity as a knower or epistemic agent – that is, as someone who produces, conveys, or uses knowledge¹⁴. Epistemic injustice has also been described as the discrimination and inequality that relates to people as knowers¹⁵. Epistemic injustice means that some people are unable to participate equally in the production, dissemination and circulation of knowledge¹⁶. Further, it has been observed that epistemic injustice occurs when a person is mistreated in their capacity as a producer or receiver of knowledge¹⁷. Epistemic injustice therefore arises when someone is wronged specifically in their capacity as a knower¹⁸.

¹² Ibid

¹³ Ibid

¹⁴ Amandine. C., ‘Epistemic Injustice’ Available at <https://www.rep.routledge.com/articles/thematic/epistemic-injustice/v-1> (Accessed on 04/06/2026)

¹⁵ Epistemic Injustice: What Is It and How Does It Relate to Poverty?., Available at <https://www.atd-fourthworld.org/epistemic-injustice/> (Accessed on 04/06/2026)

¹⁶ Ibid

¹⁷ Tobi. A., ‘Epistemic Injustices Online’ Available at <https://link.springer.com/article/10.1007/s11245-024-10100-4> (Accessed on 04/06/2026)

¹⁸ Byskov. M. F., ‘What Makes Epistemic Injustice an “Injustice”?’ Available at <https://onlinelibrary.wiley.com/doi/full/10.1111/josp.12348> (Accessed on 04/06/2026)

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Epistemic injustice usually arises due to prejudicial stereotypes against members in a particular social group¹⁹. It has been observed that prejudicial stereotypes that perpetuate epistemic injustices are usually a point of reference to the differential power relations among members of society²⁰. Consequently, in typical cases of epistemic injustice, members of socially vulnerable and marginalised groups are the victims, while members of socially dominant groups are the perpetrators²¹. It has been argued that epistemic injustice is problematic and undesirable since it undermines individuals' epistemic agency, or their capacity to produce, convey, or use knowledge²².

It has been observed that epistemic injustice is evident in environmental governance due to systematic dismissal and disapproval of crucial knowledge holders including indigenous peoples, local communities and rural women²³. Indigenous peoples, local communities and rural women are important producers of knowledge systems that have played a key role in sound environmental governance for many centuries. For instance, it has been observed that indigenous peoples and local communities have practiced sound environmental stewardship for millennia, guided by knowledge that is deeply rooted in the local context and has been passed down through generations often emphasizing harmony with nature²⁴. Local knowledge of plants, animals, ecosystem, landscapes, and resource management systems has enabled indigenous peoples and local communities to work with nature for many centuries towards ensuring effective environmental governance including through tackling environmental threats such as climate change, environmental degradation and biodiversity loss²⁵. In particular, it has been observed that traditional farming, agriculture and resource management systems including agroforestry, inter cropping, cover cropping, use of drought resistant and climate-resilient crops, biological management of pests and diseases, water management and conservation of vital ecosystems including forests have ensured that indigenous peoples and local communities harness the power of nature towards achieving food security, conserving water, mitigating climate change and fostering biodiversity conservation towards sound environmental governance²⁶.

¹⁹ Tobi. A., 'Epistemic Injustices Online' Op Cit

²⁰ Ibid

²¹ Ibid

²² Amandine. C., 'Epistemic Injustice' Op Cit

²³ Gosselin. L., & Gauquelin. M., 'Rethinking Knowledge Cumulation: Foregrounding Epistemic Justice in Environmental Governance Research' Available at <https://onlinelibrary.wiley.com/doi/full/10.1002/eet.2168> (Accessed on 04/06/2026)

²⁴ International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Available at <https://www.iisd.org/articles/insight/nature-based-solutions-indigenous-peoples> (Accessed on 04/06/2026)

²⁵ Sinthumule. N., 'Traditional Ecological Knowledge and its Role in Biodiversity Conservation: A Systematic Review' *Frontiers in Environmental Science.*, Volume 11 (2023)

²⁶ Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Available at https://www.linkedin.com/pulse/harnessing-indigenous-knowledge-climate-change-africa-aatifah-latief/?utm_source=share&utm_medium=member_android&utm_campaign=share_via (Accessed on 04/06/2026)

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Indigenous knowledge systems have produced sustained ecological benefits for centuries by expanding species habitats, enhancing plant diversity, increasing hunting sustainability, aiding seed dispersal and improving soil nutrients²⁷. It has been argued that indigenous peoples and local communities are at the heart of environmental conservation efforts throughout the world since conserving biodiversity relies on the knowledge, innovations and practices of those who live in direct contact with nature²⁸. In particular, it has been observed that indigenous peoples, local communities and rural women have utilised their Traditional Ecological Knowledge (TEK) to ensure sound environmental governance since time immemorial. TEK refers to a cumulative body of knowledge, practices and beliefs, handed down from generation to generation by cultural transmission, which focuses on the relationship between living organisms (including humans) and their environment²⁹. TEK has been described as a knowledge base acquired by indigenous peoples and local communities all over the world through direct contact with their environment for many centuries³⁰. It has been argued that TEK is at the heart of environmental governance since it has enabled indigenous peoples, local communities and rural women to live sustainably for many centuries³¹. TEK includes traditional and sustainable approaches to agriculture, hunting, fishing, water management, forestry and ecosystem management thus strengthening the resilience of both people and planet in light of environmental threats such as climate change, biodiversity loss and environmental degradation³².

Indigenous peoples, local communities and rural women are therefore vital knowledge holders who utilise their TEK to ensure sound environmental governance for people and planet. However, it has been observed that TEK is largely ignored in contemporary environmental governance approaches with modern science being heavily emphasized³³. Too much emphasis on modern scientific knowledge has resulted in TEK being marginalised and disregarded as inferior

²⁷ International Institute for Environment and Development., 'Indigenous knowledge and values: key for nature conservation' Available at <https://www.iied.org/sites/default/files/pdfs/2021-08/20351IIED.pdf> (Accessed on 04/06/2026)

²⁸ United Nations Environment Programme., 'Environmental Rule of Law: Tracking Progress and Charting Future Directions.' Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/43943/Environmental_rule_of_law_progress.pdf?sequence=3 (Accessed on 04/06/2026)

²⁹ Traditional Ecological Knowledge., Available at <https://www.bia.gov/service/fuels-management/traditional-knowledge> (Accessed on 04/06/2026)

³⁰ Traditional Ecological Knowledge., Available at https://www.edu.gov.mb.ca/k12/docs/support/sila_video/tek.pdf (Accessed on 04/06/2026)

³¹ What is Traditional Ecological Knowledge?., Available at <https://edm-1.itrcweb.org/what-is-traditional-ecological-knowledge/> (Accessed on 04/06/2026)

³² International Fund for Agricultural Development., 'Indigenous Peoples' Available at <https://www.ifad.org/en/indigenous-peoples#:~:text=Indigenous%20Peoples%20are%20the%20custodians,investments%20based%20on%20their%20perspectives> (Accessed on 04/06/2026)

³³ The African Manifesto for Science, Technology and Innovation., Available at https://atpsnet.org/wp-content/uploads/2017/05/the_african_manifesto_for_sti.pdf (Accessed on 04/06/2026)

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and unscientific undermining its role in environmental governance³⁴. The application of indigenous ecological knowledge including TEK in environmental governance remains inconsistent due to historical marginalisation, weak legal protections, and systemic biases in laws, policies and science³⁵. It has been observed that indigenous ecological knowledge systems which have played a key role in shaping environmental governance and sustainability, especially in the Global South for many centuries, are usually ignored and deemed inferior, 'uncodified' and 'unscientific'³⁶.

It has been correctly noted that the exclusion, marginalisation and underrepresentation of indigenous ecological knowledge systems from global, regional and national environmental governance frameworks amounts to epistemic injustice³⁷. This situation disproportionately affects indigenous peoples, local communities and rural women who hold valuable knowledge systems that can contribute to sound environmental governance³⁸. It also undermines effective use of indigenous ecological knowledge systems including TEK for environmental conservation leading to environmental threats such as climate change, resource depletion, biodiversity loss and environmental degradation³⁹. Epistemic injustice leads to neglect of TEK in favour of contemporary science in environmental governance, a situation that can cause the loss and erosion of vital ecological knowledge systems, practices and wisdom that have enabled indigenous peoples, local communities and rural women to live in harmony with nature throughout human history⁴⁰. Consequently, it is imperative to eradicate epistemic injustice in order to foster sound environmental governance through indigenous ecological knowledge systems.

3.0 Eradicating Epistemic Injustice in Environmental Governance by Legitimising Indigenous Ecological Knowledge Systems

Epistemic injustice is widespread in environmental governance frameworks all over the world due to failure to recognise indigenous ecological knowledge systems⁴¹. This leads to discrimination, marginalization and exclusion of crucial knowledge holders including indigenous peoples, local communities and rural women from decision-making processes undermining sound

³⁴ Ibid

³⁵ Integrating Indigenous Knowledge Systems into Global Policy Frameworks., Available at <https://t20southafrica.org/publications/integrating-indigenous-knowledge-systems-into-global-policy-frameworks/#:~:text=Policy%20Brief-.Integrating%20Indigenous%20Knowledge%20Systems%20into%20Global%20Policy%20Frameworks,foundation%20f%20operationalising%20this%20transformation.> (Accessed on 04/06/2026)

³⁶ The African Manifesto for Science, Technology and Innovation., Op Cit

³⁷ International Institute for Sustainable Development., 'Indigenous Knowledge and Epistemic Injustice in National Climate Planning' Available at <https://sdg.iisd.org/commentary/guest-articles/indigenous-knowledge-and-epistemic-injustice-in-national-climate-planning/> (Accessed on 04/06/2026)

³⁸ Ibid

³⁹ Ibid

⁴⁰ Oando. O.C., 'Incorporating traditional ecological knowledge into science education, a case study of Mbita sub-county' Available at <https://rjikm.org/index.php/rjikm/article/view/120> (Accessed on 04/06/2026)

⁴¹ Gosselin. L., & Gauquelin. M., 'Rethinking Knowledge Cumulation: Foregrounding Epistemic Justice in Environmental Governance Research' Op Cit

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environmental governance⁴². In particular, epistemic injustice leads to the marginalisation of TEK, a valuable indigenous ecological knowledge system that has been at the heart of environmental governance and sustainability since time immemorial by emphasizing harmony between humanity and nature⁴³. Eradicating epistemic injustice in environmental governance is therefore necessary in order to harness indigenous ecological knowledge systems including TEK for sound environmental protection and Sustainable Development.

In order to eliminate epistemic injustice in environmental governance, it is imperative to legitimise indigenous ecological knowledge systems including TEK. Indigenous ecological knowledge systems including TEK stem from centuries-old observation and interaction with nature and are a valuable resource in ensuring sound environmental governance and conservation⁴⁴. For instance, TEK encompasses practical ways through which indigenous peoples and local communities ensure the balance of the environment in which they live, so that it may continue to provide services such as clean water, fertile soil, food, shelter and medicines⁴⁵. Legitimising these knowledge systems is therefore a practical and valuable approach towards strengthening environmental governance for sustainability.

Tackling epistemic injustice in environmental governance therefore involves recognising the key role of indigenous ecological knowledge systems in the Sustainable Development discourse. This can be achieved through utilising TEK in environmental governance. In particular, there is need to involve knowledge-holders including indigenous peoples, local communities and rural women in environmental decision-making processes⁴⁶. It has been correctly observed that a person is subject to epistemic injustice when they are being unfairly excluded, silenced or not taken seriously within a decision-making process⁴⁷. Consequently, involving indigenous peoples, local communities and rural women in environmental decision-making processes is key towards tackling epistemic injustice while simultaneously harnessing their valuable indigenous ecological knowledge systems for sound environmental protection⁴⁸.

⁴² Ibid

⁴³ Integrating Indigenous Knowledge Systems into Global Policy Frameworks., Op Cit

⁴⁴ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Available at <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> (Accessed on 05/06/2026)

⁴⁵ Ibid

⁴⁶ International Institute for Sustainable Development., 'Indigenous Knowledge and Epistemic Injustice in National Climate Planning' Op Cit

⁴⁷ Ibid

⁴⁸ Ibid

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In addition, it is imperative to mainstream indigenous ecological knowledge systems with contemporary science towards effectively tackling epistemic injustice⁴⁹. It has been correctly noted that integrating indigenous ecological knowledge systems such as TEK with contemporary science provides an opportunity to strengthen environmental governance by enriching ecological understanding, enhancing cultural inclusivity in decision-making processes, and achieving sustainable management outcomes that are both scientifically sound and socially acceptable⁵⁰. Combining TEK with contemporary science creates robust environmental governance systems that blend centuries-old indigenous approaches with modern data-driven and technological solutions for effective and sustainable solutions⁵¹. Integrating TEK with contemporary science is therefore a suitable approach towards legitimising indigenous ecological knowledge systems in the pursuit of sound environmental governance.

Investing in cultural preservation is also key in ensuring the legitimization of indigenous ecological knowledge systems towards eradicating epistemic injustice. It has been observed that investing in preservation and transmission of indigenous culture and knowledge systems through strengthening indigenous education systems and documenting oral traditions and cultural practices can ensure that this valuable knowledge is available for use now and in the future⁵². In particular, preserving TEK including through integrating it in environmental education can ensure that this valuable resource is transmitted to future generations towards effectively governing the environment for Sustainable Development⁵³. Investing in cultural preservation is therefore key towards legitimising indigenous ecological knowledge systems for posterity.

4.0 Conclusion

Eradicating epistemic injustice is a key agenda towards harnessing indigenous ecological knowledge systems for sound environmental governance. This can be attained through involving knowledge-holders including indigenous peoples, local communities and women in environmental decision-making processes, combining TEK with contemporary science for holistic environmental

⁴⁹ Siringan. B., 'Integrating traditional ecological knowledge in modern conservation practices' Available at <https://www.ujecology.com/articles/integrating-traditional-ecological-knowledge-in-modern-conservation-practices-1104216.html> (Accessed on 05/06/2026)

⁵⁰ Ibid

⁵¹ Create Synergy between Traditional Knowledge and Modern Science., Available at <https://satoyamainitiative.org/activities/ipsi-collaborative-activities/create-synergy-between-traditional-knowledge-and-modern-science/> (Accessed on 05/06/2026)

⁵² United Nations., 'Indigenous People's Traditional Knowledge Must Be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session' Available at <https://press.un.org/en/2019/hr5431.doc.htm> (Accessed on 05/06/2026)

⁵³ Harnessing Indigenous Knowledge Systems for Global Knowledge Cooperation., Available at https://www.idos-research.de/fileadmin/user_upload/pdfs/publikationen/aktuelle_kolumne/2024/German_Institute_of_Development_and_Sustainability_EN_Segueda_Banerjee_28.10.2024.pdf (Accessed on 05/06/2026)

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governance approaches and preserving and transmitting TEK for posterity⁵⁴. Eradicating epistemic injustice in environmental governance is therefore a critical global agenda towards Sustainable Development. It is imperative to ensure the legitimation of indigenous ecological knowledge systems towards achieving this agenda for posterity.

⁵⁴ International Institute for Sustainable Development., 'Indigenous Knowledge and Epistemic Injustice in National Climate Planning' Op Cit

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