



CASE STUDY BRIEF

GENDER DYNAMICS IN SUSTAINABLE USE AND MANAGEMENT OF BIODIVERSITY AND ECOSYSTEM SERVICES:

A Human Rights-Based Approach in Desert and Hill Ecosystems of Botswana

Dr Keadire Khola Mogotsi

Consultant: Agriculture and Sustainable Natural Resources Management
Contributed as expert to the Botswana National Ecosystem Assessment

GLOSSARY

ABS	Access and Benefit-Sharing
BES-Net	Biodiversity and Ecosystem Services Network
BUAN	Botswana University of Agriculture and Natural Resources
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resources Management
CBOs	Community-Based Organisations
FPIC	Free, Prior and Informed Consent
GoB	Government of Botswana
HRBA	Human Rights-Based Approach
IKI	International Climate Initiative
KMGF	Kunming-Montreal Global Biodiversity Framework
NBSAP	National Biodiversity Strategy and Action Plan
NEA	National Ecosystem Assessment
NTFPs	Non-Timber Forest Products
PES	Payments for Ecosystem Services
PWDs	Persons with Disabilities
TK	Traditional Knowledge
UNCBD	United Nations Convention on Biological Diversity
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization

Setswana terms. *Kgotla* — the traditional community assembly and customary forum for deliberation. *Dikgosi* — traditional leaders (singular *Kgosi*). *Meila* — customary taboos governing the use of natural resources.

BACKGROUND

This document draws on the case study “Gender Dynamics in the Utilisation and Management of Biodiversity and Ecosystem Services through a Human Rights-Based Approach (HRBA) in Desert and Hill Ecosystems of Botswana,” developed within the framework of Botswana's National Ecosystem Assessment. The study examines how gender, Traditional Knowledge (TK) and institutional arrangements shape the way local communities access, use, manage and benefit from biodiversity, and how far Botswana's national policy commitments translate into equitable outcomes at community level.

Inputs from the case study were included in the Botswana National Ecosystem Assessment [Technical Report](#) and [Summary for Policymakers](#). The Assessment is a Ministry of Environment and Tourism project implemented by Botswana University of Agriculture and Natural Resources (BUAN) as part of the Biodiversity and Ecosystem Services Network ([BES-Net](#)) Phase II, with technical support from the National Ecosystem Assessment (NEA) Initiative at UNEP-WCMC, and is supported by the International Climate Initiative (IKI) of the Federal Government of Germany.

The case study was carried out in seven villages across two ecologically and culturally distinct regions: the desert ecosystem of Kgalagadi South (Middlepits and Khawa) and the hill ecosystem of the Tswapong Hills (Lecheng, Ratholo, Mokokwane/Mosweu and Moremi). It applied a mixed-methods, participatory approach grounded in the core Human Rights-Based Approach (HRBA) principles of participation, accountability, non-discrimination and empowerment, and anchored in the key human rights relevant to biodiversity set out in the Convention of Biological Diversity's (CBD) guidance on integrating human rights into National Biodiversity Strategies and Action Plans (NBSAPs). Evidence was gathered through community consultations held via the kgotla, an online survey of policy, academic, civil-society and private-sector stakeholders, and two validation exercises — engaging some 387 participants in total, including traditional leaders (Dikgosi), women, youth, persons with disabilities (PWDs) and TK holders.

By documenting the lived realities of these communities alongside the perspectives of duty-bearers, the study provides practical, ecosystem-specific insight into what a rights-based approach to biodiversity conservation, management and sustainable use requires in practice. This brief distils its most policy-relevant findings to inform ongoing implementation of the NBSAP and Botswana's wider biodiversity governance agenda.

AT A GLANCE

387

PARTICIPANTS

Dikgosi, women, youth, persons with disabilities and Traditional Knowledge holders

2

ECOSYSTEMS

The desert ecosystem of Kgalagadi South and the hill ecosystem of the Tswapong Hills

7

VILLAGES

Middlepits and Khawa; Lecheng, Ratholo, Mokokwane, Mosweu and Moremi

THE FOUR HRBA PRINCIPLES

What the case study found against each principle.

PARTICIPATION

Participation in biodiversity governance remains largely procedural rather than substantive.

NON-DISCRIMINATION

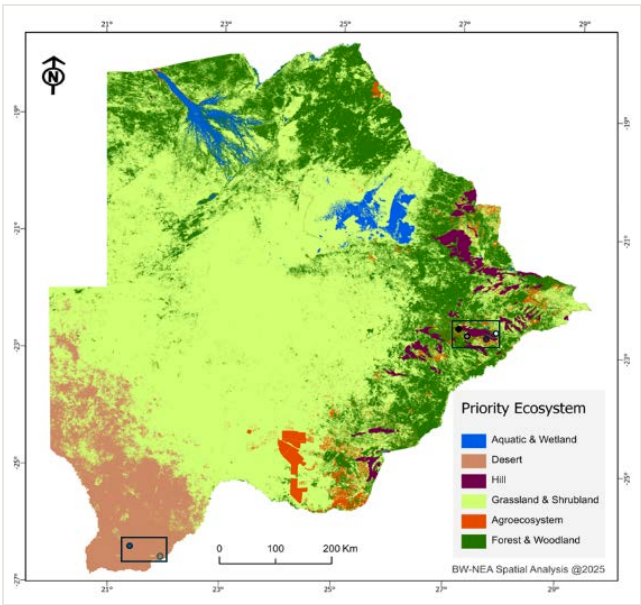
Women, youth, PWDs, and local communities are often consulted symbolically but lack decision-making power.

ACCOUNTABILITY

Limited rights awareness, poor information access, digital exclusion, and ineffective grievance mechanisms reinforce power asymmetries and deny effective remedies.

EMPOWERMENT

An HRBA provides a pathway to address these challenges by recognising communities as rights-holders and institutions as duty-bearers.



THE TWO STUDY AREAS

The desert ecosystem of Kgalagadi South, in the south-west, and the hill ecosystem of the Tswapong Hills, in the east, set against Botswana's priority ecosystems.

Source: BUAN & GoB (2025)

EXECUTIVE SUMMARY

Botswana has demonstrated strong policy commitments to biodiversity conservation, sustainable use, and equitable benefit-sharing, as reflected in the 2026-2030 NBSAP, the Botswana Access and Benefit-Sharing Act (2022), and the national implementation of international frameworks, including the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing Arising from the Utilisation to the Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework. However, evidence from the Tswapong hills and Kgalagadi desert ecosystems reveals persistent gaps between policy commitments and community-level implementation.

Participation in biodiversity governance remains largely procedural rather than substantive. Women, youth, PWDs, and local communities are often consulted symbolically but lack decision-making power. Traditional leaders (Dikgosi), despite their cultural legitimacy are marginalised within statutory systems. Inequitable benefit-sharing, restrictive permit regimes, weak protection of TK, and policy incoherence across biodiversity, land, wildlife, gender, and climate frameworks further undermine conservation legitimacy.

An HRBA provides a pathway to address these challenges by recognising communities as rights-holders and institutions as duty-bearers. Advancing a HRBA requires genuine power-sharing, harmonisation of statutory and customary systems, ecosystem-specific livelihood strategies, strengthened TK protection, equitable benefit-sharing mechanisms, and improved grievance and accountability systems. Without these reforms, both ecological integrity and social justice remain at risk.



© Keadire Khola Mogotsi

KEY MESSAGES

The following key messages, drawn from the case study demonstrate the effective application of a HRBA to gender equality, biodiversity conservation and management, and the sustainable utilisation of biodiversity and ecosystem services in Botswana:

01 Institutionalising HRBA in biodiversity governance by explicitly recognising communities as rights-holders and relevant institutions as duty-bearers in the implementation of the NBSAP.

02 Mainstreaming the inclusion of women, youth, and PWDs through reserved representation, targeted livelihood support, and accessible participation mechanisms.

03 Formalising co-governance arrangements that recognise Dikgosi and customary institutions as co-decision-makers in land, biodiversity, and conservation governance.

04 Adopting ecosystem-specific, community-driven development approaches, replacing one-size-fits-all agricultural and conservation programmes.

05 Reforming permit and regulatory systems for non-timber forest products (NTFPs), hunting, and ecosystem-based livelihoods to ensure transparency, accessibility, and community-defined rules.

06 Strengthening benefit-sharing mechanisms, including Payments for Ecosystem Services (PES) and community-led biodiversity management and ecosystem services, such as community-based tourism.

POLICY CHALLENGES

Botswana's biodiversity governance architecture is robust in principle but uneven in practice. National frameworks, including the NBSAP, wildlife and land policies, and gender and climate strategies recognise conservation, sustainable use, and equity. These commitments align with international frameworks such as the Sustainable Development Goals, African Union Agenda 2063, and Botswana's Vision 2036.

However, implementation gaps persist at community level. Participation mechanisms are largely procedural, with limited decision-making authority for local communities, women, youth, and PWDs. Customary institutions, particularly Dikgosi, are acknowledged symbolically but excluded operationally. Communities bear significant conservation costs, including restricted access to grazing, veld products, hunting, and exposure to human-wildlife conflict while benefits from tourism, Community Based Natural Resources Management (CBNRM) programme, and ecosystem services remain limited, delayed, or inequitably distributed.

Regulatory regimes fail to recognise differentiated dependence on biodiversity resources. Women depend heavily on NTFPs, men on grazing and land systems, youth on emerging green economies, and PWDs face systemic barriers. TK systems once central to stewardship are eroding due to criminalisation, weak intellectual property protection, and extractive research practices.

These gaps undermine HRBA principles of participation, accountability, non-discrimination, empowerment, and legality. Without policy reforms, conservation risks losing social legitimacy, thereby weakening both ecological sustainability and community trust.

WITHOUT POLICY REFORMS, CONSERVATION RISKS LOSING SOCIAL LEGITIMACY, THEREBY WEAKENING BOTH ECOLOGICAL SUSTAINABILITY AND COMMUNITY TRUST.

KEY FINDINGS

Evidence from community consultations, surveys, and multi-stakeholder validation processes in hill and desert ecosystems reveals six key findings:

1

Procedural Community Participation Not Substantive

Consultations are often one-off, late-stage, and non-binding. Women, youth and PWDs face barriers related to cost, distance, language, and digital exclusion. Traditional leaders are sidelined once projects move beyond consultation to implementation.

2

Inequitable Benefit-Sharing

Communities often bear a significant share of the cost associated with conservation restrictions and human-wildlife, while receiving limited and, in some cases, unevenly distributed benefits. Where benefits are generated they may be managed or distributed through arrangements that provide limited opportunities for community participation and decision-making, which can weaken incentives for long-term stewardship.

3

Differentiated Livelihood Dependence

Recognising different ways in which diverse groups depend on and interact with biodiversity and ecosystem services is crucial to ensure inclusive and participatory conservation approaches. Women often rely on biodiversity and ecosystem services for firewood, medicinal plants, wild fruits, craft materials, men may depend on these resources for livestock, grazing, land allocation, hunting ethics, while youth increasingly engage in eco-tourism, informal trade, green entrepreneurship. PWD may also face barriers to accessing and benefiting from biodiversity and ecosystem services due to inaccessible systems and limited opportunities for participation.



Mahupu
(Kgalagadi truffle)



Kgengwe
(Kgalagadi melon)



Morula
(marula fruit)



Phane worm
(on mophane)



Mungongo
processing by women

Non-timber forest products and the Traditional Knowledge around them. © Keadire Khola Mogotsi

4

Erosion of Traditional Knowledge

TK, including taboos (meila), sacred site protection, rainmaking rituals, and customary governance historically support biodiversity conservation. Weak implementation of access and benefit sharing (ABS) measures and intellectual property contributes to the loss of knowledge and mistrust among local communities.

5

Policy Incoherence

Contradictions across biodiversity, land, wildlife, agriculture, gender, and climate policies weaken HRBA implementation and undermine the right of women, youth and PWD to equitable and sustainable development.

6

Weak Accountability and Grievance Systems

Limited rights awareness, poor information access, digital exclusion, and ineffective grievance mechanisms reinforce power asymmetries and deny effective remedies.



© Keadire Khola Mogotsi

HRBA IN PRACTICE

Consultative meetings in the desert and hill ecosystems, covering participation, inclusion, equity, accountability, self-determination and indigenous knowledge systems.



© Keadire Khola Mogotsi

POLICY OPTIONS

Implementing a HRBA in biodiversity governance requires the alignment of statutory and customary systems, legal reforms, institutional restructuring, and capacity-building.

Key policy options include:

A · GOVERNANCE REFORM

Operationalisation of HRBA in Biodiversity Governance

Address the root causes of inequality and governance fragmentation in biodiversity and ecosystem services across all sectors of the economy through:

- Explicit recognition of communities as rights-holders in the implementation of the NBSAP.
- Ecosystem-specific livelihood strategies.
- Gender, youth, and disability-responsive biodiversity governance.
- Formal recognition and protection of TK.
- Harmonisation of biodiversity, land, wildlife, agriculture, and climate policies.
- Digitally inclusive platforms that strengthen meaningful and accessible participation.

Policy Reform within Existing Structures

Strengthen consultation guidelines, improve gender mainstreaming, enhance grievance mechanisms, and expand sensitisation in local languages.

Institutionalised Co-Governance

Formalise co-management arrangements between communities, Dikgosi, and statutory authorities. Free, Prior, and Informed Consent (FPIC) shall be ensured in biodiversity projects and policy development or activities that may affect the rights, lands, territories, resources, livelihoods, or cultural heritage of local communities.

B · LIVELIHOODS AND BENEFITS

Establishment and Implementation of PES

To compensate communities as custodians of biodiversity and ecosystems through monetary and non-monetary benefit sharing.

Communities' Livelihoods Improvement

Establish equitable access, benefit-sharing, and inclusive biodiversity-based economic opportunities that support both biodiversity conservation and the right to equitable and sustainable development.

Gender Dynamics and Inclusion

Address structural inequalities and establish substantive participation in biodiversity governance and decision-making to women and men.

C · KNOWLEDGE AND ACCOUNTABILITY

Traditional Knowledge

Strengthen TK systems by formally recognising, protecting, and integrating customary laws, practices, and intergenerational knowledge transmission into biodiversity governance, conservation planning, and sustainable livelihood systems through a HRBA.

Institutional Linkages and Reforms

Facilitate an enabling accountability, coordination and inclusive biodiversity governance through effective collaboration between communities, customary authorities, and formal institutions.

Policy Frameworks aligned to HRBA

Promote coherent, participatory, and accountable biodiversity governance by including a HRBA across sectors and development priorities.

IMPLEMENTATION NOTES

PHASED APPROACH

Pilot HRBA-based co-governance models for biodiversity conservation, management, sustainable utilisation, and ecosystem services in Tswapong and Kgalagadi South before national rollout.

CAPACITY-BUILDING

Train public officials, academics, researchers, Dikgosi, and Community-Based Organisations (CBOs) in HRBA principles and gender-responsiveness in biodiversity governance, conservation, management, sustainable utilisation, and ecosystem services.

BIODIVERSITY POLICY ALIGNMENT

Align biodiversity legal frameworks — including agriculture, forestry, land, water, and wildlife — with those concerning intellectual property and ABS, for better coordination and sustainable use of natural resources and ecosystems.

MONITORING

Develop gender-disaggregated and rights-based biodiversity indicators, supported by reliable data sources, to monitor the implementation of HRBA in biodiversity conservation, management, sustainable utilisation, and ecosystem services.

DIGITAL INCLUSION

Invest in digital connectivity as an enabling right for participation and accountability.

SOURCES

BIBLIOGRAPHY

- BES-Net. Trialogue in National Ecosystem Assessments. <https://www.ecosystemassessments.net/content/uploads/2022/10/Trialogue-Guidance-PDF-Export.pdf> (Accessed: 1 October 2025)
- Botswanan Vision 2036 Presidential Task Team (2016). Vision 2036. <https://www.statsbots.org.bw/sites/default/files/documents/Vision%202036.pdf> (Accessed: 2 October 2025)
- Department of Environmental Affairs (2016). National Biodiversity Strategy and Action Plan. <https://www.cbd.int/doc/world/bw/bw-nbsap-v3-en.pdf> (Accessed: 10 October 2025)
- Hambira et al. (2023). BUAN. Botswana national ecosystem assessment updated scoping report. https://www.ecosystemassessments.net/content/uploads/2024/05/Botswana-National-Ecosystem-Assessment-Scoping-Report_2023_final.pdf (Accessed: 2 October 2025)
- Tselaesele, et al (2023). Leveraging traditional and scientific knowledge for a sound Botswana National Ecosystem Assessment. UNESCO. <https://www.unesco.org/en/articles/leveraging-traditional-and-scientific-knowledge-sound-botswana-national-ecosystem-assessment> (Accessed: 22 October 2025)
- UNCBD (2022). Kunming-Montreal Global Biodiversity Framework (KMGF), Decision Adopted by the Conference of the Parties To the Convention on Biological Diversity. <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf> (Accessed: 27 January 2026)
- UN Women. (2020). Progress of the World's Women 2019–2020: Families in a Changing World. <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2019/Progress-of-the-worlds-women-2019-2020-en.pdf> (Accessed: 1 October 2025)
- UNCBD (2020). Guidance on integrating human rights in National Biodiversity Strategy and Action Plans (NBSAPs). <https://www.cbd.int/doc/nbsap/Integrating-human%20rights-in-NBSAPs.pdf> (Accessed: 27 November, 2025)
- UNCBD (2014). Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity. Montreal, Canada. <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf> (Accessed: December 2025)

IN PARTNERSHIP WITH



Supported by:



Federal Ministry
for the Environment, Climate Action,
Nature Conservation and Nuclear Safety



INTERNATIONAL
CLIMATE
INITIATIVE

based on a decision of
the German Bundestag

DISCLAIMER

The content of this publication is the sole responsibility of the author(s). The views expressed in this publication can under no circumstances be regarded as reflecting the position of the BES-Net Consortium partners and donors.

Cover and interior photographs © Keadire Khola Mogotsi