Part III – Governance and management effectiveness

9. Equitably governed protected and conserved areas in ESARO
Springer et al. (2021) state that natural resource governance “is a critical determinant of the social equity, effectiveness, and sustainability of natural resource use and conservation.” However, they also note that natural resource governance is “poorly understood and weakly addressed in many natural resource and conservation contexts.” This is particularly relevant in the ESAPO region, where conservation actors do not incorporate long-term natural resource governance planning into their conservation strategies, and where such planning is not included in the conservation education curriculum.

As a result, our approach in this chapter is to first provide an understanding of natural resource governance concepts before discussing the governance of protected and conserved areas in ESAPO. The goal of this approach is to empower conservation actors in the region with the knowledge to undertake natural resource governance planning that is conceptually well-informed and suitable for their local context.

9.1. What is equitable governance?

Target 3 of the Kunming-Montreal Global Biodiversity Framework (GBF) calls on Parties to conserve at least 30% of land, inland waters, and coastal and marine areas through systems of protected areas and other effective area-based conservation measures (OECMs), recognising Indigenous and traditional territories (CBD, 2022). An important qualifier is that these areas must be equitably governed.

Governance is understood in many different ways. Broadly, it concerns how and by whom decisions are made and upheld (Borrini-Feyerabend et al., 2013), including rights, responsibilities, power, and voice (Borrini-Feyerabend et al., 2013; 2014, Graham et al., 2003). Governance quality or “good governance” is often assessed in relation to governance principles. For example, the IUCN identifies legitimacy and voice, direction, performance, accountability, and fairness and rights as principles of equitable and effective PCA governance (Borrini-Feyerabend et al., 2013).

The word ‘equity’ captures the notion of fairness, and voluntary guidance adopted by Parties to the CBD at COP14 may be applied in any context for nature conservation and sustainable development. In that guidance, equity is understood as comprising three dimensions: recognition, procedure, and distribution:

1. **Recognition** refers to the acknowledgement of and respect for the rights and diversity of identities, values, knowledge systems, and institutions of rights-holders and stakeholders.
2. **Procedure** refers to the transparency, accountability, and inclusiveness of the governance processes of rule- and decision-making.
3. **Distribution** refers to mitigating costs that affect Indigenous and local communities and equitably sharing the benefits resulting from the management of protected areas.

Equity in conservation is a matter of governance (Franks et al., 2018). Connecting equity to governance therefore emphasises outcomes (distribution) as well as equitable participation, representation, and power relations in decision- and rule-making (procedure) and recognition and respect for rights and diverse knowledge (recognition), including the rights of Indigenous Peoples and Local Communities. Enhancing equity not only contributes to more successful and effective biodiversity conservation (Oldekop et al., 2016), but also increases the contribution of protected and conserved areas to human well-being (Franks et al., 2018; Gurney et al., 2021).

In this chapter, we will explore how these concepts are assessed and improved over time.

9.2. Assessing equitable governance

‘Governance assessment’ may focus on one or several of the governance aspects noted above. In this chapter, we focus on two dimensions. Firstly, we assess the appropriateness of the governance type at a particular site, including whether it enables effective and equitable governance. This addresses governance diversity, or the variety of appropriate governance types recognised and supported within protected and conserved area systems. Secondly, we evaluate the extent to which governance is effective and equitable, i.e., its ‘quality’. This is often assessed with respect to a set of governance principles. These principles vary between frameworks but typically include at least participation, transparency, and accountability. These will be addressed below in turn.

9.2.1. Governance diversity of PCAs

Diversity refers to the broad spectrum of actors who might be recognised as decision-makers, ranging from global, state-level actors, to local community leaders. Having the full spectrum of governance arrangements recognised within legal and policy frameworks provides the best opportunity for area-based conservation to be contextually and culturally appropriate (Ostrom, 1990). The IUCN and CBD recognises four broad governance types (see Table 9.1), which between them represent a full spectrum of governance diversity (CBD, 2004; Borrini-Feyerabend et al., 2013).

Importantly, they can serve as a guide to understanding the status and appropriateness of governance arrangements in PCAs.

Types A and B are generally established by government agencies alone or in partnership with others. However, in the region, many Type B areas or areas under shared governance arrangements were set up through community processes often supported by NGOs. Types C and D may or may not have government support for management. Type D refers to various forms of community conservation areas, including “territories and areas conserved by Indigenous Peoples and Local Communities (ICCAD)” or “territories of life,” where a close association or bond exists between a specific Indigenous People or local community and a territory, area, or body of natural resources (Borrini-Feyerabend et al., 2013). According to the World Database on Protected Areas, Type D is not commonly reported in the region, while reporting on Type C is mainly from South Africa and Eswatini (Lewis et al., 2023).
The last category, Type D, comprises areas that are closely associated with a specific Indigenous people or local community and a particular territory, area, or body of natural resources. When such an association is combined with effective local governance, it can be referred to as an “ICCA.” Although ICCA sounds like an acronym, it is actually an abbreviation for “territories and areas conserved by Indigenous Peoples and Local Communities” or “territories of life.” In recent decades, ICCAs have become recognised as essential for the conservation of nature, sustainable livelihoods, the realisation of collective rights and responsibilities, and the well-being of living beings on the planet. They include cases of continuation, revival, or modification of traditional practices, some of which are of ancient origin, as well as new initiatives, such as ecosystem restoration and innovative uses of resources by Indigenous Peoples and Local Communities in response to threats and opportunities.

IUCN governance types are independent and can be juxtaposed in the “IUCN Matrix” visualizing a spectrum of area-based options to conserve nature in a given country or region.

Table 9.1: IUCN and CBD governance types (adapted from Borrini Feyerabend et al, 2013)

<table>
<thead>
<tr>
<th>Governance by:</th>
<th>Sub-Types &amp; Examples</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type A</strong> Government</td>
<td>• National and/or sub-national ministries or agencies</td>
<td>Kruger National Park, South Africa</td>
</tr>
<tr>
<td></td>
<td>• Delegated (e.g., to NGO)</td>
<td></td>
</tr>
<tr>
<td><strong>Type B</strong> Shared (two or more entities working together)</td>
<td>• Transboundary conservation areas (different states or nations working together)</td>
<td>Kavango - Zambezi (KAZA) Transfrontier Conservation Area of Zambia, Namibia, Botswana, Zimbabwe, and Angola</td>
</tr>
<tr>
<td></td>
<td>• Collaborative governance (different institutions working together)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Joint governance (multi-party governing body, such as a board)</td>
<td></td>
</tr>
<tr>
<td><strong>Type C</strong> Private actors</td>
<td>• Individual (land) owner</td>
<td>Lewa Conservancy, Kenya</td>
</tr>
<tr>
<td></td>
<td>• Not for profit (e.g. NGO, university, religious institution)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• For profit (individual or corporate body)</td>
<td></td>
</tr>
<tr>
<td><strong>Type D</strong> Indigenous Peoples or Local Communities</td>
<td>• Lands, territories, waters, and areas conserved by Indigenous peoples or local communities. Often abbreviated as “ICCA” or ‘territories of life’ referred to by diverse and context-specific terms or names</td>
<td>Lake Natron Territory of Life Tanzania</td>
</tr>
</tbody>
</table>
The IUCN Matrix

<table>
<thead>
<tr>
<th>Governance type</th>
<th>A. Governance by government</th>
<th>B. Shared governance</th>
<th>C. Private governance</th>
<th>D. Governance by Indigenous Peoples and Local Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Category</td>
<td>Federal or national ministry or agency in charge</td>
<td>Sub-national ministry or agency in charge</td>
<td>Government delegated management (e.g. to an NGO)</td>
<td>Transboundary governance</td>
</tr>
<tr>
<td></td>
<td>Governance category</td>
<td>Collaborative governance (various forms of pluralist influence)</td>
<td>Joint governance (pluralist governing body)</td>
<td>Conserved areas established and run by individual landowners</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>by nonprofit organisations (e.g. NGOs, universities)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>By for-profit organisations (e.g. corporate landowners)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Indigenous peoples’ conserved areas and territories — established and run by Indigenous peoples</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Community—conserved areas and territories — established and run by local communities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>La. Strict Nature Reserve</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ib. Wilderness Area</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>II. National Park</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>III. Natural Monument</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>IV. Habitat/Species Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>V. Protected Landscape/Seascape</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>VI. PAs with Sustainable Use of Natural Resources</th>
</tr>
</thead>
</table>

Source: IUCN Best Practice Guidelines on Governance of Protected Areas (Stolton et al., 2013)

### 9.2.2. Governance quality of PCAs

Understanding the governance diversity of PCAs, and reporting it, is one part of the picture. It is critical to note that there is no universal or “best” governance arrangement in any given context. It is more realistic to examine how appropriate, legitimate, and useful these arrangements are in different circumstances. A governance arrangement for a given area can only be considered appropriate when it is tailored to its historical and social context and effective in delivering lasting conservation results and livelihood benefits. At the site level, relevant concerns include:

- How are decisions being made and by whom?
- Are those decisions equitable (fair)? Are there losers?
- Which values guide those decisions? Are there rules approved by the community that apply to decision-making?
- How transparent is the decision-making?
- Have rightsholders (those with legal or customary right to land and resources) been involved? Are there still opponents to the decisions and why?
- Have stakeholders (those with a direct or indirect interest) also been included? Was there an inventory of these stakeholders?
- To what extent are women involved in decision-making, so as to secure their rights and livelihoods?

With these questions, we begin to build a sense of governance quality, at times referred to as good governance, drawing on the key principles for good governance summarised (see Table 9.2).

The good governance principles elucidated in Table 9.2 ensure rights-based approaches, address gender equity and equality, and the inclusion of marginalised groups, allowing for the better integration of protected and conserved areas into the landscape.
Table 9.2: Essential principles for good governance of natural resources

<table>
<thead>
<tr>
<th>Principles</th>
<th>A selection of considerations related to the principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legitimacy and voice</td>
<td>“Enjoying broad acceptance and appreciation in society; ensuring procedural rights of access to information, participation and justice; fostering engagement and diversity; preventing discrimination; fostering subsidiarity, mutual respect, dialogue, consensus and agreed rules…”</td>
</tr>
<tr>
<td>Direction</td>
<td>“Following an inspiring and consistent strategic vision grounded on agreed values and an appreciation of complexities; ensuring consistency with policy and practice at various levels; ensuring clear answers to contentious questions; ensuring proper adaptive management and favouring the emergence of champions and tested innovations…”</td>
</tr>
<tr>
<td>Performance</td>
<td>“Achieving conservation and other objectives as planned; promoting a culture of learning; engaging in advocacy and outreach; being responsive to the needs of rightsholders and stakeholders; ensuring resources and capacities and their efficient use; promoting sustainability and resilience…”</td>
</tr>
<tr>
<td>Accountability</td>
<td>“Upholding integrity and commitment; ensuring appropriate access to information and transparency, including for lines of responsibility, allocation of resources, and evaluation of performances; establishing communication avenues and encouraging feedback and independent overseeing…”</td>
</tr>
<tr>
<td>Fairness and rights</td>
<td>“Striving towards equitably shared costs and benefits, without adverse impact for vulnerable people; upholding decency and the dignity of all; being fair, impartial, consistent, non-discriminatory, respectful of procedural rights as well as substantive rights, individual and collective human rights, gender equity and the rights of Indigenous peoples, including Free, Prior and Informed Consent; promoting local empowerment in conservation…”</td>
</tr>
</tbody>
</table>

Source: adapted from Borrini-Feyerabend et al, 2013

9.3. Tools and approaches for governance assessment

9.3.1. Governance assessment tools (non-exhaustive)

Governance assessment tools range from site assessment tools to landscape-scale assessment tools to systemic-level assessment tools (see Table 9.3). While some tools have been designed to be used strictly at the site-level like the MJUMITA Village Forest Governance Dashboard, others have been designed to be used in various contexts like the IUCN CEESP Natural Resource Governance Framework (NRGF). The methodologies used by these tools range from rapid assessment and evaluation, to participatory assessment that may include research, validation, and discussion with various actors such as conservation experts, government authorities, rights-holders and stakeholders. The particular tool and methodology for the governance assessment should be chosen once the scale and scope of interest has been decided upon. Governance assessments are a social and political process that should include a diagnostic analysis of issues, before moving towards action-oriented solutions (Campese and Sulie, 2019).

A site-level governance assessment focuses on governance quality. It therefore assesses the extent to which the governance arrangements align with the governance standards in the tool used for the assessment. Consequently, the site-level governance assessment does not review whether the governance type (A, B, C, or D) is suitable for its purpose. A landscape-scale assessment evaluates the governance quality of the various conservation initiatives across a landscape and how they align with the governance standards of the assessment tool.

A systemic-level assessment focuses on the existing spatial system of PCAs, their legal framework, diversity, and range of IUCN PCA categories and governance types. This type of assessment assumes that PCAs are not isolated but are rather part of a mosaic of land uses and diverse interests. Therefore, no PCA will be effective or equitable if it is not considered within its broader landscape. A systemic-level assessment examines the potential for the full range of governance types in a given country and makes recommendations for the review, recognition, and support of existing governance arrangements.

The IUCN Green List of Protected and Conserved Areas Standard (IUCN WCPA, 2017) is the new international sustainability standard to benchmark PCAs that are both effective and equitable (Hockings et al., 2019). The first component of the Standard focuses on good governance or governance quality, which draws on the following essential and universal good governance principles: legitimacy and voice, accountability and transparency, and governance vitality.

The concept of governance vitality examines the extent to which planning and management draw on best available knowledge of the social and ecological context of the site, and uses an adaptive management framework that anticipates, learns and responds to change in its decision-making. In particular, it focuses on whether there are procedures in place to ensure that the results from monitoring inform management decisions. These principles offer a point of departure for analysing weaknesses or challenges in governance of the conservation area. Several CBD Decisions and
9.3.2. Conducting a governance assessment: Systems and sites

IUCN has published a set of best practice guidelines for assessing governance at two scales: national- or system-level and site level (Borrini-Feyerabend et al., 2013). This publication offers guidance to understand the four main protected area governance types and the set of principles of good governance recognised by the IUCN, based on examples from all over the world. It also provides practical guidance on assessing, evaluating, and improving governance for systems of protected areas or individual protected area sites.

As stated earlier, system-level governance quality assessment assumes that no protected area will be effective or equitable if it is not considered within its broader landscape. Most threats to protected areas stem from outside the boundaries of the protected area itself (Davey, 1998), including encroachment, poor connectivity in the wider landscape, and a lack of resources (Schulze et al., 2018). As such, a ‘system’ assessment examines the entire landscape or seascape and, in particular, the coordination of these interlocking sectors and land and water uses. This can also include examining the extent to which private actors, such as key tourism partners, make significant contributions to area-based conservation, which may not necessarily be reported as part of national targets. While a variety of government agencies are in charge of governing the system of official protected areas, the overall coverage of protected areas and conserved areas may be substantially larger. These may also fall under a system-level analysis.

A site-level governance assessment focuses on governance quality in one particular PCA. The Site Assessment for Governance and Equity (SAGE) tool has been used to assess the quality of governance of a PCA – including equity – using a framework of 10 governance and equity principles based on IUCN and CBD guidance, and meeting the criteria of the IUCN Green List Standard (IUCN and WCPA, 2017). It is a rapid process that enables stakeholders at a site to identify governance challenges and potential actions to address them, and provides managers at higher levels with an assessment of governance quality that can be used for management oversight, reporting, or for the IUCN's Green List process.

See, for example, Decision VII/28, para. 3.1.4, Kuala Lumpur, 2004 and Decision X/31 para. 23, Nagoya, 2010

See for example, Decision 15/5, 6, Table 2, 14/8 para 12, Decision X/31, para. 32 (f), Nagoya, 2010 and Decision XIII/2, para. 5(d), Cancun, 2016). Other elements of these decisions (e.g., Decision X/31, para. 19 (b); Decision XIII/2 para. 9(b)) invite Parties to include information about governance, equity, and/or social impacts in assessment of management effectiveness and are also in this sense related to governance assessment. However, while some management effectiveness assessments include governance and social elements, they generally include more limited information on these issues (Franks and Small, 2016).
Conducting a governance assessment

Inventoried governance assessments have been conducted with the objectives of, among others:

- Assessing governance equity and effectiveness (‘quality’), including identifying strengths and challenges and ways to improve the current situation – e.g., using GAPA (Franks and Booker, 2018) and governance dashboards (Child, 2007; MJUMITA and TFCG, 2014), among others. GAPA, in particular, seeks to understand the root causes of governance challenges. Facilitators are encouraged to ask participants why challenges are arising, not just what they are. This in-depth inquiry is a strength of the methodology, as well as a challenge, as it can raise particularly difficult issues (Key Informant Interviews).
- Assessing governance diversity, including identifying ways to strengthen or support diverse governance types – e.g., in a systems-level assessment in Tanzania (KII) and a case study series (Franks and Booker, 2015; Stolton and Dudley, 2016; Wicander, 2015).

Governance assessments are not yet being widely used to track changes over time. Establishing a baseline and tracking changes was an objective of the MJUMITA governance dashboard (MJUMITA and TFCG, 2014), and several additional assessments have been undertaken between 2018 and 2024 (MJUMITA Online). In some other governance assessments, including GAPA, the process itself aims to establish a baseline and key issues to be monitored and acted on (as part of the process) rather than being designed for repeated assessment.

9.4. Governance diversity in Eastern and Southern Africa: Regional trends

Governance diversity involves multiple actors in decision making regarding PCAs. This includes actors from international organisations (governmental and non-governmental), national and sub-national government agencies, businesses (local and multinational), civil society, and Indigenous Peoples and Local Communities. Each actor brings multiple value systems to decision-making that align with their various interests (see Pascual et al., 2023). The challenge is often how to make these actors work harmoniously with one another to sustain nature and enhance social well-being. The IUCN Matrix above presents a spectrum of governance types recognised by IUCN.

In Africa, protected areas are often created and governed primarily by governments (Karsenty et al., 2022), corresponding to IUCN governance Type A. While government agencies governing these protected areas are increasingly entering into collaborative partnerships with other governance actors, including Indigenous Peoples and Local Communities, corresponding to governance Type B, the government remains the de jure principal decision-maker. Governance Type C, where individual landowners and other non-governmental entities are able to create and independently govern protected areas, does exist but is in the minority (Palfrey et al., 2022). While governance Type D, where conserved areas are fully governed by Indigenous and/or local communities, is highly encouraged by the UNCBD and its instruments like the Kunming-Montreal GBF, legislation recognising this type of conserved area is lacking in many African countries. A brief analysis of governance diversity in six selected countries of the IUCN ESARO region, based on a questionnaire survey sent to countries (see Introduction to Chapter 8 for more details), reveals the following:

Angola
In Angola, the Iona National Park is managed jointly by the National Institute for Biodiversity and Conservation (INBC) and African Parks, while the Luando Integral Reserve is managed jointly by the Kissama Foundation and INBC. However, observers maintain that there is still excessive centralisation of competences and concentration of decision-making in the hands of the government, as currently mandated by the Basic Law on Forests and Wildlife No. 6/17 of 24 January 2017.

Comoros
In 2022, the Global Environment Facility (GEF) and UNDP entered into a co-funding agreement with the government of Comoros to implement a project to conserve terrestrial and marine biodiversity in the country. The project aims to strengthen the governance of the newly created Protected Areas Network Comoros through effective co-management with communities for sustainable development.

Eswatini
Through the Strengthening the National Protected Areas System (SNPAS) Project, an integrated landscape approach was taken to develop three integrated management plans for Malolotja, Ngwemphisi and Lubombo conservation landscapes. SNPAS was a six-year (2014–2020) project funded by GEF to expand PAs from 3.9% to 6%. SNPAS worked to create PA networks and governance platforms that included local communities in decision-making. SNPAS helped to establish and manage PAs in critical biodiversity areas as clusters, creating governance platforms that included the government of Eswatini, the private sector and local communities to oversee a matrix of complementary land-use activities.

Lesotho
Alongside the establishment of PAs, legislation in Lesotho allows for the creation of privately protected areas and community structures in the management of biodiversity. However, observers note that the government of Lesotho remains the primary decision-maker on the governance of PAs in the country, while grappling with the twin challenges of funding and effective management of PAs. A new Biodiversity Bill that is more aligned with the Kunming-Montreal GBF has been passed by the National Assembly and is awaiting Senate confirmation.

Madagascar
In Madagascar, Law No. 2015-005 Code de Gestion des Aires Protégées (the COAP Law) identifies various types of governance for national and international collaborations related to biodiversity
conservation. The recognised governance types are public governance, shared governance or co-management, private governance, and community governance. An example of shared governance is the Public-Private Partnership between the Ministry of Environment and Sustainable Development and the Imperial Brands Group, which aims to establish five botanical parks in Madagascar.

**Tanzania**

While policies and legislation such as the Wildlife Policy of 2007 and the Tanzania Wildlife Act Cap 283 (revised in 2022) allow for the inclusion of communities and other private actors in governing wildlife resources, they are not effectively implemented. Observers maintain that to achieve effective implementation, legislation should clearly stipulate the rights of all stakeholders and the distribution of benefits from conservation activities. The private sector plays an important role as tourism operators; for example, hunting blocks are leased to investors for a period of 10 to 15 years. During this time, the hunting company collaborates with the government in anti-poaching operations in PAs and helps to maintain patrol roads. Associations such as the Tanzania Hunting Operators Association (TAHOA) are therefore crucial in decision-making and the effective protection of PAs.

**Regional trends in governance diversity**

The brief analysis of governance diversity in the IUCN ESARO region reveals clearly that governments remain the primary decision-maker in the governance of protected areas. It also reveals that governments in the region have been working closely with international organisations such as the GEF and the UNDP to make governance of natural resources more inclusive of other actors, especially Indigenous peoples, and local communities. Governments in the region are also working with the private sector through public-private-partnerships and collaboration with tourism operators. Nonetheless, informed observers maintain that more needs to be done at policy level and at operational level in PAs for effective governance that is fully inclusive of all governance actors (Country questionnaire responses, see appendix 3).

**9.5. Governance quality assessment in in Eastern and Southern Africa**

Governance quality is the extent to which governance is effective and equitable, and this is evaluated with respect to a set of governance values, principles, and indicators. IUCN adopts a rights-based approach as its principal governance value system (see Borrini-Feyerabend et al., 2013; Springer et al., 2021), the extent to which governance is effective and equitable, i.e. its ‘quality’. This is often evaluated with respect to a set of governance principles. Principles vary between frameworks, but typically include at least participation, transparency, and accountability. Some also include other elements of effectiveness (e.g. performance and direction) and/or equity (e.g. fairness and upholding human rights). (See, e.g. Borrini-Feyerabend et al., 2013; Franks and Booker 2018; MJUMITA and TFCG, 2014; Springer et al., forthcoming). Several governance quality assessment tools have been used in the IUCN ESARO region and these include but are not limited to SAGE, MJUMITA, the IUCN CEESP Natural Resource Governance Framework (NRGF), Elinor, and the Management Effectiveness Tracking Tool (METT). METT is not discussed here as it is a more general PAME assessment tool and is described in the next chapter. METT provides a simple governance assessment at a site level as one aspect of management effectiveness, however, the results are of limited use for long-term landscape level or PCA system level governance planning. Given this limitation, in South Africa, where the national tool is based on the METT, using METT scores as indicators of governance performance in PCAs has been specifically advised against.

**SAGE**

SAGE was developed by the International Institute for Environment and Development (IIED) and has been used in 25 countries around the world; Table 9.4 highlights actionable insights from a SAGE assessment carried out in the Rufunsa Game Management Area (GMA) in Zambia. SAGE has three phases — preparation, assessment and taking action; so far, 60 SAGE assessments have been carried out in PCAs in 25 different countries (Franks, 2023). SAGE strength is that it is a rapid and low-cost option for governance and equity assessment (Campese and Sulie, 2019), but it may not provide a depth of analysis beyond the local context. Franks (2023) also maintains that ‘mainstreaming’ SAGE results has been patchy because ideas for action generated by SAGE can be many and overwhelming, necessitating inclusion of a guide for priority actions in SAGE version 2.

**MJUMITA**

The MJUMITA Village Forest Governance Dashboard Tool was developed by MJUMITA, the Community Forest Conservation Network of Tanzania in collaboration with the Tanzania Forest Conservation Group (TFCG), and as part of the Forest Justice in Tanzania initiative. It assists villages to adopt best practices in forest governance, identify obstacles to good governance, and develop action plans to overcome these obstacles (Albert, 2014). MJUMITA enables comparative analyses of results from multiple villages and thus provides insights into forest governance trends in Tanzania. Table 9.5 provides insights into the strengths and limitations of the MJUMITA dashboard.

**The IUCN CEESP Natural Resource Governance Framework (NRGF)**

Natural resource governance (NRG) “is a critical determinant of the social equity, effectiveness and sustainability of natural resource use and conservation... improving natural resource governance... benefits both people and nature... [however, NRG is] poorly understood and weakly addressed in many natural resource and conservation contexts” (Springer et al. 2021, p. iv). The IUCN CEESP Natural Resource Governance Framework (NRGF) initiative set out to address this gap. Box 9.6 provides insight from an assessment carried out in Tanzania using the IUCN CEESP NRGF.
Table 9.4: SAGE Assessment of Rufunsa Game Management Area (GMA)

<table>
<thead>
<tr>
<th>Name of PCA</th>
<th>Rufunsa Game Management Area (GMA).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat /ecosystem types</td>
<td>Savannah habitat. Vegetation types namely, Forest, Woodland (classified into Miombo, Mopane, Kalahari and Munga), Termite mound and Grassland.</td>
</tr>
<tr>
<td>Management category</td>
<td>IUCN category IV.</td>
</tr>
<tr>
<td>Governance type (if defined)</td>
<td>Shared governance. Key actors: • Department of National Parks and Wildlife • Department of Fisheries • Forestry Department • Department of Chief Affairs • Department of Community and Social Welfare • Local communities and their traditional leaders • Local government</td>
</tr>
<tr>
<td>Area (km²)</td>
<td>4,092 km²</td>
</tr>
<tr>
<td>Key conservation values</td>
<td>Rufunsa has outstanding examples of natural, geologic, scenic, recreational values; population of rare, sensitive, endemic threatened plants and animals; habitats and resources that are usually sensitive to human use and activities. Archaeological or cultural resources that reflect the human evolutionary processes and contemporary cultural values.</td>
</tr>
<tr>
<td>Key threats</td>
<td>Poaching, farming, settlement in animal corridors. Lack of a General Management Plan and lack of zoning.</td>
</tr>
<tr>
<td>Key rights of community members</td>
<td>Resource rights • Right to fish (under permit) • Right to hunt (under permit) • Right to harvest resources, e.g. fruits, herbal medicine (under permit) • Right to a percentage of revenues generated by hunting/tourism</td>
</tr>
<tr>
<td>Key positive impacts (benefits)</td>
<td>Men 1. Employment opportunities (village scouts and specific projects) 2. Infrastructure development such as community schools, health projects 3. Sustainable management of natural resources 4. Source of food and other resources such as herbal medicine 5. Community involvement in managing some resources such as community protected forests Women 1. Employment opportunities (village scouts and specific projects) 2. Infrastructure development such as community schools, health projects 3. Source of food and other resources (herbal medicine, grass, poles etc.) 4. Conservation of natural resources for posterity 5. Creation of awareness on the value and importance of natural resources in the well-being of communities</td>
</tr>
<tr>
<td>Key negative impacts (burdens/costs)</td>
<td>Men 1. Human-wildlife conflicts, including loss of crops (food insecurity) 2. Deforestation (farming, charcoal and other fuel related activities) 3. Infections of livestock by diseased wildlife Women 1. Human-wildlife conflicts, including loss of crops (food insecurity) 2. Access restrictions to resources 3. Biased and inappropriate law enforcement by PA managers 4. Lack of development of some social and economic infrastructure such as major roads, shopping centres, etc.</td>
</tr>
<tr>
<td>Owners</td>
<td>State.</td>
</tr>
<tr>
<td>Managers</td>
<td>Department of National Parks and wildlife (DNPW).</td>
</tr>
<tr>
<td>Important governance structures / committees</td>
<td>Community Resource Board (PCA level per Chiefdom), Village Action Groups (village level).</td>
</tr>
</tbody>
</table>

Source: Franks P. (2023)
### Table 9.5: MJUMITA community forest governance dashboard

**Focus / Objectives**

“[A]ssist villages engaging in participatory forest management (PFM) to adopt best practices in relation to village forest governance” by “assess[ing] governance in the context of participatory forest management” and “provid[ing]… a framework for communities to plan for improved governance” (MJUMITA and TFCG 2014:1).

**Scope / Applicability**

Forest reserves sites being governed / managed under PFM in Tanzania.

**Framework**

Good governance principles (accountability, transparency, and participation).

**Method and Tools**

“Two independent community members (not members of the Village Council or Natural Resource Committee) are elected as focus group leaders to undertake data collection through interviews. MJUMITA Zonal Coordinators analyse the result and prepare village reports, comparing different villages’ governance status and best practice. MJUMITA provides training to village focus group leaders for results sharing at the Village Assembly. The Village Assembly are tasked with agreeing solutions and action plans” (as summarized by Franks and Booker 2018:62).

**Typical Time Required**

Typically involves two days for training, two days for data collection, and one day for returning results to Village Assembly.

**Typical Cost:** Approximately US$ 500 per village, depending on degree of cost savings that can be generated by organising joint trainings.

**Key Technical Requirements**

Knowledge of the tool (provided during training), basic (qualitative and quantitative) analysis skills, and organisation and facilitation.

**Developer/ Organisational Affiliation**

MJUMITA and TFCG.

**Where and When Used**

Used in 333 total villages circa. 2013 to 2015 in Tanzania. These included:

- 72 villages participating in joint forest management (JFM) (shared governance /co-management)
- 186 villages participating in community-based forest management (CBFM) (community governance)
- 75 villages participating in both JFM and CBFM

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations / Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Designed together with communities by a community-based network</td>
<td>• Specific to PFM in Tanzania - Would require substantial adaptation for use in other contexts</td>
</tr>
<tr>
<td>• Relatively simple and low cost</td>
<td>• Relatively narrow scope of governance principles considered</td>
</tr>
<tr>
<td>• Enables monitoring if repeated over time</td>
<td>• In practice, degree of interest from wider community and degree to which results were shared varied</td>
</tr>
<tr>
<td>• Highly tailored to the context, enabling contextually meaningful / actionable results</td>
<td>• Perception-based questions rely on results of only one focus group</td>
</tr>
</tbody>
</table>

**Other Considerations**

This methodology was developed for use in the specific context of PFM in Tanzania. It would require adaptation for use in other PCAs in the region. At the same time, it serves as an example of how context-specific assessment methodologies can be developed.

Source: Campese and Sulle (2019).
The IUCN CEESP NRGF tool on the other hand can be used in multiple contexts and across multiple levels (global to local). The NRGF also subscribes to the rights-based approach, a major consideration emphasised by IUCN. The NRGF sets out to improve on equity and justice in natural resource governance in alignment with the equity target of the Kunming-Montreal GBF. However, its 10 principles and 51 criteria mean community members might find it cumbersome to use.

9.6. Recommendations on governance assessments

The review of the governance assessment tools used in the IUCN ESARO region reveals that these tools are site- and context-specific, except for the IUCN CEESP NRGF tool, which is intentionally designed to be used in various contexts. The methodologies used by these tools range from rapid assessment and evaluation to participatory assessment. The most appropriate tool and methodology should be chosen once the scale and scope of interest have been decided upon. However, it is recommended that the tool should include a diagnostic analysis of issues before moving towards action-oriented solutions. IUCN has published a set of best practice guidelines for assessing governance at the site level and the system level (Borrini-Feyerabend et al., 2013), offering practical guidance for assessing, evaluating, and improving governance for systems of protected areas or individual protected area sites.

It is recommended that site-level governance monitoring assessments be carried out at least once a year for every PCA to keep abreast of governance quality and nip any problems in the bud before they become major issues. More comprehensive participatory landscape-level assessments can be carried out every two to three years, as they provide a comparative state of knowledge of governance quality of PCAs under similar contexts. A systemic-level participatory governance assessment should be carried out every three to five years; results will provide the evidence base required for a review of the existing spatial system of PCAs, their legal framework, diversity, and whether the range of IUCN PCA categories and governance types are suitable for purpose.

**Box 9.1: The IUCN CEESP Natural Resource Governance Framework (NRGF)**

The IUCN CEESP NRGF has produced a governance assessment tool built on a rights-based approach (human rights and rights of nature), operationalized through 10 best practice principles with 51 criteria, and four interwoven outcomes (see Springer et al. 2021), which further improves on equity and justice in multiple resource use and conservation contexts.

The 10 NRGF Principles are:
1. Inclusive decision-making
2. Recognition and respect for tenure rights
3. Recognition of and respect for diverse cultures, knowledge and institutions
4. Devolution
5. Strategic vision, direction and learning
6. Coordination and coherence
7. Sustainable and equitably shared resources
8. Accountability
9. Fair and effective rule of law
10. Access to justice and conflict resolution

The four target outcomes are:
1. Environmental and social resilience
2. Social equity
3. Healthy ecosystems
4. Realisation of rights

The NRGF tool was used for participatory assessment of governance strengths and challenges in the Kilombero and Sumbawanga landscapes, in the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), in 2017 and 2019 respectively. The goal was to strengthen participation, equity, and rights of stakeholders in these landscapes. The assessments were carried out in line with the goals of the “Sustainability and Inclusion Strategy for Growth Corridors in Africa” (SUSTAIN-Africa) programme.

The assessment found that there are relatively strong legal, policy and institutional guidelines in place for enabling equitable, effective, and sustainable natural resource governance on village lands, but this was not the case in other land categories including PAs (see Mazenzele et al., 2019). The assessment found that governance challenges in the Sumbawanga and Kilombero landscapes are also related to poor and ineffective implementation of the existing policies and laws. In this regard, the NRGF tool enabled actors in the Kilombero and Sumbawanga landscapes to clearly identify the strengths and weaknesses of natural resource governance in their context.
Governance quality assessments have not been widely used to track change over time in the region. Therefore, establishing a governance quality baseline, monitoring, and tracking changes over time through repeated governance assessments is a priority recommendation for governments and other stakeholders in the region. Furthermore, designing and operationalising a Governance Action Plan for every PCA in the region, built on a five-year cycle, is highly recommended. A Governance Action Plan, similar to Species Action Plans, will be an effective means of ensuring that PCAs meet the requirements of the Green List Standard on a long-term basis. More importantly, the PCA Governance Action Plans will address legitimate concerns about equity in fulfilling national commitments to the Kunming-Montreal Global Biodiversity Framework (GBF).
10. Protected area management effectiveness
10.1. Introduction

For successful biodiversity conservation, PCAs must be equitably governed, effectively managed and achieve conservation outcomes, as laid out in Target 3 of the Kunming-Montreal GBF (See Chapter 2). Protected area management effectiveness (PAME) is the measure of how well PCAs are being managed and whether they are achieving conservation outcomes, and can be defined as “the extent to which management is protecting values and achieving goals and objectives”.

Regular assessments (the term ‘evaluations’ is often used) of PAME are essential for determining, over time, both the conservation impact of a site (i.e. what was achieved) and its management performance (i.e. appropriateness of management interventions). PAME assessments, and the tools used for them, allow PCAs to identify gaps and shortfalls in management, learn from previous interventions, identify priorities for future plans, and ensure that adaptive management takes place. Assessments provide information for reporting nationally and globally on progress and can help sites build towards candidature in the IUCN Green List programme, or (for MPAs) achievement of a Blue Parks award.

To date, there is no universally agreed definition of a well-managed PCA, and simple criteria for determining whether a PCA is “effectively” managed are still lacking. However, as described in Chapter 2, the IUCN Green List Standard is currently recognised as the most comprehensive approach, with its four components of governance, sound design and planning, effective management and conservation outcomes. The tools available to assess PAME cover these components to a greater or lesser degree and are progressively being improved and adapted to cover all the components of the Green List Standard, as described in the next section.

Eight principles for undertaking successful PAME assessments have been developed by Hockings et al. (2015). Assessments should be:

1. Part of an effective management cycle, linked to defined values, objectives and policies and part of strategic planning, PCA planning and business and financial cycles;
2. Practical to implement with available resources, giving a good balance between measuring, reporting and managing;
3. Useful and relevant for improving PCA management, for yielding explanations and showing patterns and for improving communication, relationships and awareness;
4. Logical and systematic, working in a logical and accepted framework with a balanced approach;
5. Based on good indicators, which are holistic, balanced and useful;
6. Accurate - providing true, objective, consistent and up-to-date information;
7. Cooperative and participatory with good communication, teamwork and participation of protected area managers and stakeholders throughout all stages of the project wherever possible; and
8. Focused on positive and timely communication and application of results.

Principle 7, concerning who participates in the process and whose perspectives are included in the results, is particularly important: stakeholders, managers, rights holders, conservationists, researchers and others may have different opinions on what makes a ‘successful’ PCA, and there is a risk that those who are not included in an assessment may dispute the findings. To ensure maximum stakeholder buy-in and support, the reasons for conducting an assessment must be made very clear (e.g. it must not be seen as a performance review of staff). Good communication of assessment results is also essential, to avoid mis-interpretation or misuse of the results (e.g. making unwarranted comparisons) (Campese & Sulle, 2019).

The availability and quality of baseline data will affect the results of an assessment, but lack of data should not be used as reason for not undertaking an assessment: the results will show PCA managers where further monitoring or research might be needed. Once the assessment is complete and the results have been communicated, the key subsequent step is to act on the areas identified for improvement and look at ways of obtaining any funding or capacity needs. If assessments are carried out but subsequently nothing changes, there can be either complacency or despondency, depending on the results, and reduced interest in conducting future assessments. This may be particularly important in ESA, where the information available suggests that there has been difficulty in undertaking regular assessments and following up on the results.

Countries should report on their PAME assessments for national, regional and global purposes. Efforts are underway to establish some form of national reporting centres but information on progress with this is scarce. South Africa has a well-established system as described in the case study below and the RRH is working with countries to streamline reporting of assessments and assessment results into the RRH. At present, numerous PAME assessments go unreported, and few ESA countries have adopted PAME assessment as part of their national protected area policy or made assessments an integral component of PCA implementation.

This is done through their National CBD Reports, and also by reporting to the Global Database on Protected Area Management Effectiveness (GD-PAME), as described in Chapter 2. It records the site-level PAME assessments submitted to UNEP-WCMC by governments and NGOs through the Regional Resource Hub for Eastern and Southern African countries (see also Chapter 2). While it provides information on the year a PAME site assessment was conducted and the assessment tool used, information on the results of assessments has not usually been made public i.e.
whether a PCA is actually being effectively managed and governed, and whether its intended outcomes are being achieved. Through the work of the Regional Resource Hub and others, countries are being encouraged to submit at least a summary overview of the results to the GD-PAME. Once global level indicators are agreed for future reporting on PAME for Target 3, the results from site-level assessment tools will be used to understand the extent to which PCAs are being effectively managed, equitably governed and achieving outcomes.

10.2. Tools for PAME assessments

Since the early 2000s, many tools have been developed to measure PAME, most based on the IUCN-WCPA framework for assessing management effectiveness (Hockings et al., 2008). They range from detailed, resource-intensive tools for specific purposes to simpler approaches based on scorecards or questionnaires, with a growing number being developed and/or adapted for regional or national use. Multilateral, bilateral, and philanthropic donors that have recognised the value of regular assessment of the sites they support have also contributed to tool development, notably the GEF: reporting on PAME is a requirement for World Bank/UNDP/GEF projects involving PCAs.

There is increasing synergy between the different tools. All generally assess, at different levels of detail: governance, the extent of stakeholder involvement, threats, design and planning, social benefits, financial and staff capacity, and conservation outcomes. There are also specific methods or tools for particular types of PCA, such as World Heritage Sites (section 10.2.4 below), MPAs and climate change (case study 10.3.4 below), and tools for particular components of PAME, such as governance and equity (see Chapter 9).

The main tools that are currently being used for PAME assessments in ESA are:

10.2.2. Integrated Management Effectiveness Tool (IMET)

This tool is based on the IUCN PAME framework and other tools, including the METT and Enhancing our Heritage, and is integrated with software to collect and organise the assessment results and data. An internal statistical analysis provides score-based estimations of the quality of management, as well as visual components, thus providing a decision support system (Bialowolski et al., 2023). Metadata and the results of assessments, as well as related PA information, are hosted and shared through the Regional Reference Information Systems (RRIS) hosted by the RRH (as described in Chap 2.6 of this report). According to GD-PAME, IMET has been used recently in Burundi, DRC, Eswatini, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Uganda, and Zambia, and its introduction is being supported by the BIO-PAMA project. IMET has been used extensively in West and Central Africa, including Burundi and DRC. In Eastern and Southern Africa, IMET has been used in all marine protected areas in Tanzania and Kenya to inform national MPA management strategies. Other countries in the region have tested the use of IMET in individual protected areas for various reasons: Malawi to evaluate its use as a national tool; Uganda to review progress in a PCA and inform the revision of a management plan; and Mozambique to test its use in Locally Managed Marine Areas (LMMAs).

10.2.3. Rapid Assessment and Prioritisation of Protected Area Management (RAPPAM)

This methodology was developed for assessing PAs at the system level. The Rapid Assessment Questionnaire (RAQ) has 16 questions, with sub-questions, and three additional system-level questions. It has been used for many assessments in the DRC in earlier years, occasionally in other ESA countries, and for a 2021 baseline survey in Ethiopia. However, it does not appear to be widely used at the moment.

10.2.4. World Heritage tools

For natural and mixed (both natural and cultural) World Heritage sites, the IUCN World Heritage Conservation Outlook evaluates 14 different aspects of protection and management, including the legislative framework, management system, relationship with local people, monitoring, boundaries of the site, and education programmes, followed by an overall assessment of the protection and management effectiveness of each site. It has been used at all WHS in the region. WHS undergo regular assessment every three years through the Conservation Outlook approach, and sites are rated according to four categories: Critical, Significant Concern, Good with Some Concerns, and Good. Conservation Outlook assessments have now been undertaken three times (2014, 2017, 2020). A more detailed assessment methodology, Enhancing our Heritage, is also available, but there is limited information on its use in ESA. WHS assessments are sometimes recorded on GD-PAME, but often reporting appears to have been overlooked. Progress in

69 For more information, please see: https://www.ramsar.org/sites/default/files/documents/library/cop12_res15_management_effectiveness_e.pdf
management effectiveness and quality of WHS in ESA, as indicated by the results of the Conservation Outlook reports, is described in section 10.3.2.

10.2.5. Other tools

The Birdlife IBA monitoring framework provides a standardised way to assign scores for the threats to IBAs (‘Pressure’), the condition of IBAs (‘State’) and conservation actions taken at IBAs (‘Response’). It is not primarily a PCA assessment tool and, although used fairly frequently in projects helping to establish PCAs in the ESA region 10-20 years ago, there are no recent records of use of this tool in the ESA.

The FSC-US Forest Management Standard includes questions on both forest management and governance, as well as some aspects of social impact. It was used at 17 village land forest reserves in Tanzania, assessed under a group FSC certificate with the Mpingo Conservation and Development Initiative (MCDI, 2019). However, it appears that these assessments have not been entered into GD-PAME, possibly as this method is designed primarily for managed forests.

Tools for assessing equitable governance, such as SAGE, ELINOR, etc are covered in Chapter 9.

10.3. Overview of PAME assessments in Eastern and Southern Africa

According to GD-PAME, PAME assessments had been undertaken in only about 14% (795) of the 5519 protected areas in the region by the end of 2023 (Table 10.1 and Figure 10.1), a very small increase on the 13% of sites that had been reported as having been assessed by 2020 (SoPACA, 2020)70. More positively, there has been almost a doubling of the number of assessments reported, from 1,510 in 2020 to 2,550 in 2023, with numerous PCAs having been assessed more than once, accounting for the modest percentage increase. The countries where most PAME assessments have been undertaken are South Africa, Tanzania, Uganda, Zambia and Kenya.

There are only three countries for which no PAME assessments are recorded in the GD-PAME: Comoros, Eritrea and Somalia, although other information sources indicate that assessments have been undertaken or are underway in both Comoros (see Chapter 8.4, this report) and Eritrea (see Table 10.1). The trend observed in SoPACA (2020), of an increase in the number of recorded PAME assessments in the region (Fig 10.7 in SoPACA (2020)) appears to be continuing, and with a corresponding increase in METT assessments (Fig 10.8 in SoPACA (2020)).

It is evident from literature and other searches outside GD-PAME that many assessments are not reported to GD-PAME, a point that was also noted in Campese and Sulle (2019). In particular, METT assessments undertaken during GEF-funded PCA projects are often not reported. For example, METT has been used for baseline, mid-term and final evaluations of all sites involved in the MPA projects in Djibouti, Ethiopia, and Mauritius. This represents a significant loss of knowledge and information, and underscores the importance of countries providing up to date data to Protected Planet.

The incomplete reporting on assessments, the variability in methods used and the reluctance to report on the results, means that information on whether management effectiveness itself (as opposed to the number of assessments) is improving in the region is very patchy, based on out-of-date data or not in the public domain.

There is also a discrepancy between the number of PCAs recorded on the WDPA and the number considered to be part of the national PCA network for any country, which means that the extent to which national targets to assess PCAs (increasingly being introduced by countries) have been achieved will vary according to the statistics used (see also explanation of statistics for Country pages at the beginning of Chapter 8). There is also a lack of consistency in reporting on the tools used, for example, in Madagascar, where acronyms for projects or organisations have been entered rather than the tool used (see Table 10.1).

Table 10.1 below give some indications of trends in PAME in the region, including looking at progress being made in each country.

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70 This report has two additional countries (Burundi and DRC) compared to the SoPACA (2020) report. If these two countries are excluded, 13.8% of the region’s PCAs had at least one assessment which shows a very slight increase on the 13% of sites that had been assessed by 2020.
**Table 10.1: Summary by country of PAME assessments**

Data in columns 2 and 3 are from the WDPA and GD-PAME. Information on methods used is taken from GD-PAME and wide range of other authoritative sources.

<table>
<thead>
<tr>
<th>Country</th>
<th>Total PA s - WDPA</th>
<th>No. PAs with assessments (total assessments in brackets)</th>
<th>% PAs assessed</th>
<th>Methods used</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>18</td>
<td>4(4)</td>
<td>22</td>
<td>METT</td>
<td>A UNDP GEF project to establish MPAs was initiated in 2019[71]. A 2022 USAID report on 14 PCAs (considered to comprise the PCA network) made recommendations for management.[72]</td>
</tr>
<tr>
<td>Botswana</td>
<td>22</td>
<td>6(8)</td>
<td>27</td>
<td>METT, COA</td>
<td>GD-PAME records are from 2014: Chobe and Gemsbok (Birdlife and METT); Nata (METT), Central Kalahari (Birdlife); Okavango WHS (assessed three times). The target in Botswana’s Sixth National Report to the CBD, to assess all PCAs by 2016, using METT, was not reached.</td>
</tr>
<tr>
<td>Burundi</td>
<td>21</td>
<td>13(36)</td>
<td>61</td>
<td>RAPPAM, Birdlife IBA, METT, IMET</td>
<td>Early assessments used METT, Birdlife, and RAPPAM. The 14 sites that made up the PCA estate in 2010 were assessed using both RAPPAM and METT (IUCN/PACO, 2011). In 2016, the same 14 PCAs were evaluated using IMET and the results are given in OFAC (2018). The 2021 assessments also used IMET. IMET has made data and information more accessible for conservation managers and streamlined development of management plans by providing evidence. It has also enabled successful negotiations for resources, particularly directing attention and support toward two of the most vulnerable PCAs.</td>
</tr>
<tr>
<td>Comoros</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>METT</td>
<td>METT assessments of 3 MPAs (Mitsamiouli-Ndroude, Coelacanth, and Shiswani National Parks) were carried out in 2023; the results were used in the development and implementation of annual work plans of each MPA. Not yet reported to GD-PAME.</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>53</td>
<td>26(90)</td>
<td>49</td>
<td>METT, RAPPAM, IMET, COA</td>
<td>IMET used most recently for 33 assessments in 18 PCAs. The results have helped diagnose management problems and generated information for decision-making. There are five WHS (Virunga, Kahuza Bleza, Garamba, Salonga and Okapi), all of which have been assessed using COA three times, each time scoring ‘Critical’. In Salonga National Park WHS, this was the case despite IMET having been used six times between 2016–2022 and being considered as having had positive effects and/or impacts on the conservation status of the WHS. This suggests a lack of good co-ordination between the different assessment approaches.</td>
</tr>
<tr>
<td>Djibouti</td>
<td>7</td>
<td>1(1)</td>
<td>14</td>
<td>METT</td>
<td>GD-PAME record is for Haramous in 2009. A UNDP GEF MPA project is underway and a mid-term evaluation was undertaken in 2021[73] which included METT assessments of three MPAs (of which Haramous, also a wetland site, was one), and also of sites planned for designation as new MPAs.</td>
</tr>
<tr>
<td>Eritrea</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>METT</td>
<td>A 2014–2021 UNDP GEF project on improving PCA operationalisation included an indicator of “METT scores for at least three marine/terrestrial protected areas increase by 25%”[74]; this project should have resulted in some METT assessments. The national target of 60% completed PAME assessments has not been met.</td>
</tr>
<tr>
<td>Eswatini</td>
<td>15</td>
<td>3(3)</td>
<td>20</td>
<td>IMET</td>
<td>IMET assessments were conducted in three nature reserves (Mlawula, Malolotja and Mantenga) in 2022.</td>
</tr>
</tbody>
</table>

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[71] For more information, please see: https://erc.undp.org/evaluation/documents/download/20179
[73] For more information, please see: https://erc.undp.org/evaluation/documents/download/21752
[74] For more information, please see: https://www.undpopenplanet.org/projects/Operationalizing_Protected_Area_Management_Systems_in_Eritrea/
<table>
<thead>
<tr>
<th>Country</th>
<th>Total PAs - WDPA</th>
<th>No. PAs with assessments (total assessments in brackets)</th>
<th>GD-PAME</th>
<th>% PAs assessed</th>
<th>Methods used</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>138</td>
<td>17(24)</td>
<td>12</td>
<td>RAPPAM, Birdlife IBA METT, COA EOH</td>
<td>The most recent records on GD-PAME are for METT assessments in 2014. However, the METT was used for five PCAs in the UNDP/GEF project “Enhanced Management of Protected Areas” in 2017 and 2020. Baseline scores were low: Kafta Shiraro - 46, Bable Sanctuary - 13, Chebera Churchura - 30, Mago - 15 and Omo -13. The 2020 mid-term review concluded the targets for the METT scores (37, 33, 50, 39, 32) were too high (the average METT score is only 35%); it noted the difficulty of attributing change in METT scores to project outputs as the baseline and that updated METT tables do not provide explanations for the scores given (Muthui and Yimer, 2020). Only two sites (Bale and Simien) have management plans and business plans, and all PAs are threatened by overgrazing, poaching, firewood collection, illegal settlement and farming. In 2021, the 98 PCAs listed at that time on the WDPA, as well as others not listed, were assessed through the BIOPAMA project, using the RAPPAM tool as an online survey (Geda, 2022). This concluded that data quality was inadequate for PAME assessments, which may explain why these assessments were not reported to GD-PAME. The Simien NP WHS has been assessed three times using the COA, with no change in rating which is ‘of significant concern’. It was also assessed in 2005 with the METT, and in 2014 with EoH (supported by PAPACO).</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>409</td>
<td>41 (70)</td>
<td>10</td>
<td>METT, IMET, WHO WIO- MPA</td>
<td>The METT is the most frequently used tool. More recently, IMET has been trialled in MPAs: three most recent GD-PAME records are for IMET at (Mt Elgon 2016, Kisite MNP 2019, Malindi MNR 2021); IMET was also used at Mombasa, Watamu, Kisite, and Kiunga in 2021 (Roggieri, P. email, 2023). KWS reportedly regularly assesses efficiency of management strategies, community involvement, law enforcement, and conservation outcomes. MPAs are assessed annually (Chadwick and Tuda, 2021). The three WHS that have been assessed with COA either show no change or a decline in rating. Mt Kenya NP, and the Kenya Lake System in the Great Rift Valley were both assessed in 2014 with support from PAPACO. Three conservancies (Ol Kinyei, Lewa Wildlife and Ol Pejeta) are Green Listed sites and a fourth conservancy (Mara North) is a candidate Green List site. Kisite-Mpunguti Marine Park &amp; Reserve is a Blue Park, having received a Gold Award in 2021.</td>
<td></td>
</tr>
</tbody>
</table>

75 For more information, please see: https://www.undp.org/ethiopia/projects/enhanced-management-protected-areas
77 For more information, please see: https://www.undp.org/ethiopia/projects/enhanced-management-protected-areas
### Table 10.1: Summary by country of PAME assessments (continued)

<table>
<thead>
<tr>
<th>Country</th>
<th>Total PAs – WDPA</th>
<th>No. PAs with assessments (total assessments in brackets)</th>
<th>% PAs assessed</th>
<th>Methods used</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesotho</td>
<td>6</td>
<td>2(5)</td>
<td>33</td>
<td>METT, IMET, SAGE, COA</td>
<td>No significant changes in PAME, as assessments were only recently understood to be important. IMET and SAGE were piloted in Sehlabathebe National Park in 2021/22. IMET highlighted the need for increased input for infrastructure, equipment, facilities, and budget; improvements to process (research, monitoring, law enforcement, and maintenance), and improved work on management outcomes; and emphasised the need for technical and financial assistance for further training and implementation of assessment recommendations. The Maloti-Drakensberg Park WHS declined in quality in 2020 (see Table 10.2).</td>
</tr>
<tr>
<td>Madagascar</td>
<td>171</td>
<td>73 (74)</td>
<td>42</td>
<td>SAPM, IEG, SMART, PAMETT, METT, EoH, R-METT, IMET</td>
<td>At least two of the tools recorded on the GD-PAME are not assessment tools: IEG is the Independent Evaluation Group (World Bank 2021); and SAPM is the Madagascar Protected Areas System. SAPM has used the nationally adapted METT (PAMETT) since 2019, with scores ranging from 59 to 85. The national tool has 31 core questions with, for some years, additional ones and a scoring system from 0-3 with the option to gain additional points for certain indicators. Eklund et al. (2019) used the national tool for a review of earlier evaluations (2005–2010). The 31 core questions were placed in four categories: (a) Design and Planning, (b) Capacity and Resources, (c) Monitoring and Enforcement Systems, and (d) Decision Making Arrangements, in order to capture different dimensions of management, instead of calculating a composite score clumping all questions together. It was found that the majority of PCAs reduced deforestation and those with higher PAME scores did not perform better in relation to the threat of deforestation. In 2023, IMET1 was used to assess 43 PCAs, supported by BIOPAMA (BIOPAMA, 2023) (not yet recorded on GD-PAME). The Rainforests of the Atsinanana WHS has had a rating ‘of Significant Concern’ since 2014 (it was also assessed using EoH in 201479, supported by PAPACO); the rating for Tsingy de Bemaraha Strict Nature Reserve has deteriorated slightly. Nosy Hara National Park is a candidate Green List site.</td>
</tr>
<tr>
<td>Malawi</td>
<td>133</td>
<td>21(30)</td>
<td>15</td>
<td>METT IMET COA EoH</td>
<td>The METT was used in eight PCAs in 2022 (Nyika National Park, Vwaza Wildlife Reserve, Vwaza Marsh Wildlife Reserve, Majete Wildlife Reserve, Lengwe National Park, Mwabvi wildlife Reserve, Kasungu National Park, Matandwe Forest Reserve) and in 2023 METT was used in Lake Malawi National Park. Some (but not all) of these assessments are on GD-PAME. IMET is being piloted at Lake Malawi NP by Malawi University of Science and Technology (MUST) with the Department of National Parks and Wildlife (DNPW), and national guidelines on PAME assessment are being produced. Lake Malawi National Park WHS has remained at ‘of significant concern’ since 2014 (see Table 10.2); it was also assessed using EOH in 201380.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Total PAs - WDPA</th>
<th>No. PAs with assessments (total assessments in brackets)</th>
<th>% PAs assessed</th>
<th>Methods used</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mauritius</td>
<td>44</td>
<td>13 (13)</td>
<td>29 METT</td>
<td>GD-PAME entries are for 2009, mainly for terrestrial PCAs. METT assessments of MPAs were undertaken during two UNDP GEF projects: Partnerships for marine protected areas in Mauritius and Rodrigues (c.2008) and Mainstreaming Biodiversity into the Management of the Coastal Zone in the Republic of Mauritius (2015–2021).</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>58</td>
<td>25 (174)</td>
<td>43 METT, RAPPAM, IMET</td>
<td>Five PCAs have been assessed since 2020, including repeat assessments of Giélé National Park, Maputo Special Reserve, and Marromeu National Reserve, and assessments within one year in Niassa Reserve using both METT and IMET (2021). Many PCAs have been assessed more than once. According to Mozambique’s 6th national report to the CBD, 54% of PAs evaluated using METT had scores greater than 50%.</td>
<td></td>
</tr>
<tr>
<td>Namibia</td>
<td>148</td>
<td>18 (40)</td>
<td>12 METT Birdlife IBA</td>
<td>The most recent GD-PAME records are for 2013/2014. The 6th National Report to the CBD states that PAME targets were met and that METT scores of nine PCAs with GEF funding (2014–2018) showed a decline in one site, no change in another, and increased scores in seven PCAs. Namib Sand WHS has been assessed three times, with no change in rating which is ‘Good’ (see Table 10.2).</td>
<td></td>
</tr>
<tr>
<td>Seychelles</td>
<td>51</td>
<td>6 (10)</td>
<td>11 METT Birdlife IBA EoH COA WIO MPA</td>
<td>GD-PAME records seven assessments for Aldabra: Birdlife IBA was used in 2001, recorded separately for the three overlapping designations (Special Reserve, WHS, Ramsar Site); the WHS was assessed using EoH in 2002 and 2007 and COA in 2014, and the Ramsar Site was assessed with the METT in 2009. Single assessments are recorded for Cousin (WIO MPA 2003), Praslin (Birdlife IBA in 2001) and Vallee de Mai WHS (COA in 2014). There have been other unrecorded PAME assessments. METT may have been used in the GEF-funded PCA expansion project (Klaus, 2015), and definitely used in the Seychelles Protected Area Finance Project at: Vallee de Mai, Cousin Island Special Reserve, Denis Island, North Island, Silhouette Island National /marine park, Recif Island, Curieuse National / Marine Park, La Digue Veuve Special Reserve, Morne Seychellois; the final evaluation found significant improvement in the scores (Braby and Gonzalves, 2021). The METT assessments provided valuable insights into the state of PCA management at the time. Both Aldabra Atoll and Vallee de Mai WHS have received ratings of Critical with some Concerns, for all three years they were assessed with the COA (see Table 10.2). Aldabra Atoll Special Reserve is a Blue Park, having received a Platinum Award in 2019.</td>
<td></td>
</tr>
<tr>
<td>Somalia</td>
<td>21</td>
<td>0</td>
<td>0 -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


82 For more information, please see: [https://www.undp.org/sites/g/files/zskgke326/files/migration/mu/fbd282e0905183d76b9f05d6bab5ae33d87d992f205e7ba5c23142f12fab891.pdf](https://www.undp.org/sites/g/files/zskgke326/files/migration/mu/fbd282e0905183d76b9f05d6bab5ae33d87d992f205e7ba5c23142f12fab891.pdf); NB – the author of this chapter was the consultant on some of these assessments
### Table 10.1: Summary by country of PAME assessments (continued)

<table>
<thead>
<tr>
<th>Country</th>
<th>Total PAs - WDPA</th>
<th>No. PAs with assessments (total assessments in brackets)</th>
<th>% PAs assessed</th>
<th>Methods used</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>1669</td>
<td>274 (1517)</td>
<td>16</td>
<td>METT-SA</td>
<td>A nationally tailored version of the METT has been developed and there is a target of 77% of the area of state-managed PCAs to have a METT score above 67%. For further details, see case study.</td>
</tr>
<tr>
<td>South Sudan</td>
<td>27</td>
<td>4(4)</td>
<td>14</td>
<td>METT</td>
<td>All assessments were undertaken in 2009, when this country was part of Sudan.</td>
</tr>
<tr>
<td>Sudan</td>
<td>23</td>
<td>3 (3)</td>
<td>13</td>
<td>Birdlife IBA Gobi Survey, Bremi COA</td>
<td>GD-PAME assessments are only for Dinder National Park: 2001 (Birdlife IBA), 2006 (Gobi Survey) and 2013 (Bremi Framework). Sanganeb Marine National Park and Dungonab Bay – Mukkawar Island Marine National Park WHS has been rated as Good with some concerns (see Table 10.2).</td>
</tr>
<tr>
<td>Tanzania</td>
<td>872</td>
<td>172 (307)</td>
<td>19</td>
<td>METT IMET</td>
<td>Tanzania has the second largest number of assessments in the region, after South Africa, many PCAs having been assessed several times. Over 90% used the METT, with one record of IMET being used in Mafia MPA in 2021 (BIOPAMA holds additional records for IMET assessments in four other MPAs in 2021 (Roggieri, 2023)). In 2022, METT8 assessments were undertaken on all (19) Forest Reserves supported by a BIOPAMA Small Technical Grant. The ratings for the four WHSs are shown in (see Table 10.2); Selous Game Reserve continues to be rated ‘Critical’. Chumbe Island Coral Reef Sanctuary is a Blue Park, having received a Gold Award in 2018.</td>
</tr>
<tr>
<td>Uganda</td>
<td>711</td>
<td>37 (55)</td>
<td>5</td>
<td>Birdlife METT IMET</td>
<td>IMET was used for Mount Elgon in 2016 (two records listed, which may be duplicate entries) and is being used to develop the General Management Plan for Kidepo National Park (assessment undertaken in 2023); the tool is considered useful for analysis of previous planning work and subsequent improvement of planning and establishment of a baseline. It is also a useful educational tool for park staff and encourages them to look for data and information about issues being assessed. It has helped the management team to understand weakness and focus investments in the right direction. The results allowed arrangements to be made for field reconnaissance and stakeholder consultations as additional data sources. Part of the results from the IMET assessment will form a section in the new management plan while other results will strengthen other sections (per comm. Email to C. Metzler from R. Kapere, 2023). The main challenge to improving management is limited funding. Both WHSs have been rated ‘Green with some concerns’ in successive assessments (see Table 10.2).</td>
</tr>
<tr>
<td>Zambia</td>
<td>641</td>
<td>23 (66)</td>
<td>3</td>
<td>METT Birdlife RAPPAM IMET</td>
<td>METT has been the main tool. As detailed in Zambia’s Protected Area System Master Plan (2013), a modified national version of METT (METTPAZ) is used in PCAs managed by the Zambia Wildlife Authority (METTPAZ) (Mwima, 2007, in Stolton et al., 2019). In 2021, IMET was used in Mafinga Hills. Mosi-oa-Tunya/Victoria Falls WHS has had a rating of ‘Green with some concerns’, over three assessments (see Table 10.2). North Luangwa NP achieved Green List status in 2022. Five other PCAs are Candidate Green List sites: Kafue National Park, Bangweulu Game Management Area, Simalaha Community Conservancy, Nsumbu National Park, and South Luangwa National Park.</td>
</tr>
<tr>
<td>Country</td>
<td>Total PAs - WDPA</td>
<td>No. PAs with assessments (total assessments in brackets) GD-PAME</td>
<td>% PAs assessed</td>
<td>Methods used</td>
<td>Additional information</td>
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<td>-------------</td>
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</tr>
</tbody>
</table>
| Zimbabwe    | 233              | 9 (10)                                                        | 3              | METT Birdlife WHS COA IMET        | Since 2019, the UNDP GEF 6 and Zimparks project used METT in the seven Mid-Zambezi Valley PAs (Mana Pools National Park, Hurungwe Safari Area, Doma Safari Area, Charara Safari Area, Chewore Safari Area, Dande Safari Area and Sapi Safari area) that have developed their General Management Plans. Scores since 2020 increased each year from an initial 60%. METT has been used in:  
• Hwange National Park (funded by International Fund for Animal Welfare and Zimparks) 2022; results showed an improvement in PAME scores.  
• Gonarezhou National Park: (funded by Gonarezhou Trust - Zimparks and the Frankfurt Zoological Society) 2022. Results showed improvement from 2021 and earlier PAME scores.  
• Chimanimani National Park (funded by Birdlife Zimbabwe and EU): results have shown a significant improvement in all management facets. Efforts have been made to enhance assessment frequency, with plans to initiate IMET for Victoria Falls/Zambezi National Parks and Kazuma Pan National Park.

Mosi-oa-Tunya/Victoria Falls WHS, shared with Zambia, has had a rating of 'Green with some concerns', over three assessments. In contrast, Mana Pools National Park, Sapi and Chewore Safari Areas WHS has been rated as of 'Significant Concern' over three assessments (see Table 10.2). |
| Total       | 5521             | 795 (2550)                                                    | 14             |                                   |                                                                                                                                                         |
10.3.1. Trends in PAME in ESA by country

Thirteen years ago, Leverington et al. (2010), using early GD-PAME data for 644 PCAs, identified an overall mean effectiveness score for African PCAs as 49%, which was below the world mean (53%) and lower than any other region. Some 22% of the assessments scored in the bottom third of the scale (clearly unacceptable), while only 17% scored in the top third (sound management). As cited in SoPACA (2020), a 2017 analysis of management effectiveness in East Africa by BIOPAMA showed that only 8% of the assessed PCAs had ‘sound management’, 34% had ‘basic management’, 40% had ‘basic management with major deficiencies’, and 18% had ‘inadequate management’. The same dataset was used to evaluate the effectiveness of each aspect of PCA management: gazettement (over 80%), boundary marking and fencing (over 70%), and appropriateness of design and effectiveness of governance and leadership (both over 60%) scored most highly. Overall, the indicators for the planning component scored most highly, while indicator scores for process and input were lowest. The data were not available for an update of these figures for this report.

10.3.2. IUCN Green List progress in ESA

The IUCN Green List programme, which involves an assessment process for PCAs with associated independent certification, is now being promoted in ESA countries with the support of ESARO. The first step in the process is the establishment of an Expert Assessment Group for the Green List (EAGL) for the jurisdiction in question. EAGLs are usually established at the country level and are now in place for Kenya, Madagascar, and Zambia. For MPAs in the Western Indian Ocean, a regional EAGL was set up in 2023. This group includes Comoros, Kenya, Madagascar, and South Africa as members, and Mauritius, Mozambique, Seychelles, Somalia, and Tanzania have indicated their intention to participate. To date, North Luangwa National Park in Zambia and three conservancies (Ol Kinyei, Lewa Wildlife, and Ol Pejeta) in Kenya have been listed. An additional conservancy (Mara North) in Kenya and Nosy Hara National Park in Madagascar are candidates, both to be assessed by the relevant national EAGL.

10.3.3. World Heritage Site assessment results

By 2023, there were 38 natural and mixed WHS in the region; nine countries have no natural or mixed WHS as yet. Three sites in the region received WHS status too recently to have been assessed. Of the 35 that were assessed in 2023, 40% (14) are Good with Some Concerns; 20% (7) are Critical; 20% (7) are Of Significant Concern, and only one site (Namib Sand Sea) is Good. Most sites have had the same rating over time, but where there have been changes, in most cases, the results of the assessments have led to lower ratings, as shown in Table 10.2.

Case study: PAME assessment in South Africa

With by far the largest number of PCAs of all countries in the region (1,669 listed in the WDPA), South Africa is also furthest advanced in assessing PAME. A nationally adapted web-based version of the METT, called METT-SA3, is used for assessments. It was initially developed with the support of WWF and subsequently revised, based on the experience of using it.

In all state-managed terrestrial PCAs, PAME assessments are undertaken at least every two years (in some sites annually). After the 2017/2018 assessment, all parks implemented specific actions...
## Table 10.2: WHS ratings for conservation outlook assessments 2014–2020

<table>
<thead>
<tr>
<th>Country</th>
<th>World Heritage Site</th>
<th>2014</th>
<th>2017</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td></td>
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<tr>
<td>Botswana</td>
<td>Okavango Delta</td>
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<td>Burundi</td>
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<td>Comoros</td>
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<tr>
<td>Djibouti</td>
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<tr>
<td>DRC</td>
<td>Virunga National Park</td>
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<td></td>
<td>Kahuza Bieza National Park</td>
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<td></td>
<td>Garamba National Park</td>
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<td></td>
<td>Salonga National Park</td>
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<tr>
<td></td>
<td>Okapi Wildlife Reserve</td>
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<tr>
<td>Eritrea</td>
<td>Simien National Park</td>
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<tr>
<td></td>
<td>Bale Mountains National Park</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Kenya</td>
<td>Lake Turkana National Parks</td>
<td></td>
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<tr>
<td></td>
<td>Mount Kenya National Park</td>
<td>N/A</td>
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<tr>
<td></td>
<td>Kenya Lake System in the Great Rift Valley</td>
<td></td>
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<tr>
<td>Lesotho</td>
<td>Maloti-Drakensberg Park</td>
<td></td>
<td></td>
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<tr>
<td>Madagascar</td>
<td>Andrefana Dry Forests</td>
<td>N/A</td>
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<td>N/A</td>
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<td></td>
<td>Rainforests of the Atsinanana</td>
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<td></td>
<td>Tsingy de Bemaraha Strict Nature Reserve</td>
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<tr>
<td>Malawi</td>
<td>Lake Malawi National Park</td>
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<tr>
<td>Mauritius</td>
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<tr>
<td>Mozambique</td>
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<tr>
<td>Namibia</td>
<td>Namib Sand Sea</td>
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<tr>
<td>Rwanda</td>
<td>Nyungwe National Park</td>
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<td>N/A</td>
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<td>Seychelles</td>
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<tr>
<td></td>
<td>Aldabra Atoll</td>
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<td></td>
<td>Vallee de Mai Nature Reserve</td>
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<td>Somalia</td>
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<tr>
<td>South Africa</td>
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<tr>
<td></td>
<td>Barberton Makhonjwa Mountains</td>
<td>N/A</td>
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<td>N/A</td>
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<tr>
<td></td>
<td>Cape Floral Region Protected Areas</td>
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<td></td>
<td>iSimangaliso Wetland Park</td>
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<td>South Sudan</td>
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<tr>
<td>Sudan</td>
<td>Sanganeb Marine National Park and Dungonab Bay – Mukkawar Island Marine National Park</td>
<td>N/A</td>
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<tr>
<td>Tanzania</td>
<td>Ngorongoro Conservation Area</td>
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<td></td>
<td>Serengeti National Park</td>
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<td></td>
<td>Selous Game Reserve</td>
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<td></td>
<td>Kilimanjaro National Park</td>
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<tr>
<td>Uganda</td>
<td>Bwindi Impenetrable National Park</td>
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<td></td>
<td>Rwenzori Mountains National Park</td>
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<td>Zambia</td>
<td>Mosi-oa-Tunya/Victoria Falls</td>
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<tr>
<td>Zimbabwe</td>
<td>Mana Pools National Park, Sapi and Chewore Safari Areas</td>
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<tr>
<td></td>
<td>Mosi-oa-Tunya/Victoria Falls</td>
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</tbody>
</table>

Source: [https://worldheritageoutlook.iucn.org/explore-sites](https://worldheritageoutlook.iucn.org/explore-sites)
to improve management effectiveness. The 2019/20 average SANParks METT score was 71%, the same score achieved in 2017/18. The 2021 average METT score for the 20 national parks assessed was 70%, slightly below the 71% achieved in 2019 (SANParks, 2022). As in previous years, all parks identified a minimum of five corrective actions to undertake as a result of the assessments. The 2021 assessment included all six SANParks-managed MPAs for the first time, and these achieved an average score of 60%. Overall, in 2021, the national parks performed well, with 85% of terrestrial parks and 33% of MPAs scoring above the 67% METT threshold (SANParks, 2022). Provincial reserves have also been assessed using the adapted METT, and this has shown that they have not performed as well as the national parks, with 87% scoring less than 67% and 13 of these scoring less than 33% (Patel et al., 2023). South Africa has a target for PAME assessments of its national parks, and in the 2023/24 financial year, the aim is to assess 21 national parks; it is expected that 80% of the assessed sites will achieve a METT score of 67% and above (SANParks, 2023).

PAME assessments for MPAs tend to be more detailed and have been undertaken for longer, supported by WWF-South Africa. These are well documented and reported in the ‘METT-SA’ reports. Assessments of all MPAs were conducted in 2009 (METT-SA1 – Tunley 2009), 2013/14 (METT-SA2 – Chadwick et al. 2014), and 2018 (METT-SA3 – Adams and Kowalski 2021). The 2014 assessment showed a number of improvements since 2009, including monitoring programmes, enhanced enforcement capabilities, and improved stakeholder engagement, but noted continued limitations in budgets, administrative processes, inadequate regulations, availability of skilled MPA staff, and development of strategic plans. The 2018 assessments showed that most MPAs continued to lack adequate funding, staffing, and resources, extensive monitoring to inform adaptive MPA management, adequate public awareness programmes, effective law enforcement, and adequate cultural heritage management (Adams and Kowalski 2021).

The three WHS in South Africa are rated as ‘Good with some concerns’, and have generally maintained this rating over time (see Table 10.2).

A 2021 review of METT assessments cautioned against interpreting aggregated METT scores as the sole arbiter of PCA performance, recommending that the score not be used as an indicator for reserve management performance appraisals. It advised that a carefully nuanced interpretation of METT assessments should be used to explain progress or regression and identify priorities for intervention (Van der Merwe et al. 2021).

10.3.5. Case study: Western Indian Ocean PAME assessment of MPAs

MPAs in the WIO have a long history of PAME assessment, dating back to the early 2000s, when IUCN piloted a regional tool, based on the IUCN PAME framework, in seven MPAs in Seychelles, Tanzania, and Kenya (Wells and Mangubai, 2005). Although the methodology was probably too complex for some sites, all involved found a benefit in the process. It helped MPA staff think about the reasons behind the establishment of the site, how their management activities can impact both biodiversity and stakeholders, how even small, insignificant management issues can affect the overall success of an MPA, and it encouraged them to look more carefully at their management plans. All sites felt that the results of the assessments should be incorporated into the review and revision process for management plans and, in the case of Mnazi Bay, Tanzania, into the development of the first management plan (Wells, 2006).

Since then, a variety of tools have been used throughout the WIO to assess PAME in MPAs and have undoubtedly helped to improve management (see South Africa case study). A region-wide assessment, undertaken with the support of the Nairobi Convention (UNEP-Nairobi Convention and WIOMSA, 2021), found that about 40% of 101 MPAs in the WIO region are managed effectively, with a similar result for sites managed by communities – referred to as Community Management Areas (and many now being considered as potential OECMs). This assessment used a version of the METT that was adapted to assess 21 management elements (instead of the usual 30). Each country’s METT assessment was conducted by in-country MPA managers, with a regional independent expert. The key finding was that legislative and institutional frameworks that support the establishment and management of MPAs exist in every country, suggesting that there is now sound political will. However, there is still widespread failure to implement legislation, and in many countries, there is ineffective functioning of mandated institutions, shortfalls in financial and personnel capacity, insufficient clarity on MPA boundaries, leading to compliance challenges, and management decision support systems that are only weakly guided by science.

A further sign of increasing PAME is that, of the 27 MPAs in 22 countries that have received Blue Park awards, three (11%) are in ESA: Kenya: Kisite-Mpunguti Marine Park & Reserve (Gold, 2021); Seychelles: Aldabra Atoll Special Reserve (Platinum, 2019) and Tanzania/Zanzibar: Chumbe Island Coral Reef Sanctuary (Gold, 2018). Blue Parks is a global initiative to incentivise effective MPAs and involves the nomination of MPAs that meet certain design and management criteria, followed by assessment and selection of sites for awards by globally recognised experts (Marine Conservation Institute 2022).

Although the PAME assessment tools described in this chapter are equally applicable to MPAs, several tools have been developed specifically for the marine environment. The MPA Guide is a
complementary approach to understanding effectiveness. Unlike other PAME tools, it is used to look at expected or likely outcomes of MPAs which can be predicted on the stage of establishment and level of implementation. The Marine Mammal Management toolkit\textsuperscript{84} contains two Self-Assessment Tools (SATs) designed for MPA managers, stakeholders, and other relevant parties to assess the extent to which marine mammals are included in their management plans. It has been piloted in Kiunga Marine Biosphere Reserve, Kenya, and Menai Bay Conservation Area (MBCA) and Tumbatu Marine Conservation Area (TUMCA), both in Tanzania.

Responding to the negative impacts of climate change, whether through adaptation or mitigation, is now a key aspect of effective management but is not well addressed in most PAME assessment tools. However, since climate change impacts are an existential threat for some MPA protected features, such as coral reefs

Table 10.3: Summarised country findings of the snapshot 2018 management effectiveness assessment for the Western Indian Ocean marine protected areas

<table>
<thead>
<tr>
<th>Country</th>
<th>Comoros</th>
<th>French Territories in WIO</th>
<th>Kenya</th>
<th>Madagascar</th>
<th>Mauritius</th>
<th>Mozambique</th>
<th>South Africa</th>
<th>Seychelles</th>
<th>Tanzania (URT)</th>
<th>Zanzibar (URT)</th>
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<tbody>
<tr>
<td>1. Legal status</td>
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<td>2. Protected area regulations</td>
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<td>3. MPA boundary demarcation</td>
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<td>4. Zonation planning</td>
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<td>5. Management plan</td>
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<td>6. Implementation of management plan</td>
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<td>7. Operational budget</td>
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<td>8. Annual plan of operation</td>
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<td>9. Administrative support systems</td>
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<td>10. Human resource capacity</td>
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<td>11. Staff development programmes</td>
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<td>12. Operational infrastructure</td>
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<td>16. Biodiversity knowledge and understanding</td>
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<td>17. Ecological processes</td>
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<td>18. Research programme</td>
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<td>19. Protection systems</td>
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<td>20. Public education. Awareness and communication programme</td>
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<td>21. Community partners</td>
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</table>

- No evidence presented/ no effort made to address indicator
- Some effort made to address indicator but less than minimum standard achieved
- Minimum standards achieved but gaps still exist
- Meets best practice

\textsuperscript{84} For more information, please see: https://marine-mammals.info/self-assessment-tool
devastated by bleaching, and for the numerous other species and ecosystems negatively impacted by ocean warming and acidification (Bates et al., 2019), this has been a particular focus. Two tools have been developed specifically for MPAs to integrate climate change into broader assessments. The Climate Change Response, Adaptation, and Planning Tool (CC-RAPT), developed by the U.S. National Oceanic and Atmospheric Administration and IUCN WCPA’s Protected Areas and Climate Change Specialist Group, has a series of questions on how climate is integrated into MPA management, including threat assessment, science and monitoring, vulnerability assessment, resilience and adaptation, mitigation and blue carbon, and education and outreach. The Resilience Self Assessment Tool (R-SAT), developed as part of an EU-funded project includes sections on awareness and responsiveness, integration of the MPA within the broader landscape and seascape, stakeholder and community engagement, policy and institutional resilience, and the state of knowledge.

A number of capacity-building initiatives are underway in the region to increase MPA management effectiveness. The Western Indian Ocean MPA Professional Network (WIOMPAN), established with the support of the Western Indian Ocean Marine Science Association (WIOMSA) and the Nairobi Convention, provides a mechanism to enable resource managers to come together, directly experience and learn from one another and share lessons learned, while setting new standards for the management of MPAs and CMAs in the WIO region. WIOMPAN brings together MPA and CMA practitioners from the 10 Nairobi Convention countries – Kenya, Tanzania, Mozambique, South Africa, Comoros, Seychelles, Mauritius, Somalia, Madagascar and Reunion (France). The first regional WIOMPAN Knowledge Exchange Workshop was held in Tanzania in November 2023, with the aim of strengthening management effectiveness of WIO marine conservation areas as well as professionalising of MPA staff (WIOMSA, 2023).
10.4. Recommendations for assessments

The technical, administrative, and financial burden of supporting periodic assessments on a regular basis, for numerous sites and helping with the follow-up adaptive management required, is a major challenge in the region. With the 2030 deadline approaching fast, there is a need for urgent action, and the following recommendations are suggested.

Policy and institutional arrangements for PAME assessment

Greater national-level political will and understanding of the need for improving PAME are required to support the development of appropriate institutional arrangements that will lead to the mainstreaming of PAME assessments into the PCA management cycle, with a process to ensure that measures to enhance management effectiveness are taken where weaknesses are identified. In particular, there needs to be greater synergy and collaboration between the various programmes that support PAME assessment, including the World Heritage initiative, the IUCN Green List, BIOPAMA (introducing the IMET and supporting the RRH), NGOs and other bodies supporting the development and use of national PAME tools, and donors requiring PAME assessments as part of PCA projects. Guidance on how to streamline PAME assessments for transboundary PCAs (e.g., Kavango-Zambezi (Zambia, Zimbabwe) and Maloti-Drakensberg Transboundary WHS (South Africa, Lesotho)) is needed, as well as for PCAs with several overlapping but not necessarily contiguous designations. For example, many WHSs overlap with national designations, Ramsar sites, etc., resulting in PAME assessments carried out for a particular designation being partially assessed.

Capacity-building and training

Whilst recognising that various institutions, including ESARO, the Western Indian Ocean Marine Science Association, and BIOPAMA, have undertaken capacity-building activities over the last two decades, the rather limited apparent progress in the ability to both undertake and report on PAME assessments indicates that more support and training are required. Training is needed in most countries and at all levels for the development and/or adaptation of tools, understanding the assessment process itself, feeding the results into management, and monitoring and reporting. Regional PAME assessment training workshops will be particularly cost-effective given the similar context of PCAs across much of the region.

Improved funding

It appears that PCA assessments in the ESA are undertaken only if there is external donor support. Sustainable financing is a high priority for both good PCA management and the adoption of regular PAME assessments. PCAs need dedicated, secure, and adequate budgets if they are to achieve their objectives and mitigate and respond to shortfalls in management effectiveness. Countries should consider building PAME evaluations into the design of future projects on PCAs; donors and NGOs providing technical and financial support should similarly make this a high priority. Donor requirements have resulted in greater attention to the issue of management effectiveness and an increase in the number of PAME assessments being completed, which is welcome, but it is also critical to ensure that assessments are serving a substantive learning function, as well as improving management, and are not seen as just a box-ticking exercise.

National PAME assessment tools

Countries that have adapted and developed their own PAME assessment tools, such as South Africa, generally find it easier to integrate assessments into the PCA planning systems, and the results are more consistent over time. If a country has not yet adopted a tool for national PAME assessment, it is recommended that one of the existing methods is selected and adapted as needed to the local context. The tool must be practical and cost-effective to implement, and should provide a good balance between measuring, reporting, and managing. Tools that are expensive and time-consuming to use are less likely to be repeated. Given that a level of harmonisation between tools would be useful for comparing assessments across the region, it would be worth looking at the tools being used in neighbouring countries in case these could be adapted. It will also be important to be aware that assessment tools may need revision as conditions change or as a result of learning lessons from other assessments (again, the South Africa example demonstrates this). For example, PCAs now need to assess climate change impacts, adaptation, and mitigation, and some of the older tools do not cover this adequately. Rapidly changing economic conditions that impact heavily on PCAs may also mean that assessments need revision, with questions added or indicators revised.

Reporting nationally, regionally, and globally

The poor reporting on PAME assessment in the region makes it difficult to draw conclusions on progress. The number of PAME assessments undertaken in the region is increasing but, with some exceptions (e.g., South Africa), little information is being made available about the results, the efficacy of the tools being used, and the lessons being learned. PAME assessment reports should be archived at the national level to assist with regional and global reporting requirements; this needs considerable further support. The roles of national environment data portals (potentially as the primary depositories of national and/or site-based PAME assessments) and regional portals such as the RRH (as a repository for displaying/analyzing assessments and sharing assessment experience across the region) need exploring.

Sharing experiences and lessons learned

Sharing experiences within a region is vital for all aspects of PCA management, including PAME assessment, and the BIOPAMA project is playing an important role in this. BIOPAMA has helped to set up a network for users of the IMET and SAGE tools to share experiences, and access technical support and capacity development. There is also an international Facebook group for
Adopting new technology to assist with PAME assessments.

New technology is making the monitoring of PCAs and gathering data much easier. Assessment tools can be made available on smartphones or tablets, an approach being developed in some other regions, e.g., the Pacific. Questionnaires completed by stakeholders in the field could be sent directly back to the PCA office for analysis and even entered directly into a data system, avoiding loss of data or additional resources for data input. Countries that have adopted the SMART tool for enforcement and other monitoring activities have found that the data gathered through this technology can be useful for assessments (Stolton et al., 2021). There is also growing potential for using remote sensing and other satellite monitoring systems to monitor both the condition of PCA ecosystems (Gohr et al., 2022), and enforcement and compliance; for MPAs, unreported and unregulated (IUU) fishing is increasingly monitored through Global Fishing Watch, as well as drones and other technology such as passive acoustics.

10.5. Financing and resourcing of protected and conserved areas

Global reports emphasise the need for urgent action as we reach tipping points in our converging planetary crises. Biodiversity loss, climate change and the impacts they have on the marginalised in society are global threats but are most keenly felt by developing nations. One of the critical shortcomings of addressing these converging crises is the global underspend on environmental efforts with both nature and climate facing substantial financing gaps. Africa is no exception and currently faces a substantial financial shortfall in financing and resourcing to effectively address environmental and social challenges.

Sustainable landscapes underpin human health and well-being as well as sustainable and resilient economies. Africa is home to some of the world’s most remarkable landscapes and seascapes, filled with unique biodiversity and vast ecosystem services. This ecological infrastructure is Africa’s natural heritage and is critical to growing sustainable economies that provide a robust and resilient future for its growing population.

Key to the future of these sustainable land-and-seascapes are protected and conserved areas (PCAs) which act as cornerstones within landscapes and seascapes. Protected and conserved areas are critical to the United Nations Sustainable Development Goals (SDGs), notably raising employment, safeguarding access to clean water, ensuring environmental sustainability and resilience to future shocks, and increasing the amount of land and oceans under protection. However, they require tailor-made finance solutions to offer these benefits. The Convention on Biological Diversity (CBD) clearly outlines the vital importance of PCAs and encourages parties to both establish, protect, manage, and promote sustainable development in and around PCAs. The CBD also specifically notes the role that finance plays in achieving these aims. These aims are reflected in the adopted Global Biodiversity Framework (GBF) which notes targets on area-based conservation as well as financing including Target 3, 18 and 19 respectively. Addressing financing of PCAs is a critical part of improving the effectiveness of PCAs.

The role of sustainable finance in supporting PCAs to achieve their full potential cannot be underestimated. PCAs across Africa that are well-managed foster countless benefits including water and food security, resilience to the impacts of climate change, job creation in emerging green sectors, and biodiversity protection. The financing and resourcing of PCAs requires specific attention if they are to provide this list of benefits environmentally, socially, and economically.

Key factors to the limited financing and resourcing of PCAs include the limited budget allocations by national governments for the environment, compared to other sectors and a worrying trend that these public budgets have been decreasing, this is particularly true for developing nations such as in Africa due to competing development needs. This places an additional burden on already constrained resources for the adequate management of the existing protected areas. With the ambition of 30x30, even more resources are now required to increase the PCA estate to adequately conserve Africa’s biological diversity and ecosystem services and to provide benefits to the people living in and around these areas. Over-reliance on traditional sources of financing such as governments, donor agencies and conservation non-profits cannot meet the finance gap alone and additional sources of finance and innovative finance solutions are required.

The picture, however, is not all bleak with the sustainable horizon brighter than it has been in decades with increasing efforts to crowd in private sector financing, the rise of new and innovative finance solutions, notably in Africa, and the global drive to increase funding towards the GBF targets. Many of these solutions and emerging solutions are highlighted below.

Increasing the flow of finance from all sources and using all the tools at our disposal is what is required to create sustainable flows of finance for effective PCAs. This section unpacks this and highlights some key examples of innovation already in use in the region and notes strategies to make the financing of PCAs a scaled reality. It includes definitions and explanations, as this topic is somewhat new to many PCA audiences and ensuring clarity on terminology and concepts is critical. Some initial analysis of regional progress in diversification and sustainability of financing for PCAs is also included, but very little robust data is currently readily available.
Box 10.1: Financing gap

The IUCN Closing the Gap Report details the interaction between PCA effectiveness and financing in detail and provides clear examples that emphasise the importance of addressing the long-term financing of conservation efforts:

Perhaps the most striking example of this financing gap in the Eastern and Southern African region is a recent assessment of the annual cost of managing protected areas that support lions. This study assessed more than 282 state-owned protected areas and concluded that available funding only satisfied 10-20% of management needs. In total, the funding gap for Africa’s PAs with lions was estimated at approximately US$ 1.5 billion per annum (Lindsey, P.A., et al., 2018).

While PAs with lions are more expensive to manage and budget requirements differ from protected area to protected area, the outcome of this study provides a stark reminder of the sheer size of the annual conservation financing gap in Africa.

10.5.1. Definitions

Historical definitions of the term “conservation finance” (also called biodiversity finance) are narrowly focused on generating and managing revenue for conservation. The mechanisms and strategies employed by conservation finance practitioners are much broader and have great potential for reducing pressures on nature and generating revenues if they are better understood and implemented. Within the commercial finance sectors, the focus has traditionally been on reporting and compliance.

The Conservation Finance Alliance (CFA) defines conservation finance as “mechanisms and strategies that generate, manage, and deploy financial resources and align incentives to achieve nature conservation outcomes”. The CBD defines protected area financial sustainability as “the ability to secure stable and sufficient long-term financial resources, and to allocate them in a timely manner and appropriate form, to cover the full costs of protected areas (direct and indirect) and to ensure that PAs are managed effectively and efficiently”. Four main outcomes of conservation finance solutions can include:

a) Decreasing conservation costs;
b) Increasing the flow of capital;
c) Discouraging harmful actions; and
d) Incentivising positive actions.

These outcomes should be integrated among the mix of conservation finance solutions implemented for a given challenge. This applies across public, private and civic sectors.

PCAs play a crucial role in the provision of ecosystem services to people and the economy, notably to community areas around PCAs and, in many areas, forming the connective tissue between PCAs (Wuerthner et al., 2015). These ecosystem services are not possible without the adequate protection of biodiversity.

The CBD urges Parties to “mobilise as a matter of urgency through different mechanisms adequate and timely financial resources” and makes the vital importance of sustainable finance for PCAs and their effectiveness clear. The important role of financing PCAs sustainably can be simply summarised into three points:

1. Finance is needed for PCA expansion and notably for 30x30 and achieving GBF Target 3.
2. Finance is needed for the adequate and effective management of PCAs both those already established and those proposed to be created and supported under 30x30 efforts.
3. Finance is needed to demonstrate the social, economic and ecological value of PCAs particularly to mitigate risks for PCAs such as becoming less politically relevant and becoming vulnerable to downgrading, de-gazettement and/or downsizing, and to maximise opportunities such as supporting new green economic sectors, sustainable development and support a rights-based approach to conservation with benefits for custodians.

Terminology overlaps

We find different and interchangeable terms for finance that focuses on nature outcomes. The UN refers to “biodiversity finance” as finance with a positive impact on biodiversity. The Conservation Finance Alliance (CFA) refers to “conservation finance” as finance with positive outcomes for nature. Other global collectives refer to “landscape finance” as finance that speaks to the intersection of benefits for people and planet. The key message here is these all consider finance for nature. The Sustainable Finance Coalition (SFC) has created a glossary of terms from multiple sources to assist in the understanding of terms related to the financing of nature, including PCAs. (Available as an Annexure). A useful glossary of common conservation terms if also available in the Closing the Gap Report of 2020.

85 For more information, please see: https://www.cbd.int/protected-old/sustainable.shtml https://www.conservationfinancealliance.org/ www.sustainablefinancecoalition.org
10.5.2. Setting the scene

The optimal protection and management of PCAs requires adequate finance, and this has thus far not been achieved. Several studies have been conducted to estimate the sustainable finance gap that needs to be closed to enable the optimal management of PCAs in Africa. The sustainable finance gap is estimated to have grown from US$ 300–400 million per annum in 2014 (Credit Suisse, WWF, McKinsey, 2014) to between US$ 700–850 billion in 2022 (Living Planet Fund, UNEP, 2022).

Additionally, the GBF Target 3 requires countries to expand their PCAs significantly by 2023 (30x30). Thus, the potential expansion of PCAs will require an increase in funding for conservation management. However, the increase of protected and conserved areas has historically not correlated with an increase in finance for conservation management. Despite an expected increase in the government and donor financing to attain 30x30 targets, the financing gap is nearly impossible to cover without involvement from the private sector and moving beyond traditional funding sources.

To date, most of the finance for nature comes from government sources (public finance), with other traditional sources of finance for PCAs including grant and philanthropic funding, and self-generated income from Nature-based tourism, hunting, and wildlife ranching. It is estimated that public funds make up 83% of the total amount spent on Nature-based Solutions worldwide (IUCN ESARO, 2020). Although public finance clearly plays an important role, it is not adequate, and the limited contributions of private and innovative finance need to be drastically addressed if we are to adequately protect and manage the natural assets that are so crucial for the continued existence of our planet (GCP, 2018).

PCAs are increasingly required to diversify income streams and generate income from sources additional to the traditional sources indicated above. Innovative finance mechanisms such as biodiversity offsets, tax incentives, carbon finance, biodiversity credits, debt-for-nature swaps, payment for ecosystem services (PES), green and blue bonds, and the like, need to be considered, developed, and implemented where appropriate.

Efforts to close the sustainable finance gap need to be underpinned by a clear understanding of the context of each PCA and the system in which it operates. This includes an assessment of the PCA’s needs as well as communities in areas around and contiguous to the PCAs, the technical and management capacity and potential for new or enhanced Nature-based economic activities. Importantly, the implementation of innovative finance solutions is only possible if the required building blocks for those finance solutions are in place. Moreover, investment in nature needs to be prioritised to halt biodiversity loss to ‘acceptable’ levels as depicted in the graph below.
10.5.3. Sustainable finance for PCAs tool box

Achieving financial sustainability requires a strategic and deliberate approach to find, design and mobilise finance. It also requires a collective and collaborative approach. There has been growth in the collective efforts to develop finance for nature and specifically to support PCA financing through global, regional, national and local organisations as well as finance platforms and conservation finance collectives. Some of these platforms and organisations are noted below as they offer both insights into the importance of sustainable finance for PCAs but are a wealth of knowledge, tools and resources to support PCA financing. They are introduced here and the various tools and approaches and resources are detailed below.

The IUCN World Commission on Protected Areas (IUCN WCPA) relaunched its Specialist Group on Sustainable Financing (SFSG) at the African Protected Areas Congress (APAC) in Kigali, Rwanda in 2022 to support the global efforts on sustainable finance for PCAs and their multitude of stakeholders. Members of the WCPA are free to join this group and gain support and access to the SFSGs resources and expertise. The purpose of the SFSG is to enable and empower area-based conservation actors by developing and sharing knowledge, building awareness and capacity, and promoting innovation in sustainable finance solutions focusing on four goals: 1) Supporting Knowledge Development on Sustainable Finance for Area-based Conservation; 2) Building Awareness and Capacity amongst Practitioners and Institutions; 3) Promoting Innovation in Sustainable Finance; and 4) Strengthening IUCN WCPA Engagement on Sustainable Finance.

The UNDP BIOFIN Initiative (BIOFIN) notes sustainable finance for nature (or biodiversity finance) as a “pathway to a green recovery” highlighting investments to protect biodiversity, create jobs and opportunities for communities and to secure a sustainable future for people and the planet. BIOFIN’s team of experts are currently working in 40 countries to develop Biodiversity Finance Plans. These are described by BIOFIN as: “roadmaps towards a more sustainable future”.

The Sustainable Finance Coalition (the Coalition) finds, designs and mobilises tailor-made finance solutions for nature. The Coalition is a driving force for the incubation and implementation of finance solutions at their point of impact, ensuring effective and enduring naturescapes across Africa. Founded in 2019 by co-founding organisations Wilderness Foundation Africa (WFA) and WWF-South Africa, the Coalition’s model focuses on unique and innovative finance solutions that are targeted at the point of conservation and social impact, to allow for new flows of finance to reach the right people, in the right places to drive lasting change.

The 1000 Landscapes For 1 Billion People® is a collective platform to support sustainable solutions for landscapes globally, specifically noting that each landscape is unique but faces common challenges for collective action. Through five interconnected services 1000L provides tools, finance and connections to partners to support a joint vision for sustainable landscapes.

The Conservation Finance Alliance (CFA) is a globally leading professional association for conservation finance experts and practitioners. It offers a wealth of resources and conservation finance tools and studies.

For more information, please see: https://landscapes.global/
Table 10.4: Toolbox of resources: Global and regional finance solution resources

<table>
<thead>
<tr>
<th>Toolbox</th>
<th>Source</th>
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<tr>
<td>UNDP biofin catalogue of solutions</td>
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<tr>
<td>UNDP biofin map: interactive search function per country</td>
<td><a href="https://www.biofin.org/solution-search">https://www.biofin.org/solution-search</a></td>
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<tr>
<td>UNDP fire: finance resources for biodiversity</td>
<td><a href="https://fire.biofin.org/">https://fire.biofin.org/</a></td>
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<tr>
<td>Conservation finance alliance: resource library and conservation finance guide</td>
<td><a href="https://www.conservationfinancealliance.org/resources">https://www.conservationfinancealliance.org/resources</a></td>
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<td></td>
<td><a href="https://www.conservationfinancealliance.org/conservation-finance-guide">https://www.conservationfinancealliance.org/conservation-finance-guide</a></td>
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<tr>
<td>Sustainable finance coalition: inventory of solutions</td>
<td><a href="https://www.sustainablefinancecoalition.org">https://www.sustainablefinancecoalition.org</a></td>
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<tr>
<td>IUCN WCPA sustainable finance specialist group</td>
<td>Draft underway for the revision of the Good Practice Guidelines for Sustainable Financing of PCAs which will include a catch all of resources and practice.</td>
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<tr>
<td>1000 Landscapes: ILM guide and ILM resources</td>
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<td><a href="https://landscapes.global/integrated-landscape-finance-mechanisms/">https://landscapes.global/integrated-landscape-finance-mechanisms/</a></td>
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**Figure 10.4: Scenarios for bending the curve of biodiversity loss**

Source: WWF.

In order to bend the curve any earlier than 2050 and minimise biodiversity losses, ambitious conservation needs to be combined with sustainable production and consumption measures—the orange line.

Conservation actions are crucial but the green line shows that alone they cannot bend the curve before 2050, and will allow much greater overall losses.

The grey line shows that biodiversity continues to decline if we continue on our current path and recovery does not begin before 2100.
Box 10.2: CFA: Incubator and other resources

https://www.conservationfinancealliance.org/incubator

The Conservation Finance Alliance Incubator seeks to identify, support and promote innovative ideas and solutions to conservation finance challenges that have significant positive conservation impacts. Innovation is essential to identify and develop conservation finance solutions and is especially urgent given the emerging Global Biodiversity Framework and 30x30 ambitions.

The CFA Incubator builds its mentorship roster from the CFA’s Innovation Working Group. If you are interested in becoming a mentor for selected projects or partner with the CFA Incubator, please send a CV or contact email to Incubator@CFAlliance.org.

The CFA Conservation Finance white paper defines conservation finance as “mechanisms and strategies that generate, manage, and deploy financial resources and align incentives to achieve nature conservation outcomes.”

Box 10.3: UNDP BIOFIN methodology

https://www.biofin.org/about-biofin/biofin-approach

Various routes towards financial sustainability

Step 1: Finance Policy and Institutional Review: Assess the policy, institutional, and economic context for biodiversity finance and map existing finance solutions.

Step 2: Biodiversity Expenditure Review: Measure and analyse current biodiversity expenditures from the public and private sectors, donors, and non-governmental organisations (NGOs).

Step 3: Biodiversity Financial Needs Assessment: Make a reliable estimate of the finances needed to achieve a country’s biodiversity goals, and compare this to current biodiversity expenditures and other resources available.

Step 4: Biodiversity Finance Plans: Develop a Biodiversity finance plan that identifies and mobilizes the resources and policies required to implement the most suitable finance solutions.

Biodiversity finance solutions are extremely varied – BIOFIN has compiled a list of over 150 available online. Solutions can rely on a number of factors, which can be:

- Public or private revenues or contributions.
- Built around voluntary or compulsory schemes.
- Guided by markets or regulations.
- Available on a short- or longer-term basis.
- Associated with particular conditions set by the finance providers.
- Available in different currencies.

Download the BIOFIN Workbook here:
https://www.biofin.org/sites/default/files/content/publications/workbook_2018/
**Finance solution approaches**

The primary goal of finance for nature is to improve outcomes for nature. Thus, to be included as a mechanism or solution it must: 1) involve either financial resources or incentives and 2) have the intent to achieve nature conservation outcomes. Additionally, finance solutions should always follow a rights-based approach and ensure legitimate beneficiation. For PCAs, this becomes even more specific where the finance needs to be directly targeted and attributable to PCAs and their custodians and stakeholders.

In addition to generating, sourcing or developing finance solutions, financial resources for PCAs should be managed and deployed in the most efficient and effective way. Avoiding duplication of effort and leveraging existing efforts is vital. Avoiding the deployment of finance for similar projects or activities in similar places is a common mistake and wastes valuable financial resources in the conservation sector.

Additionally, the most effective and efficient gains are where negative impacts are avoided first and foremost. Decisions made to reduce biodiversity threats are generally more cost effective than solutions that only seek to restore damaged or lost ecosystems (e.g. it is more economical to protect existing intact systems than to restore them).

For the private sector, to go beyond standard reporting, their role in the decisions they make around financial allocations and internal decision-making are vitally important. As is their role in creating new finance solutions or investments with positive outcomes for nature. If we are to close the finance gap, we need to both decrease our impacts on nature, thus avoiding increasing the financial resources needed to restore or attempt to fix our harmful impacts on nature, and simultaneously create new flows of sustainable finance. It is essential to work on both sides of the equation, namely decreasing our negative impacts through well-made financial decisions and investing in nature through sustainable finance solutions.

There are several approaches to take with the same underlying principles and goals and these can be seen in the expert information available from the CBD, the BIOFIN Methodology, the Sustainable Finance Coalition’s Finance Model, the Conservation Finance 101 materials from CFA and the Principles from 1000 Landscapes, all summarised here briefly with additional links noted in the toolbox above.

**10.5.4. Finance solutions: existing and emerging**

A wide array of financing sources and solutions exist. Some are very new and only just starting with implementation, others have been implemented but still need to be scaled, but there are some that have reached impact. This array of options needs to be integrated to different PCAs and to different country contexts. This is briefly summarised below with additional information available through the resource links, text boxes and case studies provided. Importantly, PCA stakeholders should scope the most viable finance solutions for their unique contexts and determine which finance solutions have the greatest chance of success and most ideally meet financing needs. The selection of appropriate finance solutions and the determination of how they will be actualised is vital to move beyond finance discussions to finance application. This is most often achieved through the development of finance strategies, feasibility studies or finance scoping reports as an initial starting point. The finance solution approaches and methodologies highlighted above provide structures and frameworks to support the determination of such.

**Regional synopsis: survey feedback from countries**

**a. Funding sources, budget and expenditure**

Across the eight countries sampled, the funding sources for PCAs came from an average of only three categories. All eight countries reported that some funding was provided by government, barring Madagascar; 63% of funds reported were from donor obligations and 50% of countries reported some funding from the private sector. Other sources of funding included Nature-based tourism and trust funds, and some countries reported on funding that was specifically philanthropic, conditional and or loan-based.

Countries were not able to articulate well their budget for PCAs for 2022, nor their 2022 expenditure and were further not all able to provide this for the year 2022, specifically. Therefore, the available information on the budget and expenditure between private and communal protected areas is equally limited.

However, of the four countries with data available between 2019 and 2022, it is gathered that the total budget for all the countries protected areas is US$ 36 422 984,67, with a total estimated funding gap of US$ 24 356 879,76. This is a very coarse estimate and gives little insight into how these funds are distributed between administration and operations. On average, for Angola, Tanzania and Zimbabwe, the estimated funding requirement reported by the countries for protected areas is US$ 1,87/ha. When considered within the context of existing literature on this topic, this figure is very low, with little indication of the expected outcomes with this level of investment. Interestingly, Tanzania reported that following COVID-19 and the increase in revenue, the government allocated an additional US$ 960 000 more to community-managed areas for 2022 than in the previous year.

**b. Distribution of funds across Protected Areas**

All countries (barring Eswatini and Madagascar who provided no information) reported that across protected areas in the country, different and unique budgets are allocated, and this is not equal, nor equitable. The allocations are based on protected areas status, size of the PA, on-site infrastructure, number of staff, poaching intensity, types of species in situ, the accessibility of the protected
Box 10.4: CBd guidance on sustainable financing

Various routes towards financial sustainability
It is important to identify various routes to financial sustainability, as they:

- Identify the most cost-effective course of actions
- Establish an adequate institutional framework
- Address institutional capacity issues
- Accelerate the achievement of goals
- Transparency and accountability

Various routes towards financial sustainability inter alia include:
- Financial gap assessment (income versus expenses)
- Assessment of the financial and administrative system
- Reselection of financial mechanisms including payments for ecosystem services
- Administrative reform or environment tax reform
- Feasibility assessment of mechanisms (investment and rate of return)
- Development of financial plans
- Implementation of financial plans
- Transparency and accountability
- Measurement of fulfilment of fiscal objectives.

© Gregoire Dubois

Box 10.5: Examples of finance strategies for PCA finance that are assisting PCA stakeholders to pursue viable financing options

Sustainable Finance for Uganda's National Protected Areas

Sustainable Finance for Namibia's National Protected Areas
Van Zyl, H.W., Lindeque, M., Stevens, C.M.D. and Illeka, T. 2022. Developing a concept for sustainable financing for the National Parks in Namibia: Scoping Study. Report to the Ministry of Environment, Forestry and Tourism (MEFT) and KfW.

Kuchelmeister, G., Lindeque, M., Stevens, C.M.D. and Illeka, T. 2023. Developing a concept for sustainable financing for the protected areas in Namibia: Feasibility Study. Report to the Namibian Ministry of Environment, Forestry and Tourism (MEFT) and KfW.

Great Limpopo Transfrontier Conservation Area (GLTFCA) Secretariat Financing Strategy
area and even climate. Seychelles also reported that where NGOs play a role in the management of PAs, that this also alters the available budget.

c. Country financing strategies and new funding mechanisms

From the information provided many countries are not looking toward actively developing Sustainable Financing Strategies at a national level for conservation. Some countries are specifically linking financing to industries. In terms of new financing mechanisms, there is a dominant response of involving the private sector in conservation, through for example Public-Private Partnerships.

Seychelles and Zimbabwe appear to be ahead on their thinking and application of sustainable financing mechanisms, with Seychelles making a lot of headway with the support of BIOFIN. Zimbabwe further makes it clear that they wish to develop financing mechanisms locally that reduce reliance on international support.

Inventory of Solutions: Sustainable Finance Coalition

The Sustainable Finance Coalition hosts an Inventory of Solutions, dedicated to housing a growing array of finance solutions, tailor-made and designed for application at the point of conservation and social impact. Currently, the inventory includes 14 finance solutions used across Africa, several of which have been incubated by the Coalition through the Finance Solution Approach© (see Appendix 5) to determine viability for scaling and replication.

The Inventory of Solutions includes several categories of solutions, each with reference to specific tailor-made examples. For each solution category, a Solution Sheet is developed and for each solution example, a more detailed Solution User Guide.

The purpose of the Solution Sheets is to provide a brief description and aim of the finance solution, unpack the critical building blocks of the solution and provide examples in practice. The purpose of the Solution User Guides is to further provide detailed information of how the different practical examples of working finance solutions are undertaken and what is needed for the solutions to be used, replicated and scaled.

Further to this, the impact of each solution is monitored according to three key metrics, namely hectares applied, people benefiting, and finance actualised. The housing of the Finance Solution Inventory on an online platform is currently under development.89

<table>
<thead>
<tr>
<th>Table 10.5: Financing plans in sample countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Angola</td>
</tr>
<tr>
<td>Kingdom of Eswatini</td>
</tr>
<tr>
<td>Lesotho</td>
</tr>
<tr>
<td>Malawi</td>
</tr>
<tr>
<td>Seychelles</td>
</tr>
<tr>
<td>Tanzania</td>
</tr>
<tr>
<td>Zimbabwe</td>
</tr>
</tbody>
</table>

89 Please contact info@sustainablefinancecoalition.org for access to resources.
### Table 10.6: Inventory of Solutions © Sustainable Finance Coalition

<table>
<thead>
<tr>
<th>Finance Solution</th>
<th>Finance Solution Example</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Environmental Tax Incentives</strong></td>
<td>a. Protected Area Tax Incentive</td>
<td>South Africa</td>
</tr>
<tr>
<td>Positive environmental tax incentives aim to incentivise individuals and businesses to make more environmental or biodiversity-friendly decisions that prevent significant loss and damage to the environment and the services they provide, which are important for human health and well-being.</td>
<td>b. OECM and Threatened Species Tax Incentive</td>
<td>South Africa</td>
</tr>
<tr>
<td><strong>2. Municipal Fiscal Benefits</strong></td>
<td>a. Municipal Property Rates Relief for Protected Areas</td>
<td>South Africa</td>
</tr>
<tr>
<td>Municipal fiscal benefits relate to relief granted to owners of properties declared as special nature reserves, nature reserves, national parks and national botanical gardens (collectively referred to as qualifying protected areas). In terms of this relief, an exclusion from municipal property rates is granted for undeveloped areas of the qualifying protected areas.</td>
<td>b. Municipal Property Discretionary Rates Exclusions or Exemptions for land conservation</td>
<td>South Africa</td>
</tr>
<tr>
<td><strong>3. Tailor-Made Funds</strong></td>
<td>a. Green Outcomes Fund</td>
<td>South Africa</td>
</tr>
<tr>
<td>Conservation Trust Funds (CTFs) are private, legally independent institutions that provide sustainable financing for biodiversity conservation. They may finance part of the long-term management costs of a country’s protected area (PA) system, as well as conservation activities and sustainable development initiatives outside PAs (CFA). CTFs that are fully enhanced, adequately capitalised and effectively managed are catalytic tools for creating sustainable finance for conservation.</td>
<td>b. Game Product Trust Fund Exclusions or Exemptions for land conservation</td>
<td>Namibia</td>
</tr>
<tr>
<td><strong>5. Green, Impact and Sustainability Linked Bonds</strong></td>
<td>a. Bee Bond</td>
<td>East Africa</td>
</tr>
<tr>
<td>A Green Bond is any type of bond instrument where the proceeds are exclusively applied to finance, or refinance, eligible green projects. These eligible projects include renewable energy, pollution prevention and control - and the environmentally sustainable management of living natural resources to name a few. Sustainability linked loans are any type of loan instrument and/or contingent facilities for which the economic characteristics can vary depending on whether the borrower achieves ambitious, material and quantifiable predetermined sustainability performance objectives. Impact bonds are innovative performance-based contracts between an investor, an outcome funder, and a service provider that tackle a social or environmental challenge.</td>
<td><strong>6. Insurance</strong></td>
<td>a. Human-Wildlife Conflict Insurance Scheme</td>
</tr>
<tr>
<td>The aim of the insurance product is to manage risks that 1) give people, households and communities the ability to quickly recover from shocks, such as losses in crops, or loss of life from for example droughts, disease or human-wildlife conflict; and 2) reduce risk and loss by promoting positive investments.</td>
<td><strong>7. Carbon Finance</strong></td>
<td>a. Carbon payments</td>
</tr>
<tr>
<td>Carbon finance is a branch of environmental finance that covers financial tools such as carbon emissions trading to reduce the impact of greenhouse gases on the environment by giving carbon emissions a price.</td>
<td><strong>8. Nature Credits</strong></td>
<td>a. Biodiversity credits</td>
</tr>
<tr>
<td>Nature credits (also referred to as biodiversity credits), are verifiable, quantifiable and tradeable financial instruments that reward positive nature and biodiversity outcomes through the creation of a land- or ocean-based biodiversity unit over a fixed period of time (World Economic Forum).</td>
<td><strong>9. Fees and Tariffs</strong></td>
<td>a. Entrance and tourism fees revision, Botswana Department of Wildlife and National parks</td>
</tr>
<tr>
<td>Tourism fees are user fees charged for tourist access and tourism activities such as walks, diving, sports fishing, etc. They may provide revenue for part of the long-term management costs of a country’s protected area (PA) system, as well as conservation activities and sustainable development initiatives outside PAs (CFA).</td>
<td>b. IsiMangaliso Wetland Park Entrance and tourism activity fees</td>
<td>South Africa</td>
</tr>
<tr>
<td>Finance received is linked to advertising, awareness, accreditation, and association with a protected or conserved area to showcase projects and places, and boost the overall profile of the PCA.</td>
<td><strong>11. Infrastructure Leverage</strong></td>
<td>a. Kruger National Park</td>
</tr>
<tr>
<td>Income received for the rental/use of PCA facilities and infrastructure.</td>
<td><strong>12. Bankable Projects</strong></td>
<td>a. Kusini Water</td>
</tr>
<tr>
<td>Bankable Nature Solutions are financially viable projects which support the development of more climate-resilient and sustainable landscapes and economies. Their bankability enables projects to accelerate scaling and replication, realizing large-scale positive impact on nature and communities.</td>
<td>b. Avocado Vision</td>
<td>South Africa</td>
</tr>
</tbody>
</table>

Find here: [https://sustainablefinancecoalition.org/coalition-media-statement/](https://sustainablefinancecoalition.org/coalition-media-statement/)
Other examples of finance solutions in the region

The Closing the Gap Report 2020 highlighted various emerging finance solutions in Africa. Other finance solutions noted during the country survey have also been collated and referenced here and, together with the above noted resources from global conservation finance sources and the Coalition’s Inventory of Solutions, provides a synopsis of the sustainable finance options available in the region. This is augmented by the Finance Model and Finance Solution Approach detailed below that give tactical and practical steps to implement and apply these solutions.


Figure 10.5 Sustainable solution sheets (Sustainable Finance Coalition)
Source: Sustainable Finance Coalition.
### Table 10.7: Summary of other finance solutions from across the region – multiple sources

<table>
<thead>
<tr>
<th>Other Finance Solution</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation Trust Funds (CTFs) are private, legally independent institutions that provide sustainable financing for biodiversity conservation. They may finance part of the long-term management costs of a country’s protected area (PA) system, as well as conservation activities and sustainable development initiatives outside PAs (CFA).</td>
<td></td>
</tr>
<tr>
<td>A debt-for-nature swap is an agreement that reduces a developing country’s debt stock or service in exchange for a commitment to protect nature from the debtor government. Since the first agreement signed in 1987 between Bolivia and Conservation International, more than US$ 1 billion of conservation funding has been generated through DNS globally (UNDP, 2019).</td>
<td></td>
</tr>
<tr>
<td>Payments for Ecosystem Services (PES) occur when a beneficiary or user of an ecosystem service makes a direct or indirect payment to the provider of that service. Ecosystem services are usually grouped into four main categories (UNDP, 2020b): Provisioning services (the products obtained from ecosystems such as food and fresh water); Regulating services (the benefits obtained from the regulation of ecosystem processes such as air quality and pollination); Cultural services (the non-material benefits that people obtain such as spiritual enrichment, recreation and aesthetic experiences) that directly affect people; and the Supporting services needed to maintain the other services (such as photosynthesis and nutrient recycling).</td>
<td></td>
</tr>
<tr>
<td>Carbon finance is a branch of environmental finance that covers financial tools such as carbon emissions trading to reduce the impact of greenhouse gases on the environment by giving carbon emissions a price, providing an economic incentive for reducing GHG emissions.</td>
<td></td>
</tr>
<tr>
<td>Biodiversity offsets can provide financial or other compensation for impacts related to the development of specific projects after all other mitigation measures have been exhausted and may be used to finance PCA establishment and management. Ideally, they should aim to achieve a like-for-like or like-for-better scenario, and ensure no net loss, and preferably a net gain of biodiversity. Large-scale biodiversity offsetting may also be referred to as “habitat banking or the equivalent”.</td>
<td></td>
</tr>
<tr>
<td>Collaborative Management Agreements/Public-Private Partnerships are when a non-profit organisation or a private sector entity deliberately partner with a government agency or state wildlife authority. The agreement or partnership generally covers the role of outsourcing aspects of conservation management or activities and providing the support partner with the authority to do so. This is most often referred to as a public-private partnership (PPP).</td>
<td></td>
</tr>
<tr>
<td>Outcomes Based Financial Instruments are where investment is channelled to specific conservation outcomes that are predetermined, measurable and monitored. These types of tailor-made financial solutions are essentially pay-for-success financial structured products that facilitate private sector investment in public goods, such as conservation of PCAs and threatened species.</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Finance Solution Example</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CTFs can be found across the continent including the island states: noted as Regional</td>
<td>Refer to table 10.9 for the summary of CTFs.</td>
</tr>
<tr>
<td>Seychelles</td>
<td>Under development: Gabon</td>
</tr>
<tr>
<td></td>
<td>Refer to case study example in Box 10.6.</td>
</tr>
<tr>
<td>The majority identified are in ESA</td>
<td>Almost 70 PES initiatives have been identified, focused across carbon (see below), biodiversity and water services (LTSA, 2018) with more in early development stages in many countries but as yet not reaching full implementation. Water fund specific example: The Nature Conservancy’s Water Fund Model: <a href="https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/water-funds-in-africa/">https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/water-funds-in-africa/</a>.</td>
</tr>
<tr>
<td>Regional</td>
<td>Refer to Box 10.7.</td>
</tr>
<tr>
<td>Regional</td>
<td>Refer to Box 10.8 and example summaries below: Examples include: Mozambique. In Mozambique, biodiversity offsets have been recognised as a prioritised finance solution for the country by the BIOFIN initiative. In practice, Mozambique’s “Biodiversity Offset programme” is a partnership between BIOFUND (Mozambique’s CTF), COMBO (an initiative involving WCS, Biotop and Forest Trends) and BIOFIN to implement the National Roadmap on No Net Loss and Biodiversity Offsets. Madagascar. In Madagascar, the construction of the QIT Madagascar Minerals (QMM) mine and port were offset by on- and off-site conservation of littoral forest, a range of livelihood initiatives, and the expansion of the PA system through conservation of priority sites and alleviation of pressure on important biodiversity for livelihoods (Business and Biodiversity Offsets Programme (BBOP), 2009). Comprehensive baseline studies, the advice of a panel of experts, and an integrated approach to social, cultural and environmental issues has resulted in a composite programme of compensatory conservation activities. South Africa. In South Africa, the building of Pulp United Pulp Mill, a bleached chemical thermos mechanical pulp mill on land within an Industrial Development Zone in KwaZulu Natal province was offset by setting aside three priority areas for nature conservation as formal PAs, and the protection from development of remaining areas of this vegetation type within the municipality. The offset was conducted using a ratio of 10 hectares for every hectare impacted. Eight hectares of habitat were impacted by the proposed development (BBOP, 2019).</td>
</tr>
<tr>
<td>Regional</td>
<td>Refer to Figure 10.5.</td>
</tr>
</tbody>
</table>
Table 10.8: CTFs in Eastern and Southern Africa Areas

<table>
<thead>
<tr>
<th>Country</th>
<th>Conservation Trust Fund</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>Forest Conservation Botswana</td>
<td>Created in 2006 with support of USAID, the Botswana government, and several NGOs.</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>242,738</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Fondation pour les Aires Protégées et la Biodiversité de Madagascar</td>
<td>Created in 2005 with support from Kreditanstalt für Wiederaufbau (KfW), World Bank, GEF and Agence Française de Développement (AFD).</td>
</tr>
<tr>
<td></td>
<td>Fondation Tany Meva</td>
<td>Created in 1996 and significantly contributed to the expansion of the protected area system in Madagascar.</td>
</tr>
<tr>
<td>Malawi</td>
<td>20</td>
<td>115,935</td>
</tr>
<tr>
<td></td>
<td>Malawi Environmental Endowment Trust</td>
<td>Created in 1999 and initially capitalised with US$ 4.5 million from USAID.</td>
</tr>
<tr>
<td></td>
<td>Mulanje Mountain Conservation Trust</td>
<td>Created in 2004 and funded by the World Bank (c. US$ 3 million), aims at providing long-term support for biodiversity research and conservation of biological diversity and sustainable utilisation of natural resources of the Mulanje Mountain Forest Reserve.</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Fundação para a Conservação da Biodiversidade (Biofund)</td>
<td>Created in 2011 and funded by the Global Conservation Fund, Conservation International, AFD, KfW, WWF and GEF via UNDP.</td>
</tr>
<tr>
<td>Namibia</td>
<td>Community Conservation Fund of Namibia</td>
<td>Background work has been undertaken to initiate the fund, which will be operational in three years.</td>
</tr>
<tr>
<td>Seychelles</td>
<td>Seychelles Islands Foundation</td>
<td>Created in 1979, manages and protects the UNESCO World Heritage Sites of Aldabra Atoll and the Vallée de Mai.</td>
</tr>
<tr>
<td>South Africa</td>
<td>Table Mountain Fund</td>
<td>Created in 1998 with support from WWF and the World Bank, has invested more than US$ 5 million in 300 projects to date.</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Eastern Arc Mountains Conservation Endowment Fund</td>
<td>Created in 2001 with initial funding of US$ 2 million from the World Bank to support community development, and biodiversity conservation projects, which promote the biological diversity, ecological functions and sustainable use of natural resources in the Eastern Arc Mountains of Tanzania.</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Tanzania Forest Fund</td>
<td>Created in 2010 to provide financial support to forest conservation and sustainable forest management in Tanzania.</td>
</tr>
<tr>
<td>Uganda</td>
<td>Bwindi Mgahinga Conservation Trust</td>
<td>Established in 1994 to conserve Mgahinga Gorilla and Bwindi Impenetrable National Parks.</td>
</tr>
<tr>
<td></td>
<td>Uganda Biodiversity Trust Fund</td>
<td>Created in 2016, went into contractual agreement with WCS for programme funding support, from USAID, during 2017–2019.</td>
</tr>
</tbody>
</table>


10.5.6. Case study examples

Case study 1: Tax incentive for privately and communally owned protected areas, South Africa

Taxpayers are entitled to deduct the full value of their land against taxable income if they have declared their land as a nature reserve or national park under a long-term commitment for a period of at least 99 years or in perpetuity in terms of national legislation: Income Tax Act No. 58 of 1962 and National Environmental Management: Protected Areas Act No. 57 of 2003. To date (2023), approximately US$ 12 million has been secured in tax deductions and this is estimated to reach US$ 75 million by 2026.
Case study 2: OECM and threatened species tax incentive, South Africa

Qualifying taxpayers can deduct conservation and maintenance expenses from their taxable income if they have concluded a Biodiversity Management Agreement (BMA) (a contractual Candidate OECM agreement) to protect and manage threatened species and ecosystems. Annual deductions are expected to vary significantly according to management actions and related expenditure but are estimated at an annual average of US$ 80,000 and expected to reach US$ 130,000 annually by 2026 onwards.

Figure 10.6: Impact of the OECM and threatened species tax incentive in South Africa
Source: Sustainable Finance Coalition.

Case study 3: Human wildlife insurance and compensation scheme, Kenya

A first of its kind insurance solution designed and developed to address the challenges and risks posed by Human-wildlife-conflict (HWC) in Kenya. The developed solution enables the insurance sector to underwrite and absorb the risks and subsequent financial losses brought about by HWC. The insurance solution provides compensation and consolation to affected communities and is currently being replicated and implemented in Namibia and Uganda. Estimated contribution to closing the sustainable finance gap is still to be confirmed.

Figure 10.7: Human wildlife conflict insurance and compensation scheme
Source: Sustainable Finance Coalition.
10.6. Wildlife Economy

Africa’s wildlife (fauna and flora) and its natural landscapes should be recognised for their economic, livelihood, and health contributions. These includes ecosystem services that benefit industries, such as agriculture and commercial forestry which are, therefore, directly linked to natural resources.

The Wildlife Economy encompasses the businesses and economic activities that either directly depend on wildlife for their core business or that contribute to the conservation of wildlife through their activities, with wildlife here defined as all terrestrial and marine fauna and flora (adapted from the South African Biodiversity Economy definition, DEA, 2016).

The Wildlife Economy is multi-sectoral and complex. The key stakeholder in the Wildlife Economy is the government, as it can enable and/or hinder a successful Wildlife Economy. The government is involved at local, provincial, national, regional, and international levels. Numerous ministries and departments are involved, including Environment, Agriculture, Fisheries, Forestry, Rural Development, Water, Trade, and Industry. This introduces several complexities which need to be carefully managed to ensure the long-term success of the Wildlife Economy. An enabling environment, including supportive institutions, policies and legislation that encourage investment and benefit-sharing, will determine the potential of the Wildlife Economy and is still largely lacking in most countries in the region.

Other major stakeholders include local communities, private landowners, wildlife enterprises, and, to some extent, non-governmental organisations, development partners, and academia. This diversity of stakeholders can often hinder implementation and ease of doing business, but it also provides opportunities for collaboration, partnerships, and sharing experiences and learnings. Good communication and collaboration among stakeholders, as highlighted in SDG 17’s focus on partnerships, will help to ensure greater success. Of these stakeholders, in Africa, rural communities are particularly important. Enabling their participation in the Wildlife Economy through securing use rights to wild resources is seen as critical to its development impact. Child (2019) highlights that success is predicated on four factors: the genuine devolution of rights and benefits; the development of wildlife markets; sound governance; and evidence-based learning. The private sector, particularly private landowners, is another key stakeholder with the potential – in terms of capital and capacity – to unlock Wildlife Economy opportunities. The private sector, however, like the communities, requires an enabling environment that supports use rights and secures investments. See Figure 10.8 for an overview of the role of different stakeholders in the Wildlife Economy.

The Wildlife Economy offers a key growth opportunity for Africa given its comparative advantage in the African context as local

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**Figure 10.8: The roles of different stakeholders in the Wildlife Economy**

Source: South African National Biodiversity Economy Strategy (DSF), 2016b.

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91 This section draws on information contained in: Snyman et al, 2021b.
livelihoods and macro-economies are heavily tied to, and reliant on, wildlife and other natural resources. Biodiversity conservation, ecosystem health and climate change in Africa all have the potential to be economic and welfare challenges with huge implications for the future well-being of African societies. Investment in, and growth of, the Wildlife Economy has the potential, if managed correctly, to address these challenges.

Given the importance of the Wildlife Economy to future sustainable growth and development, as well as climate change mitigation in Africa, this is a topic that African policymakers, conservationists, communities, and private investors should all be interested and investing, both capacity and finances, in.

The next section defines the Wildlife Economy and explains the main Wildlife Economy activities in Eastern and Southern Africa: ecotourism, hunting and fisheries, wildlife ranching, carbon and forest products.

Box 10.6: South Africa’s National Biodiversity Economy Strategy (NBES)

At a national level, South Africa has a National Biodiversity Economy Strategy (NBES) (2016) which states that the biodiversity economy encompasses the business and economic activities that either directly depend on biodiversity for their core business or that contribute to conservation of biodiversity through their activities (DEA, 2016). The NBES (DEA, 2016) has the following principles:

- Conservation of biodiversity and ecological infrastructure
- Sustainable use of Indigenous resources
- Fair and equitable beneficiation
- Socio-economic sustainability
- Incentive-driven compliance to regulation
- Ethical practices
- Improving quality and standards of products

Various policies and strategies (for example the Game Meat Strategy) are being developed to support the implementation of the NBES and can provide guidance as other countries in the region unlock and grow their wildlife economies.

Box 10.7: Framework strategy for a SADC wildlife-based economy

The sustainable use of wildlife resources is an underlying principle of the Wildlife-based Economy Strategy, particularly for the equitable and mutual sharing of the benefits that accrue from the use of these resources within poor and rural communities. The framework strategy was developed in partnership with SADC Member States with the vision and goal of:

**Vision:** An abundant SADC wildlife-based economy is actively contributing to transformative economic growth, employment creation and generating equitable opportunities, that enhances the sustainable quality of life for all within the region.

**Goal:** By 2030, the SADC Wildlife-based economy is globally recognised for the sustainable utilisation of biodiversity resources to grow the region’s economy.

The vision and goal of the Wildlife-based Economy Strategy recognise the core principles that underpin the sector, the value chains, the strategic objectives and the actions within the Wildlife-based Economy in the region:

- Conservation and maintaining of biodiversity abundance
- Ensuring sustainable utilisation of wildlife resources
- Fair and equitable sharing of benefits derived from the use of wildlife resources
- Inclusivity
- Supporting socio-economic sustainability
- Compliance with national and international legislation
- Respecting the right to use and access natural resources

The framework contains four strategic objectives which can be found in the document.

10.6.1. Defining the Wildlife Economy

The Wildlife Economy uses wildlife, both plants and animals (marine and terrestrial), as an economic asset to create value that aligns with conservation objectives and delivers sustainable growth and economic development. Wildlife includes indigenous, undomesticated terrestrial and marine animals, plants, and other life forms.

The Wildlife Economy includes the sustainable utilisation of Indigenous wildlife to support economic development, while still contributing to conservation. Activities within the Wildlife Economy may be consumptive or non-consumptive.

Sustainable utilisation is a core objective of the Convention on Biological Diversity (CBD) (Cousins et al. 2010), encompassing "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations". Sustainable use is also central to the UN Sustainable Development Goals (SDGs) with SDG 14 calling on all humanity to "Protect, restore and promote sustainable use of terrestrial ecosystems..." (United Nations, n.d.). The concept of a Wildlife Economy is, therefore, an articulation of the conservation of nature through its sustainable use for human benefit. For more information on how the Wildlife Economy contributes to the SDGs, as well as the pros and cons of each of the Wildlife Economy activities described below, see Snyman et al. (2021b).

In recent years there has been further high-level recognition of the importance of the Wildlife Economy in terms of aligning conservation and development, for example the IUCN Resolution WCC 2020 Re 076 on Building and strengthening wildlife economies in Eastern and Southern Africa, the African Union’s Green Stimulus Programme which includes ‘Revitalising ecotourism and the biodiversity economy’ as a key area for Africa to recover post the COVID-19 pandemic and the IUCN African Protected Areas Congress (APAC) Kigali Call to Action which includes the following related to the Wildlife Economy:

- "Promotion of truly sustainable use of natural resources and investment in building an appropriate Wildlife Economy, through rights-based approaches and with the involvement of rights-holders and stakeholders, while halting human rights abuses associated with law enforcement" and calls for
- "Strong leadership by African governments to integrate environmental priorities in economic and financial planning that will address the biodiversity and climate crises and sustain the economic value of protected and conserved areas in the further development and expansion of the Wildlife Economy."

Supportive legislation and strategies to guide the unlocking and growing of the Wildlife Economy at a national level are important in terms of long-term sustainability and supporting collaboration and partnerships between the various sectors involved in the Wildlife Economy. See Text Box 10.1 for an example from South Africa and Text Box 10.2 from SADC.

10.6.1.1. Ecotourism

As one of the main Wildlife Economy activities, ecotourism includes non-consumptive tourism related to nature/wildlife.

Wildlife is often what initially attracts international tourists to Africa – for example gorillas in Rwanda, or the penguins in South Africa – and the opportunity then exists to provide additional tourism opportunities, such as cultural, historical, or other wildlife-related elements, which in turn encourages tourists to stay longer and spend more money in the country or region.

The World Bank (2018) highlighted that wildlife is an essential drawcard for tourists who visit protected and conserved areas; this therefore needs investment in the region’s/country’s wildlife to improve the attraction (wildlife asset). The UNWTO (2010) also highlights that when biodiversity is an important attraction, tourism can provide a positive stimulus for conservation. Many visitors would not visit an area were it not for the presence of wildlife (including both fauna and flora) and tourists often spend extra time in an area because of its biodiversity (UNWTO, 2010).

The introduction of Tourism Satellite Accounts (TSAs) in various countries provides a more accurate value of the tourism sector as a whole in the national accounts. The TSA provides stakeholders (governments, entrepreneurs and citizens) with reliable general tourism data to assist them in the design of public policies and business strategies for tourism and for the evaluation of their efficiency (Stats SA, 2019). The main aim of TSAs is to define a larger and more realistic tourism sector, which combines a demand-based definition (i.e. what visitors spend their money on) with a supply-focused definition (expenditure by tourism companies on goods and services from the supply chain on behalf of tourists) and through this, to demonstrate to governments the importance of the tourism economy (Mitchell & Ashley, 2010). Countries in eastern and southern Africa with TSAs include Kenya, Namibia, and South Africa.

Potential sources of revenue for PAs include entrance fees, activity fees, boat and aircraft fees, motor vehicle fees, concession fees, bioprospecting fees, and research and filming fees. PAs can generate large revenues from different activities and diversification of activities across PAs can spread the benefits more widely. See Text Box 11.3 for some examples of revenues from protected area tourism.
Box 10.8: National-level examples of revenues from protected area tourism

In Botswana it was found that the total revenue from PA fees in 2018 was approx. US$ 3.8 million, with 66% generated by Chobe National Park and 21% from Moremi Game Reserve. Entrance fees contributed 88% to total fee revenue, followed by 5.2% from camping fees, 5% from vehicle fees and 2% from other fees. Visitor numbers drive PA fee revenues and in 2018 totalled 471,667, with 79% of tourists visiting Chobe National Park (Ministry of Tourism and Wildlife, 2019).

In Kenya, about 60% of revenue for Kenya Wildlife Service (KWS) is generated from tourism in PAs. In 2018, KWS received 2.9 million tourists in its PA network: 70% were international tourists while 30% were domestic tourists. This demonstrates the importance of international tourists to Kenya, although domestic tourism – which is largely seasonal – is now growing. In 2017/2018, total tourism income was US$ 52.7 million generated from park fees, accommodation, donations, and services among others. Park entrance fees contributed US$ 30.25 million or 57% of total revenue (KWS, 2018).

In South Africa, approx. 80% revenue for South African National Parks (SANParks) is generated from tourism in the parks. In 2021/22, SANParks received 3.5 million guests across their parks. Total tourism revenue in 2021/22 was ZAR 1.2 billion / US$ 64 million. ZAR 271 million / US$ 14.5 million was generated from conservation/entrance fees. (SANParks, 2023)

In Tanzania, Spenceley et al. (2017) found that adult entrance fees for non-citizens ranged between US$ 30 and US$ 50 in game reserves and were US$ 10 in wildlife management areas (excluding conservation fees). The fees charged in game reserves (MENT, 2019) were found to be the second highest in the region (Kenya being higher). Their research also found that there are differences in the types of services that tourists are willing to pay or, and tour operators interviewed in their study were resistant to entrance fee increases as there was no transparency about re-investment of existing park fees. (MENT, 2019).

Box 10.9: Tourism multipliers: example from the Greater Kruger National Park, South Africa

Chidakel et al. (2020) conducted research from 1 April 2016 to 31 March 2017 in the Greater Kruger National Park (GKNP), which is a network of wildlife reserves with the Kruger National Park (KNP) at its core, surrounded by three provincial reserves and a number of private reserves.

There were nearly 3.5 million visitor-nights in the GKNP in the study year, with 35% being foreign and the KNP having the highest visitation (82.2%), followed by the private reserves (16.8%) and the provincial reserves (1%). Based on their research in the area, Chidakel et al. (2020) found that the GKNP contributed ZAR 6.6 billion (US$ 495 million) to the national economy when accounting for supply chain multipliers, and for every direct job in the GKNP, another 1.43 jobs were sustained locally and nationally outside of the system.

Box 10.10: Communities earning income and sharing benefits from ecotourism


In Namibia, there are 86 registered communal conservancies hosting 61 joint venture agreements earning communities NAD 100.1 million / US$ 5.7 million from concessions, plus an additional NAD 48.7 million / US$ 2.8 million in wages and NAD 3.7 million /US$ 210,308 from small- and medium-sized enterprises (MET/NACSO, 2020).

In Rwanda and Uganda there are national level Tourism-Revenue Sharing Policies which allocate a percentage of national park revenue to local communities living around the national parks.

In Tanzania, Agnew et al. (2017) found that adult entrance fees for non-citizens ranged between US$ 30 and US$ 50 in game reserves and were US$ 10 in wildlife management areas (excluding conservation fees). The fees charged in game reserves (MENT, 2019) were found to be the second highest in the region (Kenya being higher). Their research also found that there are differences in the types of services that tourists are willing to pay or, and tour operators interviewed in their study were resistant to entrance fee increases as there was no transparency about re-investment of existing park fees. (MENT, 2019).
More detail on the various strengths and opportunities for the tourism sector can be found in Snyman et al. (2021). Box 10.14 gives an example of the multipliers associated with tourism in the Greater Kruger National Park in South Africa.

An important stakeholder in the tourism industry is local communities. See Text Box 11.5 on various benefit-sharing activities in Eastern and Southern Africa.

### 10.6.1.2. Hunting and fisheries

Hunting includes trophy hunting, game meat hunting, as well as some aspects of fishing, such as artisanal, recreational or small-scale fishing. Figure 10.9 shows the different forms of hunting and the impacts of these.

Some of the challenges and opportunities for the hunting sector can be found in Snyman et al. (2021). One of the greatest challenges currently are the proposed international trophy hunting import bans which are likely to have a negative impact on the hunting industry in Africa. Text Box 11.6 describes community revenue from hunting in Mozambique.

### 10.6.1.3. Fisheries

The waters of eastern and southern Africa are rich in fish resources. Fish production in Africa has been growing since the 1960s, driven in part by increased consumption and international trade in fish and fish products (FAO, 2018). A major issue in terms of fisheries is illegal, unreported and unregulated fishing (IUU), which represents up to 26 million tonnes of fish caught annually, valued at US$ 10 to US$ 23 billion (FAO, 2020). Text Box 11.7 illustrates the value of the Western Indian Ocean Economy.

### 10.6.1.4. Wildlife ranching

Wildlife ranching includes the breeding of wild/Indigenous animals for hunting, game meat, wildlife products, tourism, and other uses. Wildlife ranching has characteristics of agriculture, ecotourism, and conservation, and is a sustainable land management practice based on the responsible management of wild fauna.

In South Africa, the sale of wild meat generates US$ 56 million annually – ZAR 261.8 million / US$ 24 million from trophy-hunted animals and ZAR 349.7 million / US$ 32 million from culled animals (Taylor et al., 2016).

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Figure 10.9: Segregation of hunting practices by increasing levels of regulation, law enforcement, animal harvest and the economic returns generated

Source: V.A Booth, pers comm, 27 Aug 2023
Box 10.11: Community revenue from hunting in Mozambique

In 2005, the Ministry for Tourism and Natural Resources (MITUR) introduced regulations (Ministerial Diploma Nº 93/2005 of 4 May) that required that 20% of all revenue generated from the sale of trophy licence fees (known as abate tickets) must be distributed to communities residing within the hunting areas via Community Management Committees (CGC), Comite de Gestão Comunitario or Community Management Councils (COGEP, Conselho de Gestão Participativo). Decree Nº 15/2009 of April 14 further developed this mechanism by substantially altering the revenue distribution for communities by first allocating 20% of fee income in national parks and reserves to the general state budget, and only then allocating 20% of the remaining value to local communities, thus in practice reducing their percentage from 20% to only 16% of overall income received by the State. Forty-nine community management committees received 20% of ~MT 11 million/~US$ 307,000 raised through the sale of game licences in 2010. Altogether MT 2,211,041 / US$ 62,000 was raised for distribution with the average dividend being MT 45,123 / US$ 1,260 per committee.


Box 10.12: The Western Indian Ocean economy

The total ‘ocean asset base’ of the Western Indian Ocean region is estimated to be at least US$ 333.8 billion, with these values derived from direct outputs from the ocean (e.g., fisheries), services supported by the ocean (e.g., marine tourism) and other adjacent benefits associated with the coastline (e.g., carbon sequestration). Marine and coastal tourism make up the largest economic contribution (69%) of ocean output: US$ 14.3 billion annually, with carbon sequestration accounting for 14% (US$ 2.9 billion) and fisheries 9% (US$ 1.9 billion). The Blue Economy, therefore, contributes a large amount to local and national economies as well as playing an important role in supporting livelihoods.

Source: Obura et al., 2017

The success of the wildlife industry is based on four principles (Amandi 2020, Kitshoff-Botha 2020):

- Policy that supports sustainable utilisation and allows for the private ownership of wild animals;
- Enabling legislative environment;
- Principle of market-based economics directed toward sustainable management of wild resources; and
- Significant private investment in wildlife ranches and wildlife.

The wildlife ranching sector generally provides an array of goods and services with the production and/or breeding of wildlife at its core. Some of the key activities are:

- Wildlife production/breeding
- Live sales
- Hunting (subsistence or recreation)
- Ecotourism (wildlife viewing)
- Animal products (meat, fur, hide, bones, horn, etc.)

Some of the challenges related to the wildlife ranching sector and ways to address these, as well as a number of opportunities for the sector, can be found in Snyman et al. (2021). Box 10.15 describes a Conservation Certification Scheme for wildlife ranching in South Africa.

10.6.1.5. Carbon

The carbon market includes projects that earn income through REDD+ and other mechanisms that sequester carbon, reduce greenhouse gas emissions, and conserve/preserve natural carbon systems. Carbon markets present an untapped opportunity to access supplementary funding for conservation activities, communities, the private sector, and governments. Box 10.16 describes REDD+ projects in Tanzania, and Box 10.17 gives an overview of projects in Zambia.
Box 10.13: A Conservation Certification Scheme for wildlife ranching

The South African government is working with experts and stakeholders to explore the potential for a certification scheme for the Wildlife Economy. The scheme could certify good practice within the wildlife ranching sector with respect to production systems and ecological impacts. Benefits could ease the regulatory burden at the provincial and national levels with potential cost savings or operational efficiencies made possible through a fundamentally more cooperative approach between key parties (DEFF, 2020b). Further, given the reputational risk of trophy hunting and intensive breeding practices, certification may help to ‘rebrand’ sustainable use and gain greater access to international markets (Ibid.).

The envisioned certification scheme could help to improve the resilience of the sector, while at the same time helping to enhance biodiversity and ecosystem integrity (Ibid.). Key objectives of the scheme would be to:

- Increase the amount of land in the Wildlife Economy
- Encourage sustainable practices in the wildlife ranching industry
- Increase private wildlife ranchers’ contribution to conservation at the species and landscape levels
- Provide a systematic means of improving the Wildlife Economy’s reputation domestically and internationally
- Stimulate inclusive growth in the industry

A key challenge for such a scheme is to link species management activities to biodiversity outcomes on a population level. This might be done through developing a “wildness framework” to assist wildlife ranchers with adopting management measures that enhance the wildness of their ranches (M. Child 2020, pers. comm., 23 Sept.). Such a framework could also help regulators to monitor the biodiversity performance of a wildlife ranch and consumers to better understand the conservation contributions of a ranch’s management approach.


Box 10.14: Tanzania’s REDD+ projects

Carbon Tanzania is working to empower local and Indigenous communities to protect their forests and natural resources in Tanzania. Carbon Tanzania works with Indigenous communities to strengthen their capacity to implement land-use plans and local bylaws that protect forests on community lands; partner communities include Maasai pastoralists and Hadza hunter-gatherers. Carbon credits are calculated from the resulting reduction in deforestation through improved forest management delivered through enhanced by-law enforcement, with a majority of the income generated from Carbon Tanzania’s carbon credit sales being paid directly to the communities with whom they work, as well as a share being paid to district government. Those communities then have the freedom to decide how to best reinvest the money in local development projects and services. Carbon Tanzania works directly with communities in the Yaeda-Eyasi Landscape, the Makame Savannah, and the Ntakata Mountains.

- Revenue paid to date to local communities and district government in the Yaeda Valley: US$ 652,382
- The Yaeda-Eyasi landscape project involves at least 61,000 community beneficiaries across 12 village communities and 113,883 people directly benefit from all three projects
- US$ 2.04 million was earned by forest communities through carbon finance in 2021
- Total forest area under improved management across three project sites: 688,849 hectares.

Sources: Redfern, 2018; Trupin et al., 2018; Carbon Tanzania, n.d., 2022
Box 10.15: Zambia’s REDD+ projects and their socio-economic and conservation impacts

BioCarbon Partners (BCP) partners with communities and private landowners in Zambia to better protect and maintain forests on community and private lands by selling carbon offsets. Working in the Luangwa Valley and the Zambezi Valley, BCP helps to protect over one million hectares of communal and private land in two of Zambia’s most important ecosystems. As part of this work, BCP has pioneered the development of Community Forest Management Areas, a new framework for local management provided by the 2015 Forests Act, across over 900,000 hectares of communal land in the Luangwa Valley. The income from sales of BCP’s offsets is being invested back into local communities through sustainable livelihood initiatives led by BCP that are focused on job creation, infrastructure development, and public health.

Across the two projects, a total of 230,705 people are benefiting, and the livelihoods of over 48,516 households are being strengthened through direct payments to communities from revenue from forest carbon fees; employment and livelihood support, US$ 10 million total community investment since inception and US$ 2.3 million invested in livelihood projects since inception; 147 people hired from the local community and employed by BCP; 11,585 female headed households directly benefitting from the REDD+ initiatives; 2,000+ income generating opportunities created as a result of the REDD+ projects; US$ 350,000+ paid to communities in the Lower Zambezi since inception through carbon fees and livelihood funds for community projects; and 40,126 hectares protected under REDD+; US$ 1.97 million disbursed for livelihood projects since inception in the Luangwa Community Forests Project, which protects 1.23 million hectares under REDD+ and has 47,317 self-identified households benefitting from Forest Carbon Fees. A total of US$ 10.1 million carbon fees have been disbursed since inception.

Sources: Davis et al., 2020; BioCarbon Partners (BCP), 2023

10.6.1.6. Forest products

Forest products include non-timber, as well as some timber, forest products used commercially and for subsistence purposes. Although the term forest is used, this activity includes the use of all products related to natural resources including for example seaweed, mushrooms, mopane worms, and other edible insects, plants and medicinal plants.

The term Non-Timber Forest Products (NTFPs) is also commonly referred to as Non-Wood Forest Products (NWFPs). FAO (2010) defines NTFPs as “goods derived from forests that are tangible and physical objects of biological origin other than wood”.

Despite the importance of NTFPs to livelihoods and economies, they are not prioritised in policy making and/or government funding (Shackleton & Pandey, 2014). Most NTFPs, except those with high commercial value, are therefore not included in official reports, concealing their contribution to economies, and hindering data collection and monitoring (Ingram et al., 2010). Most of the trade in NTFPs is also informal, and therefore not included in official reporting (FAO, 2017). Box 10.18 illustrates an example of mopane worms in southern Africa and Box 10.19 describes beekeeping in Ethiopia.

10.6.1.7. Other innovative Wildlife Economy activities

Other Wildlife Economy activities include film and photography, which is largely untapped in Africa, yet has a huge potential to generate revenues and create jobs. Wildlife estates are another activity growing in popularity, whereby private individuals own and/or lease houses in conservation areas (often buffer zones) providing funding for the conservation of these areas. There are many examples of these in South Africa, Kenya and Namibia.

10.6.2. What is needed to unlock and grow the Wildlife Economy?

Snyman et al. (2021b) provide details on the five steps below to unlock and grow the Wildlife Economy. The report also provides examples from Africa related to each step. The five key steps are:

1. Strengthen policy, legal and regulatory provisions governing natural resources, particularly property rights over wildlife, forests, and fisheries;
2. Improve the overall business environment;
3. Promote collaboration and partnerships;
4. Improve transparency and data collection, and;
5. Build capacity of all stakeholders to engage in and manage the Wildlife Economy.

A key factor in terms of Step 1 is related to ownership and use rights and, therefore, the ability of community members and the private sector to engage in, and benefit from, the Wildlife Economy. Table 10.10: Overview of ownership rights in Eastern and Southern Africa gives an overview of ownership rights in Eastern and Southern Africa.

Despite its importance, the status of the Wildlife Economy is not documented and well understood especially among policy- and decision-makers that have responsibility for development planning in Africa.
Box 10.16: Mopane worms in Southern Africa

Caterpillars are the most consumed edible insects across central, southern and western Africa. Mopane worms – the caterpillars of the anomalous emperor moth *Imbrasia belina* – are the most consumed edible insect in Southern Africa, specifically in Angola, Democratic Republic of Congo, Namibia, Botswana, Malawi, Zambia, Zimbabwe, Mozambique and South Africa. The worm is found on mopane trees where it feeds on fresh leaves. This tree is widely distributed in southern Africa covering about 525,000 km\(^2\).

Mopane worms are an important part of the diet of millions of southern Africans, being rich in protein that is estimated to be three times that of beef by unit of weight, as well as in crude fats, phosphorous, iron and calcium. The worms are used for household food subsistence especially, in hunger months and/or sold to generate income. Mopane worms are highly commercialised, with 80% harvested and sold in the same year. Collection is seasonal and conducted twice a year: December to January and March to April. The mopane industry has been adopted by the business sector in Zimbabwe, Botswana and South Africa, underscoring its regional importance.

**Economic value**

Most of the mopane worm trade is national, although a vibrant international trade exists in the Southern Africa region with South Africa as the largest market. In addition, packaged worms are exported to European countries such as France, Belgium and the United Kingdom as well as USA and Korea, targeting the African diaspora. In northern South Africa, it was estimated that in 1994, 9.5 million mopane worms weighing 1,140 metric tonnes were harvested and traded commercially for US$ 84 million. In 2012, 16,000 metric tonnes were traded worth US$ 39–59 million per year. This reduced value reflects the impact of increased supply on prices, resulting in decreased prices and related market value.

**Socio-economic impact**

Mopane worms provide seasonal employment to rural women who harvest, process and sell them to predominantly male traders who re-sell them in rural and urban markets. In Botswana, the mopane industry employs 10,000 people annually. Across southern Africa, it is estimated that there are 10,000 traders of mopane worms. In 2005, large traders (wholesalers) earned an average of US$ 203,000 in Thohoyandou Market, Limpopo. In 2016, general traders in Limpopo earned US$ 2,457 per annum from sales of mopane worms. Traders and harvesters use profits from trade to buy farm inputs and household provisions as well as pay school fees and for healthcare. Therefore, the mopane worm is a significant contributor to employment, incomes and food for rural households in Southern Africa. South Africa has explored mopane worm harvesting in the Nxanatseni (northern) Region of the Kruger National Park, through the development of memorandums of understanding with local communities.

Sources: Ilgner & Nell, 2000; Kwiri et al., 2014; Makhado et al., 2014; Baiyegunhi & Oppong, 2016; Sekonya et al., 2020.
Box 10.17: Ethiopia, largest producer of honey in Africa

For over 5,000 years, Ethiopians have traditionally practiced beekeeping as an integral part of the agricultural economy for honey, wax and household income generation, enabled by the extensive and diverse vegetation communities and suitable climatic conditions for bees. Beekeeping is practised across the country by an estimated one million farmers, the majority (about 80%) in Oromia, Amhara and Southern Nations Nationalities and Peoples regions (Sahle et al., 2018). The main beekeeping practices include traditional in the wild, backyards and modern beekeeping. Ethiopia is the largest producer of honey in Africa and among the 10 largest producers in the world. Annual production is 50,000 tonnes from an estimated 10 million honeybee colonies, 7.5 million in beehives, and the rest in natural forests. The majority of the hives are traditional (95.5%), 4.3% transitional, and 0.2% frame beehives (Kiros & Tsegay, 2017).

Total national production is estimated at US$ 62.7 million per year (Teferi, 2018). However, current production is only about 10% of the potential of 500,000 tonnes per year (Fikru, 2015).

Average annual farmer income from honey varies greatly from US$ 85.5 in Tigray to US$ 1,141 in Oromia depending on the type of hives (Sahle et al., 2018). Generally, honey incomes are low, but they contribute significantly to diversification of household income in rural communities.

About 80% of the honey produced in Ethiopia is consumed locally, most of it (80%) for local brews and the rest in household consumption and sales for income (Sahle et al., 2018). Only about 1% is exported to Europe and other markets. The Ethiopian Apiculture Board (EAB) has been established to support sector development efforts and to ensure coordination of the apiculture sector. The Ethiopian Society of Apiculture Science (ESAS) and Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) support farmers organised into cooperatives with capacity-building, coordination, etc.
The African Leadership University School of Wildlife Conservation’s recently published Wildlife Economy Investment Index (WEII) aims to evaluate the potential of African countries in terms of their wildlife assets and the investment-enabling environments related to the Wildlife Economy. It is a comprehensive tool that looks at five fundamental pillars: wildlife assets, wildlife management, ease of doing business, public sector capacity, and investment safety. These five pillars align with the five steps listed to unlock and grow the Wildlife Economy in Africa. The report includes national analyses, regional analyses as well as analyses based on Regional Economic Communities (RECs)95.

Table 10.9: Overview of ownership rights in Eastern and Southern Africa

<table>
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<th>Country</th>
<th>Does the law recognise wildlife as part of the public domain/property of the state?</th>
<th>Does the law recognise private ownership of wildlife?</th>
<th>Does the law recognise customary rights to wildlife?</th>
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Adapted from data from World Resources Institute, 2014, and updated with current information (provided by countries and online) and taken from Snyman et al., 2021b.

For more information, please see: https://drive.google.com/file/d/1AxPWo1S9ZJgjj2akKo2ZUQ67F8vW5GP/view?usp=sharing
Figure 10.10: Key Wildlife Economy activities across ESA

Source: The Africa Leadership University School of Wildlife Conservation.
Some key Wildlife Economy statistics from the region

**Angola**

In 2021, travel and tourism employed 364,400 and tourism expenditure was US$ 23 million.

**Botswana**

In 2018, protected areas fees brought in a total of about P41 million (~US$ 3.8 million), with 66% of that coming from Chobe National Park and 21% from Moremi Game Reserve.

**Ethiopia**

Wild coffee is grown by over four million smallholder farmers and the economic value of the native coffee industry is estimated at US$ 420 million.

**Kenya**

Kenya is the third largest producer of honey and bee products in Africa. Estimated that if the beekeeping industry is fully exploited in Garissa County it can generate revenues of approx. US$ 260,000/annum.

**Madagascar**

Total tourism receipts were US$ 747 million in 2019.

**Mozambique**

Average revenues from hunting per annum approx. US$ 5 million.

**Namibia**

In 2020, community conservancies generated approx. US$ 1.7 million with a meat value of approx. US$ 421,000 from conservation hunting.

**Rwanda**

In 2019, gorilla tourism generated US$ 107.3 million (approx. 21.5% of total tourism revenues) with the majority going to accommodation, food, beverage and transportation. Gorilla permits accounted for approx. 22% of this (US$ 24 million).

**Seychelles**

Seychelles has a national Blue Economy Roadmap (2018–2030). The Blue Economy Roadmap is an integrated approach to ocean-based sustainable development implemented around four key pillars: economic diversification and resilience, shared prosperity, food security and well-being, and integrity of habitats and ecosystem services.

**South Africa**

Approximately 1.3 million recreational anglers in South Africa, with an annual spend of approx. US$ 14.3 million

**Tanzania**

US$ 8.8 million earned in government revenues from hunting: constituting 60% Tanzania Wildlife Authority (TAWA) revenues in 2019.

**Uganda**

Forest resources worth UGX556,955,900 (approx. US$ 156,500) were shared with the communities neighbouring the protected areas in 2018.

**Zambia**

The Lower Zambezi Fishery (covering approximately 250 km of the Zambezi River from the Kariba Dam wall to the Luangwa-Zambezi confluence, as well as a short section of the Lower Kafue for about 30 km upstream from where it enters the Zambezi) produces approximately 1,500 tonnes per annum through a well-developed artisanal/subsistence fishery.

There are an estimated 10,000 subsistence fishers (mainly shore based ‘stick rod’ fishing with small hooks) that harvest around 700 tonnes per season (calculations were based on the nine month “legal” season (1 March to 30 November) although ‘stick fishing’ does continue through the annual closed season).

This provides critical nutrition and protein security to vulnerable households in the area and would cost around US$ 1.2 million if it had to be replaced at market value.

**Zimbabwe**

Recent estimates by the Government of Zimbabwe (2023) show that trophy hunting revenue is approx. US$ 19.1 million annually.

Box 10.18: Rwanda’s Law n° 064/2021 of 14/10/2021 governing biological diversity

New legislation passed in Rwanda in 2021 provided use rights which allows for a greater diversity of activities, previously not allowed, in the Wildlife Economy. Articles 39 and 42 below include information on this.

Article 39: Ownership right on wildlife
Ownership right on wildlife is vested in the State.
However, an individual may be granted a right of use, in accordance with provisions of this Law.
A Ministerial Order determines modalities of granting ownership right on wildlife.

Article 42: Wildlife user rights
The Authority may issue or withdraw a wildlife use permit on the following activities:

- Game ranching;
- Live capture;
- Off-take of an animal for research;
- Cropping;
- Culling;
- Sport hunting;
- Wildlife-based tourism;
- Commercial photography and filming;
- Education and research;
- Cultural, socio-economic and religious related activities.
10.6.3. Key regional trends related to the Wildlife Economy in Eastern and Southern Africa

Most countries in Eastern and Southern Africa engage in a diversity of Wildlife Economy activities, operating at varying degrees of intensity and scale depending on factors such as enabling legislation, abundance of fauna and flora, and enabling business environment, amongst others. Despite the importance of the Wildlife Economy to local, national and regional economies, in terms of the related jobs and revenues it creates, as well as its contribution to conservation, very little detailed data is available. A large amount of data is inconsistent, largely incomparable year-on-year and often outdated. In order to ensure that the value of the Wildlife Economy is understood and incorporated into policy- and decision-making, it is important that data is collected consistently over time and, ideally, that data across the region is comparable to allow for a regional analysis as well. Below is a brief overview of the main regional trends related to the main Wildlife Economy activities:

**Ecotourism:** Ecotourism is the most common Wildlife Economy activity across Eastern and Southern. The COVID-19 pandemic’s widespread impact on the global tourism industry highlighted the need to diversify tourism services and products, as well as to engage in more diverse Wildlife Economy activities, with ecotourism being just one in a suite of options, to reduce risk and build greater resilience.

**Wildlife ranching:** Wildlife ranching has historically taken place mostly in Southern Africa, in countries such as South Africa, Namibia, Zambia, and Zimbabwe, where enabling legislation has allowed the industry to grow and develop. Following the COVID-19 pandemic, other countries, for example, Kenya, Rwanda, and Tanzania, have been looking at opportunities to develop wildlife ranching. See Text Box 11.13 on Rwanda’s new enabling legislation. Wildlife ranching provides the opportunity to supply legal wild meat and create employment.

**Hunting:** Hunting is largely only permitted in countries in southern Africa, though Ethiopia, Uganda, and Tanzania are exceptions in East Africa. As a result of international pressure, mostly related to trophy hunting, there has been a decline in the revenues received from trophy hunting over the last five years. It is important that alternative sources of revenue for conservation in these hunting areas are found to prevent the areas from being converted to alternative, often unsustainable, land uses, such as mining.

**Fisheries:** Fisheries play an important role in all countries across the region, from a livelihoods perspective as well as in terms of subsistence. There is, however, a need to ensure appropriate legislation and its enforcement to prevent overfishing and manage the illegal, unregulated, and unreported (IUU) fishing, which is currently causing massive losses to national economies. For example, in Kenya, US$ 100 million is lost to international organised networks through IUU (KMFRI, 2018), and in Tanzania, it is estimated that US$ 40 million is lost annually to IUU in marine fisheries, mostly due to limited resources to manage the Exclusive Economic Zone (EEZ) (de Rivaz, 2019).

**Carbon:** Although there are several successful carbon projects in eastern and southern Africa, the carbon market is still largely untapped, often as a result of inadequate policy and legal provisions (property rights to carbon, land, and forests), as well as a lack of understanding and/or awareness of the opportunities available and/or the capacity to engage in these. See Text Box 11.14 on a blue carbon project in Kenya. In order to ensure long-term sustainability and actual positive climate progress, it is important that there is robust accounting and transparency at local and national levels.

**Forest products:** Forest products are widely used in support of livelihoods as well as for subsistence across Eastern and Southern Africa. Illegal charcoal production poses a huge challenge in terms of deforestation. Most utilisation of forest products is through informal markets and is largely unregulated, with very little data available. It is important that this data is collected and collated to ensure that the true value of forests, including rangelands, is accounted for in policy and decision-making.

In summary, the Wildlife Economy in Eastern and Southern Africa has huge potential to support the alignment of long-term conservation and development in the region. Collaboration and partnerships within and between countries are important, as are the need for strategies to unlock and grow the Wildlife Economy, enabling legislation, a supportive business environment, and the capacity to engage in and manage the Wildlife Economy at all levels.

**Box 10.19: Mikoko Pamoja: Kenya’s blue carbon project**

Mikoko Pamoja is a community-led mangrove conservation and reforestation project that seeks to reduce 106,929 tCO₂e in emissions over 20 years by reforesting and conserving 117 hectares of mangroves along the southern coast of Kenya. The project has been certified by Plan Vivo to sell carbon credits in the international voluntary market and provide benefits for community development.

The project has, to-date, sold 20,000 tCO₂e. US$ 24,000/annum from the sale of carbon credits is used to support local development projects in water and sanitation. Additional related benefits are being derived from ecotourism and improved fisheries.

*Source: Equator Initiative, 2020; Plan Vivo, n.d.*
11. Regional innovations and experiences
The landscape of protected area management and governance continues to evolve, incorporating various innovations that enhance effectiveness, sustainability, and adaptability. The first State of Protected and Conserved Areas Report laid the foundation for innovative approaches that revolutionised the landscape of environmental stewardship through collaborative management partnerships, building capacity for protected and conserved areas, technological advancements, and climate change adaptation. Building on these innovations, this chapter delves into additional ground-breaking initiatives that transcend borders. These innovations include technological transformation, adaptive strategies and green financial models, and transboundary collaborative approaches. These initiatives aim to contribute to joint learning, where innovation becomes not only a testament to progress but also a beacon guiding the collective efforts of countries towards the sustainable conservation of ecosystems.

11.1. Technological transformation in conservation

Technological innovation in conservation has undergone a transformative surge, leveraging digital tools to enhance remote monitoring, data analysis, and stakeholder engagement. Drones, equipped with advanced sensors, provide real-time insights into wildlife movements, while data-driven platforms facilitate evidence-based decision-making. The COVID-19 pandemic accelerated the adoption of these technologies, addressing disruptions and reduced manpower in protected areas. In particular, cloud technology and artificial intelligence facilitated real-time data collection and analysis. Examples include:

- South Africa’s Hluhluwe–Imfolozi Park, employing AI to enhance anti-poaching efforts.
- The Local Ocean Conservation initiative in Kenya, using AI for image recognition to monitor sea turtles without invasive tagging. The Ol Pejeta Conservancy employs a system of remote sensors and camera traps connected to a centralised digital platform, enabling real-time monitoring of wildlife movements and supporting anti-poaching efforts. Additionally, the Ksite-Mpunguti Marine Protected Area employs the Spatial Monitoring and Reporting Tool (SMART), a patrolling software that enables real-time collection, storage, communication, and evaluation of ranger activities, significantly improving patrol effectiveness and efficiency.
- The Kunene Landscape Project in Namibia, using SMART mobile devices that revolutionised data collection at the field level. This innovation streamlined reporting and access to data and also paved the way for the exploration of performance-based payments.

Another effective technological innovation in wildlife conservation in the region is radio collaring and GPS tracking to monitor animal movement. This process involves attaching a device to an animal that transmits signals back to a base station or satellite, allowing researchers to track their movements. One benefit of radio collaring and GPS tracking is its ability to provide valuable insight into animal behaviour and habitat use patterns. With this information, conservationists can better understand how animals interact with their environment and make informed decisions about land management practices. This technique allows for early detection of potential threats such as poaching or habitat loss, and also allows proactive responses to potential human-wildlife conflict. In an innovative project in northern Namibia, lions have been collared and receiver towers put up close to settlements, which give off a warning if any lion comes within range of the tower—giving residents time to prepare and avoid conflict. By monitoring the location of endangered species in real-time, rangers and residents can respond quickly if there are signs of danger.

The technique has led to increased protection and survival rates among endangered populations such as black rhinos. In South Africa’s Kruger National Park, the use of GPS technology helped reduce poaching incidents by 96% between 2013 and 2016. Researchers have used data from GPS-transmitted signals to create heat maps showing where elephants tend to congregate around water sources during droughts. By analysing the movement patterns of predators like lions and cheetahs, scientists have been able to identify corridors linking protected areas, helping improve connectivity across fragmented habitats. These conservation endeavours aim to safeguard these iconic African species and foster better ecological outcomes in their respective locations:

- In Kenya, the Black Rhinoceros benefits from anti-poaching surveillance efforts, resulting in increased protection for the species.
- In Botswana, Zimbabwe, and South Africa, African Elephants receive support through habitat use and water source mapping initiatives, contributing to improved resource management.
- In Tanzania and Kenya, connectivity corridor identification projects focus on Cheetahs, Lions, and Wild Dogs, promoting the establishment of corridors to enhance connectivity between habitats for these species.

Blockchain technology is increasingly gaining traction across Eastern and Southern African countries, showcasing its versatility in various conservation initiatives within protected areas. Blockchain technology has emerged as a reliable tool for ensuring secure record-keeping for every activity done in the field. The technology allows for secure and transparent record-keeping that cannot be altered or manipulated by any party. This ensures accountability and transparency, which are crucial aspects of wildlife management. With blockchain technology, information such as the number of animals counted during surveys, areas covered during patrols, and even poaching incidents can be recorded securely without fear of loss or tampering.

The benefits of using blockchain technology in wildlife conservation go beyond secure record-keeping. Blockchain enables real-time sharing of data among stakeholders involved in conservation efforts. This promotes collaboration between organisations working towards a common goal—protecting wildlife. Additionally, it facilitates easy access to information for researchers who need accurate data on various animal populations within different habitats. These examples highlight the specific implementation of
Box 11.1: Revolutionizing marine conservation: Spatial Monitoring and Reporting Tool (SMART) patrol software for Kisite-Mpunguti Marine Protected Area

In response to the pressing need for enhanced management effectiveness in the Kisite-Mpunguti Marine Protected Area (KMMPA), 22 Kenya Wildlife Service (KWS) rangers from Shimoni undertook an extensive training on the use of SMART Patrol software. The rangers were also facilitated with essential marine patrol tools and equipment, such as water-based GPSs, night vision devices, mobile phones, laptops for data collection and analysis as well as the renovation of Mpunguti and Lungalunga KWS ranger outposts.

The Biodiversity and Protected Areas Management Programme (BIOPAMA) project, conceptualized to address management gaps in KMMPA, aimed to combat major threats such as illegal poaching, the use of unsustainable fishing gear and destructive tourism practices. The implementation of SMART patrol software has proven to be a game-changer for KWS in managing KMMPA. The software enables real-time collection, storage, communication, and evaluation of ranger activities, significantly improving patrol effectiveness and efficiency.

One of the notable achievements of adopting SMART in KMMPA is the successful deterrence of illegal activities, marking a substantial leap forward in marine conservation efforts. The software has also proven invaluable in identifying critical areas for cetacean sightings within the MPA. Buoyed by this success KMMPA management is keen to extend the use of SMART to all other marine protected areas (MPAs) across the country, signalling a nationwide commitment to cutting-edge conservation technology.

In an effort to scale up the use of SMART technology for MPA Patrolling, MPA wardens from other regions participated in a refresher training. This collaborative approach not only ensures uniformity in the application of SMART across different MPAs but also fosters a collective strategy to combat common threats. The case of KMMPA serves as a model for the transformative impact of innovative technology in marine conservation, demonstrating the potential for replicability and scalability to safeguard marine ecosystems across the entire nation.

Contributed by: Hashim Said, WWF, Lulu Mbogo, IUCN
Box 11.2: Technological innovations for enhanced rhino conservation: a case of Kunene Landscape Project in Namibia implemented by Save the Rhino Trust Namibia

The Kunene Landscape Project, spanning nearly 20,000 km² in the harsh terrain of northwest Namibia, stands as a beacon of innovation in communal rhino conservation. The BIOPAMA project was aimed at strengthening the Rhino Monitoring Programme through improved Infrastructure for Patrolling and Poaching Control.

The project strategically utilized funding to enhance patrol efficacy through infrastructure development. Investments included the purchase of a radio communication system, renovations to 14 field camps, acquisition of new SMART data collection devices, and procurement of two essential vehicles.

This infrastructure has not only improved ranger safety and well-being during patrols but has also contributed to better communication across the vast landscape, preventing poaching and reducing reaction time.

The adoption of SMART mobile devices for all ranger teams, totalling 20-25 teams monthly, revolutionized data collection at the field level. This innovation not only streamlined reporting and access to data but also paved the way for the exploration of performance-based payments. The use of blockchain technology to verify individual ranger performance represents a significant step towards securing more sustainable financing and aligns with the national strategy on black rhinos.

Contributed by: Lulu Mbogo, IUCN, Lorna Dax, Save the Rhino Trust Namibia.
blockchain technology in protected areas across Eastern and Southern African countries, emphasising its role in enhancing transparency, accountability, and trust within the context of various conservation initiatives.

• In Kenya, poaching activities have reduced significantly since the introduction of blockchain-based anti-poaching systems; there has been an increase in community participation in conservation efforts due to increased transparency; blockchain-enabled traceability systems have helped reduce illegal trafficking by enabling authorities to track illegally traded products back to their source; and using blockchain-powered smart contracts ensure transparent payments to communities living near protected areas leading to better livelihoods.96

• In Seychelles, the government has partnered with UK-based blockchain specialists to develop the Seychelles National Assets Management System (SNAMS). This is a blockchain-based platform aimed at enhancing efficiency in the country’s fisheries sector, particularly in marine protected areas like Aldabra Atoll. SNAMS employs blockchain technology to enable users to track fish from sea to sale, issuing unique certifications for fishing catches and quotas. The system, designed to be fully remote, reduces processing time and eliminates the need for physical interaction, especially crucial during the COVID-19 pandemic. SNAMS incorporates a sustainability label and aims to ease business processes in the fisheries sector, contributing to the nation’s Blue Economy amid challenges in the tourism sector. The platform allows interoperability among different blockchain and distributed ledger technologies, facilitating efficiency and compliance benefits without the complete transformation of existing IT systems.

• In Namibia, blockchain is being incorporated to enhance transparency in community-based natural resource management, particularly in conservancies. The use of blockchain technology in this context aims to create immutable records of financial transactions and resource management activities, fostering accountability and trust among community members involved in conservation efforts. A study was done on the application of blockchain technology in the context of Payments for Ecosystem Services (PES) programmes, presenting a proof-of-concept using Ethereum smart contracts linked to land cover classification on Google Earth Engine. The application is illustrated through Namibia’s Wildlife Credits conservation performance payment scheme, where blockchain is used to automate monitoring of agricultural development in wildlife corridors. The study identifies potential benefits, such as increased automation and efficiency in enforcing environmental conditionality, reducing transaction costs.97

Despite challenges that still exist towards the successful implementation of technology in wildlife conservation efforts, the region has demonstrated remarkable resilience and adaptability in conservation through these technological advancements.

11.2. Indigenous knowledge and citizen science in conservation

Conservation of protected areas is witnessing a transformative shift as citizen science initiatives and the integration of Indigenous knowledge into decision-making gain prominence. Mobile applications and online platforms are empowering individuals to actively contribute to biodiversity monitoring, data collection, and the reporting of conservation-related activities, fostering a more inclusive and engaged community. Moreover, there is a growing recognition of the invaluable contribution of Indigenous knowledge to conservation practices. Sinthumule (2023) provides a systematic review and includes these forms of traditional ecological knowledge: taboos and totems, customs and rituals, rules and regulations, metaphors and proverbs, traditional protected areas (social institutions), local knowledge of plants, animals and landscapes, and resource management systems. Collaborative governance models that involve local communities and respect Indigenous rights are proving instrumental in effective and culturally sensitive protected area management, thereby enhancing the inclusivity and impact of conservation efforts.

The integration of Indigenous knowledge into conservation practices is exemplified by successful initiatives in various Eastern and Southern African countries:

• Namibia has implemented successful Community-Based Natural Resource Management CBNRM programmes where local communities actively participate in the management of wildlife and natural resources. Indigenous communities contribute their knowledge about animal behaviour, migration patterns, and traditional land-use practices to inform conservation strategies. This approach enhances biodiversity conservation while supporting community livelihoods.

• In South Africa, the San people have been involved in sustainable wildlife tourism initiatives, especially in the Kruger National Park.98 Their profound understanding of the environment, encompassing tracking skills and knowledge of medicinal plants, enriches ecotourism experiences, providing economic opportunities for the San people and contributing to responsible conservation efforts.

• Tanzania’s Hadzabe community, known for traditional hunting and gathering, actively participates in conservation initiatives. Their Indigenous knowledge is integrated into wildlife management plans, respecting traditional hunting territories, and involving the community in anti-poaching efforts.99

96 For more information, please see: https://mombasainfo.com/the-role-of-technology-in-wildlife-conservation-in-kenya/
97 For more information, please see: https://www.frontiersin.org/articles/10.3389/fbloc.2019.00021/full
98 For more information, please see: https://www.krugerpark.co.za/africa_bushmen.html
99 For more information, please see: https://www.maliasii.org/blog/community-conservation-solutions-yaeda-valley
• Botswana showcases collaboration between Indigenous communities like the San and Bakgalagadi and governmental/non-governmental organisations to incorporate Indigenous insights into sustainable water resource management plans, ensuring the survival of both communities and wildlife.

• In Kenya, the Maasai community, residing near the Maasai Mara National Reserve, blends traditional practices with conservation efforts. Maasai pastoralists leverage their extensive knowledge of rangeland management to contribute to wildlife habitat conservation through collaborative initiatives with conservation organisations.

These examples underscore the multifaceted ways in which Eastern and Southern African countries are embracing and integrating Indigenous knowledge and citizen science into conservation practices, strengthening the relationship between local communities and the preservation of natural ecosystems. Current trends suggest that many more areas will be conserved directly by community and Indigenous people-led initiatives, and work is underway to ensure more enabling policy environments that support this approach. However, despite traditional knowledge having played a significant role in biodiversity conservation in present-day Africa, these traditions are being threatened by changing cultural mores and practices (including Christianity and Islam), formal education, modernisation, and new political dispensations (Sinthumule, 2023).

11.3. Adaptive management strategies

Acknowledging the dynamic nature of ecosystems and global challenges, protected area management is embracing adaptive strategies. Continuous monitoring, evaluation, and adjustment of management practices enable conservation organisations to respond effectively to emerging threats and uncertainties.

• Gorongosa National Park in Mozambique has implemented adaptive management to restore biodiversity following years of conflict. The park employs continuous monitoring to assess the recovery of ecosystems and adjusts conservation strategies accordingly. This approach allows for the restoration of wildlife populations and the overall ecological balance.

• South Africa’s Kruger National Park utilises adaptive management to address challenges such as habitat loss and wildlife poaching. Continuous monitoring and evaluation of wildlife populations and ecological changes guide conservation authorities in adjusting anti-poaching strategies, habitat restoration initiatives, and community engagement programmes.

• The Maasai Mara National Reserve in Kenya embraces adaptive management to address issues related to wildlife migration patterns and land use changes. By monitoring and adjusting conservation strategies, authorities can better protect critical migration routes, ensuring the preservation of the region’s unique biodiversity.

• Hwange National Park in Zimbabwe employs adaptive management to deal with challenges such as water scarcity and human-wildlife conflict. The park authorities continuously assess the availability of water sources, adjusting water management plans to sustain wildlife populations. Additionally, community engagement strategies are adapted to mitigate conflicts and promote coexistence.

• Etosha National Park in Namibia utilises adaptive management to address fluctuations in wildlife populations and changes in vegetation patterns. The park’s authorities regularly monitor these dynamics and adjust management plans, including controlled burning and water provision strategies, to maintain the ecological balance within the park.

• Bandar LMMA in Northern Mozambique integrates a Nature-based Solution to promote sustainable oyster farming, conserving the LMMA while also providing tangible and long-term benefits to the local communities.

These examples demonstrate how various countries in Eastern and Southern Africa are implementing adaptive management strategies in their protected areas to effectively address the evolving challenges and uncertainties facing their ecosystems.

100 For more information, please see: https://www.undp.org/sites/g/files/zskgle326/files/2023-12/kgdep_esmf.pdf
Box 11.3: Sustainable oyster farming in Mozambique for improved community livelihoods - a Nature-based Solution (NBS)

Northern Mozambique has the highest recorded levels of marine biodiversity in Southern Africa. Poverty is widespread within communities here, and they are highly dependent on marine resources for their own subsistence. ZSL working with associação do meio ambiente (AMA) implemented innovative conservation initiatives within Bandar Community Fisheries Council, a project aimed at conserving the biodiversity of Bandar LMMA while providing sustainable benefits for local fishing communities. Through the BIOPAMA programme, 20 vulnerable mosquito net fishers and salt producers were supported to establish sustainable bivalve aquaculture using floating oyster baskets technology in Bandar, Cabo Delgado. A consultant facilitated a participatory survey to identify suitable sites for the baskets, and once established, they were filled with oyster spat collected from appropriate locations. To ensure sustainability, spat collectors were implemented to limit wild collection. The oysters are grown in the boxes, with a careful spreading process to provide adequate space for their growth.

The group has successfully deployed four floating devices, containing 96 baskets filled with oysters. The group anticipates generating substantial income from the sale of octopus by April 2024. This initiative not only contributes to conservation of the LMMA but also provides tangible and long-term benefits to the local communities in northern Mozambique.

Contributed by Jeremy Huet, ZSL
Part IV

12. Recommendations
12. Recommendations

As we navigate the complexities of safeguarding biodiversity in the post-2020 era, the imperative to secure biodiversity, including through protected and conserved areas, becomes increasingly apparent. In the face of unprecedented environmental changes, protected and conserved areas play a pivotal role in preserving biodiversity, upholding natural processes, and providing vital habitats for a multitude of species. Beyond ecological significance, these areas are wellsprings of their livelihood benefits, offering everything from clean drinking water to food security and encompassing a spectrum of cultural, spiritual, and socio-economic advantages.

In recognising the pressing need for a resilient and well-managed system of protected areas, our focus extends to Eastern and Southern Africa, where concerted efforts are crucial to achieving global targets and ensuring that protected areas serve as biodiversity bastions while enhancing regional livelihoods. Building upon the recommendations in SoPACA 1, the following recommendations encapsulate priorities for attention, aiming to align efforts with global targets while enhancing regional livelihoods. These strategies also aim to further strengthen conservation efforts in Eastern and Southern Africa, promoting a comprehensive and integrated approach.

1. **Strengthen governance and management of existing sites**
   In line with Target 3 of the Global Biodiversity Framework, promote and strengthen effective management and governance in existing protected and conserved areas, through systematic assessments and prioritisation of key actions.

2. **Inclusive conservation**
   Strengthen community involvement in conservation by recognising and incorporating Indigenous knowledge, strengthening legislative frameworks for community-led site-based conservation and ensuring local communities and Indigenous people actively participate in decision-making. Where relevant, explore the integration of Other Effective Area-based Conservation Mechanisms into the national policy frameworks and processes.

3. **Strengthen legal frameworks**
   Enhance and enforce legal frameworks for effective management and financing of biodiversity and area-based conservation. Revise and update conservation laws, clarify institutional roles, ensure stringent penalties for illegal activities, and promote international collaboration and inclusive approaches that give voice to Indigenous people and local communities in the management of natural resources, including relevant frameworks to enable Other Effective Area-based Conservation Mechanisms.

4. **Spearhead devolution and capacity-building for community-led conservation**
   Lead efforts to decentralise management of natural resources and build capacity at the local level to empower local communities to manage natural resources effectively and equitably. This will contribute to the resilience and sustainability of protected areas in Eastern and Southern Africa, fostering a balance between conservation goals and the well-being of local communities.

5. **Diversify local natural resource products**
   Explore opportunities to expand and diversify products derived from communal natural resources. Diversification enhances economic benefits, contributing to the sustainability of conservation initiatives and supporting local communities.

6. **Strengthen the Wildlife Economy**
   Enable and foster Wildlife Economy activities, including sustainable tourism, balancing economic benefits with environmental conservation. Build capacity, particularly in local communities, to engage in the Wildlife Economy and develop strong local economies supporting livelihoods and conservation.

7. **Diversify sustainable financing for protected and conserved areas**
   Building on existing initiatives and new innovative approaches, harness opportunities for sustainable financing for protected and conserved areas. Build relevant partnerships with other sectors, particularly the private sector, and communities to advance development and conservation objectives.

8. **Harnessing technology for monitoring**
   Embrace cutting-edge technologies for more effective monitoring and enforcement of protected areas. Invest in satellite monitoring, drones, and data analytics to combat illegal activities, track wildlife movements, and assess ecosystem health in real-time.

9. **Climate-resilient conservation planning**
   Integrate climate resilience into conservation planning and implementation. Given the strong interlinkages between biodiversity and climate change impacts, incorporate adaptive measures into conservation strategies, promoting habitat connectivity and preserving critical migration corridors to secure biodiversity and adapt to the effects of climate change.
References


Biodiversity Finance Initiative (BIOFIN) (2021). Biodiversity Finance Initiative [website]. Available at: https://www.biodiversityfinance.net/

BIOPAMA (2023). Evaluation of the Management Effectiveness of the Network of Protected Areas of Madagascar National Parks with the IMET Tool Scaling-Up Analysis for Implementation for the Madagascar Protected Area System. Nairobi, Kenya: BIOPAMA. Available at: https://biopama.org/


Campese, J. & Sulle, E. (2019). Management Effectiveness, Governance, and Social Assessments of Protected and Conserved Areas in Eastern and Southern Africa: A rapid inventory and analysis to support the BIOPAMA programme and partners. BIOPAMA, IUCN ESARO. Available at: https://biopama.org/node/349


Gurney, G. et al. (2021). ‘Biodiversity needs every tool in the box: Use OECMs’, *Nature*, 595, pp. 646–649. Available at: https://www.nature.com/articles/d41586-021-02041-4


Key Biodiversity Area Global Dataset (2023). Available at: https://www.keybiodiversityareas.org/kba-data [website] (September 2023)


Ministry of Education, Arts and Culture (MEAC) and Ministry of Environment, Forestry and Tourism (MEFT) (2020). *National Strategy on Sustainable Heritage Tourism Development and Employment Creation Opportunities at Community Level*. Windhoek, Namibia: Ministry of Education, Arts and Culture (MEAC) and Ministry of Environment, Forestry and Tourism (MEFT).


Ministry of Environment, Forestry and Tourism (MEFT) and Namibian Association of CBNRM Support Organisations (NACSO) (2021). *The state of community conservation in Namibia (Annual Report 2019)*. Windhoek, Namibia: Ministry of Environment, Forestry and Tourism (MEFT) and Namibian Association of CBNRM Support Organisations (NACSO). Available at: https://communityconservationnamibia.com/


Noon, M.L. (2022). 'Mapping the irrecoverable carbon in Earth’s ecosystems'. Nat Sustain 5, 37–46. Available at: https://doi.org/10.1038/s41893-021-00803-6


OFAC (2018). Reseau des Aires Protegees du Burundi. Rapport d’analyse basee sur les evaluations IMET. Available at: https://storymaps.arcgis.com/stories/4f0a8bea3514274b49ff1c77550f8b


(2023). Tanzania Wildlife Management Authority, Protected Areas. Tanzania: Republic of Tanzania. Available at: https://www.tawa.go.tz/protected-areas


World Database on Other Effective Area-Based Conservation Measures (WDOECM) [website] Available at: https://www.protectedplanet.net/en/thematic-areas/oecms?tab=OECMs


Appendices
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## Appendix 1: List of contributors

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Appendix 2: Questionnaire – Guiding questions on country profiles

When reviewing the questions below, please also refer to the content of the country chapter published in the 2020 edition of the ‘State of Protected and Conserved Areas (SoPACA) in Eastern and Southern Africa’. We are looking to update and enhance the information available for your country and the below questions assist in identifying new information that needs to be included in the 2nd edition of the SoPACA

1. Country statistics:
   a. What are the key changes in the status of national parks, forest reserves, marine protected areas and game management protected area system since 2020?
   b. What is the current coverage of protected areas in the country (total, and marine)?
   c. Which protected and conserved areas has your country currently prioritised?
   d. What are the current designations of protected and conserved areas of the country?
   e. How many transboundary protected and conserved areas does the country have? Please name them.
   f. Please review the list of key species and provide edits if needed.
   g. Please review current pressures and threats and provide edits if needed.
   h. Does your country have any Green List sites or candidate Green List sites?

2. Policy and legislation:
   a. How many/which policies/legislations does the country have related to protected area management and governance and equity (both marine and terrestrial)? Please list these.
   b. Have there been any changes in these policies and legislations since 2020?
   c. What are the gaps in policies/legislation for effective management and governance?
   d. Does your legislation allow for collaborative/shared, and/or private or community governance and management?
   e. Can you provide an overview of the key institutions or relevant institutional frameworks overseeing biodiversity conservation and protected area management in your country?
   f. How is the private sector including financial actors in your country contributing to policy development and implementation for biodiversity conservation and protected area management?
   g. Does the country have legislation related to land use rights and/or wildlife (fauna and flora) use rights - or, customary marine use and tenure, in terms of Wildlife Economy? If so, please specify what rights are recognised.
   h. Please describe the impact of the COVID-19 pandemic on the functioning of protected areas in your country (e.g. impact on patrolling, pressure from outside such as poaching, population recovery due to decreased human interference etc.)
   i. What were the effects of COVID-19 on tourism and what recovery measures were taken?

3. Management effectiveness
   a. Can you provide an overview of any changes in management effectiveness since 2020? For the Protected Area network as well as community managed areas and OECMs? Please provide relevant examples.
   b. Have any assessments of management effectiveness been done since 2020 (e.g. METT, IMET, RAPPAM, EoH, Green List, etc)? If so, please provide details of when and where these assessments were done and if possible, also a brief summary of the findings for that area?

4. Governance and equity
   a. Please review the stats on governance types and edit as relevant for your country? (Which governance types are represented in which areas in your country?)
   b. Can you provide an overview of any changes in governance and equity since 2020? (Please reach out to all relevant actors in your country involved in (site-level) decision-making for PCAs and OECMs and include inputs from all governance types here)
   c. Have you done any analyses on governance recently that you would like to share?
   d. Have any systematic assessments been done on governance and equity since 2020 (e.g. SAGE, SAPA, GAPA, Green List, etc)? If so, please provide details of when and where these assessments were done and if possible, also a brief summary of the findings for that area?

5. Ecosystem services
   a. Are there any recent analyses available for ecosystem services in your country? (Including analysis of what services exist in PCAs and OECMs? Valuation of these services, or similar?)

6. Sustainable financing
   a. What are your current sources of funding? (Such as government, donor bonds, trust funds and Nature-based tourism.)
   b. Can you provide an overview of expenditure for 2022 in relation to the budget/fund needed for managing your PCAs (How much money did you need? How much money did you have?)? What was the funding gap? (Please also include information available for private protected areas and community-managed areas.)
   c. Does your country have individual budgets and expenditure records for each area in the network? Do you distribute funds across all PAs in the network equitably?
   d. What new financing mechanisms is your country considering to boost financing for protected and conserved areas?
   e. Does your country have a Sustainable Financing Strategy (or is there one under development?) OR: What sustainable financing solutions do you currently use? (Contacts, pilots, etc - list with hyperlinks.)
7. **Wildlife Economy**
   a. What are your main wildlife/marine resource economy activities in your country? Include a dropdown menu with Hunting, Fishing (including invertebrates), Carbon, Ecotourism, Wildlife Ranching/Game sales; forest products; marine products (e.g., Shells, aquarium trade); wildlife estates; film and photography; and other (with space for more information re other).
   b. What are the main challenges you face in terms of unlocking and growing the wildlife and/or Blue Economy in your country?
   c. What are the main opportunities you see in terms of unlocking and growing the wildlife/Blue Economy in your country?
   d. Does your country have a Wildlife/Blue Economy Strategy?
   e. What is the percentage of government allocation for wildlife/marine conservation and management as per your country’s legislation?
   f. What percentage does tourism (wildlife & marine) contribute to your country’s GDP?

8. **Innovation:** What innovative initiatives has the country undertaken/is undertaking towards effective management and governance of protected and conserved areas?

9. **Recommendations:** What recommendations would you propose toward effective governance and management of protected and conserved areas?
All count statistics, such as the number of protected areas in a country, or the number of protected areas under a given IUCN Management or Governance Category, are derived from the unmodified October 2023 version of the WDPA for the 26 countries. Coverage statistics, such as the area covered in protected areas for a country, or the area covered by a given IUCN Management Category, are also derived from a subset of the October 2023 version of the WDPA. In this subset, certain sites have been removed in line with the standard method for calculating coverage using the WDPA. Sites with the following characteristics were removed from the WDPA subset:

- Those with the status of 'Proposed' or 'Not Reported'.
- Points that do not have a reported area.
- UNESCO Man and Biosphere Reserves. These sites are excluded on the basis that they have been reported having an area that includes the buffer and transition zones, even though these zones do not often meet the definition of a protected area.

The protected and conserved areas data shown in the country profiles tables are drawn from different sources, i.e., the Protected Planet Databases, National Reports to the Convention of Biological Diversity, and the national data held by relevant mandated institutions. The discrepancy between some of the statistics from the various sources is due to the delayed reporting of protected and conserved areas data to the Protected Planet Databases, the long interval between the CBD reporting periods, and the different methods of generating statistics. Some countries take as long as five years to submit CBD national reports. There is usually a lag between a protected area becoming designated or proposed and it appearing in the WDPA. For this reason, it is possible that recently designated or proposed protected areas have not been included in the WDPA yet, or that some protected area boundaries may contradict those made available by other sources. There may also be differences between Protected Planet statistics and official national statistics as the results will be influenced by the methodology and base layer used to calculate the statistics. Furthermore, data providers are encouraged to report only on areas that meet the international IUCN and/or CBD definitions of either a protected area or OECM, which may differ from the country’s own national definitions of these terms. Some designations of protected areas overlap each other, for example, a site may be designated as a national park and at the same time designated as a Ramsar site. While the national coverage is not double-counted, the coverage within designation categories may result in double counting.

Disclaimer
The coverage (km²) may overlap between, but not within, the categories. This is negligible. However, where overlapping occurs, the combined totals will add up to over 100% of the protected area of the country. The WDPA is an aggregation of national data, and therefore the quality of the boundaries depends on the quality of the data in the country. UNEP-WCMC do not alter boundaries or locations of sites but work with data providers to try and ensure accuracy.

2 For more information, please see: https://www.protectedplanet.net/c/calculating-protected-area-coverage
Appendix 4: How can protected area authorities incorporate ecosystem services into management?

**Step 1: Identify focal ecosystem services (i.e. supply side).**
Every protected area is different. The ecological features that supply ecosystem services vary across the region and so does the social context of people who stand to benefit from these services. Whether at the level of a manager in a single protected area, or officials responsible for a whole network of protected areas, the first step is to identify and prioritise the ecosystem services that would be the target of interventions. This should include provisioning services (e.g. timber, fish, medicinal plants), regulating services (e.g. water supply, carbon sequestration, flood attenuation), supporting services (e.g. habitat for species, soil for agroecosystems), and cultural services (e.g. tourism opportunities, scenery, sense of place). A good starting point is the Africa regional assessment for the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES, 2018).

**Step 2: Assess the dependence and value of these services to beneficiaries (i.e. demand side).**
For each of the services defined in Step 1, identify who stands to benefit from these services. Beneficiaries can be close to the protected area (e.g. local communities that harvest fuelwood), or they can be far away (e.g. global citizens who benefit from carbon storage). Moreover, some of these beneficiaries might gain directly from a service (e.g. tourists who benefit from viewing a charismatic species) while others might benefit indirectly (e.g. a guesthouse owner who receives income from tourists visiting a nearby protected area).

It is also necessary to describe how much each beneficiary depends on the ecosystem service. For example, economically vulnerable communities living alongside protected areas may have no alternative sources of food, building material, or medicinal plants; so they would be assigned a high dependence. By contrast, a wealthy tourist might have options to visit a different protected area for their safari experience. This is a critical consideration because often the value of an ecosystem service is determined, not by how much people depend on the service, but rather their willingness to pay for these services, which risks marginalising economically vulnerable communities. This is especially relevant in the context of Target 3 of the Kunming-Montreal Global Biodiversity Framework, which emphasises that protected areas should ensure "that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of Indigenous Peoples and Local Communities" (emphasis added).

There are several valuable resources available for valuing ecosystem services, which are reviewed and summarised by IPBES, (2016) and Neugarten et al. (2018)

**Step 3: Link ecosystem services to specific ecosystem and habitat features.**
Once ecosystem services and their beneficiaries are well known, the next step is linking these services to specific ecosystem or habitat features. These features are what is often referred to as natural capital or ecological infrastructure. Within a single protected area, or across a network of protected areas, there are specific ecological features that disproportionately contribute to supplying ecosystem services. For instance, mangroves may be significantly important for protection against storm surges in coastal protected areas, and coral reefs might be vital nurseries for fish in marine protected areas. On land, wetlands are important for flood attenuation and forest for carbon storage. By understanding the ecological functioning behind the supply of ecosystem services, it becomes possible to develop spatially-explicit plans that consider the location of critical ecosystem features and their relative prevalence across land- and seascapes. These types of spatial analysis can feed into the process of ecosystem accounting (e.g. United Nations et al. 2021) and Target 1 of the Global Biodiversity Framework (i.e. all areas are under participatory integrated biodiversity inclusive spatial planning).

**Step 4: Identify interventions to maintain or enhance services, commensurate with value and dependencies.**
The fourth step is identifying interventions in critical ecosystems that can maintain or enhance ecosystem services (e.g. SANBI, 2014). Some interventions are likely to already be part of a protected area’s management actions, such as clearing invasive species (to increase water yield and reduce fire risk), following prescribed burning regimes (to improve soil carbon storage and increase water infiltration), and managing herbivore stocking rates (to reduce water runoff and soil erosion). In other instances, new interventions will be needed, though these are likely consistent with the conservation goals of protected areas. For example, wetland rehabilitation can reduce flood risk and filter pollutants from water, but it can also enhance habitat for freshwater species. Similarly, restoring coastal fore dunes can buffer against sea storm surges, while also providing habitat to coastal species. In many instances, interventions to improve ecosystems can be more cost effective than achieving the same outcome through traditional built infrastructure (e.g. catchment restoration can improve water supply more economically than engineering solutions, like dams, boreholes and water transfer infrastructure: Mander et al. 2017).

**Step 5: Integrate interventions into management plans, allocate resources, and monitor progress.**
The final step is perhaps the most important, because it ensures that plans to consider ecosystem services in protected areas are brought to fruition. Protected areas should already have management plans, which define the day-to-day activities. For ecosystem services to become embedded in day-to-day activities, it stands to reason that they should be formally acknowledged in management plans. Resources – in terms of staff, equipment, and funding – should be allocated in proportion to the importance of ecosystem services in the management objectives. Progress should be monitored at all levels: how much ecosystem services are being supplied, what are the benefits that are being gained, and how many resources have been spent on interventions.
Appendix 5: Finance Solution Approach

There are many global conservation finance platforms and initiatives, as well as resources and tools available to PCA stakeholders, as detailed above. The following provides an overview of the Sustainable Finance Coalition’s on the ground approach to the development of finance solutions at their point of impact with case studies from Africa specifically provided, to showcase how finance solutions can be operationalised.

Very simply, the Coalition’s Finance Model has three parts: FIND the right finance solution, DESIGN it through a strategic three stage process, and MOBILISE a finance for nature ecosystem to take solutions to scale.

FIND: Tailor-making the right finance solution for the right place with the right people.

DESIGN: Designing viable finance solutions for nature by incubating, implementing and amplifying those solutions. This is done through the Finance Solution Approach©, allowing for the development of new finance solutions in a strategic and dynamic manner, whilst fostering innovation through incubation.

MOBILISE: Building a finance for nature ecosystem that replicates and transfers finance solutions through collective action.

Finance Solution Approach

The Coalition’s 3-stage Finance Solution Approach© allows for the development of new finance solutions in a strategic and dynamic manner to incubate, implement and amplify tailor-made finance solutions for nature. The approach is applicable to any individual finance mechanism and can be embedded into a diversity of projects and entities at local, national or transboundary levels across naturescapes.

Seven new finance solutions have been incubated, with an additional six planned for 2023–2025. Following the approach, five finance solution pilots have been translated into implementation, with a further two solutions reaching the final stage, amplifying sustainable finance in naturescapes at the point of impact. Further to this, six finance strategies have been developed for multiple countries, focussing on Transfrontier Conservation Areas, Protected Areas and Conservation and Sustainable Land Management. The types of finance solutions undertaken are representative of the suite of naturescape needs across the country and continent.

Incubation

Determine the viability of each new finance solution by developing the Building Blocks that are required for effective implementation.

Timeline: 6 months

Examples of finance solutions that have been incubated

- OECM and Threatened Species (or Biodiversity Management Agreement) Tax Incentive
- Municipal Property Rates Relief
- Carbon Finance
- Finance Facility for Extension Support
- Green Bankable Projects

Implementation

Practical testing and piloting of the Building Blocks identified and the institutional adoption of the new finance solution(s).

Timeline: Years 1-3

Examples of finance solutions that have been implemented

- OECM and Threatened Species (or Biodiversity Management Agreement) Tax Incentive
- Municipal Property Rates Relief
- Carbon Finance
- Green Bankable Projects

Amplify

New flows of finance are targeted to real people in real places, at the point of impact.

Timeline: Years 3-5