SHORT COMMUNICATION:

PROTECTED AND CONSERVED AREA EFFECTIVENESS – INTRODUCING AN ENHANCED FRAMEWORK FOR REPORTING DATA TO PROTECTED PLANET

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ABSTRACT

Increasing the extent of protected and conserved areas (PCAs), without ensuring these areas are effectively conserving biodiversity, is insufficient to achieve global conservation targets. At the site level, assessing effectiveness is an important part of adaptive management and a wide range of tools have been developed for this purpose. Collating effectiveness data at the global level is important for tracking progress towards Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF). However, the ability to synthesise insights gained through effectiveness assessments has been limited due to one fundamental problem: how to gather meaningful, standardised data given the diversity of tools applied around the world. This paper presents recent enhancements to the Global Database on Protected Area Management Effectiveness that will enable effectiveness information to be reported in a standardised yet flexible manner. While these changes represent an important milestone, a collaborative effort is required to overcome persistent challenges, including funding and capacity gaps. Prioritising the next steps outlined in this paper will help to facilitate the collation of PCA effectiveness data and improve understanding of progress towards Target 3 of the KMGBF.

Keywords: protected areas; OECMs; PAME; Target 3; Kunming-Montreal Global Biodiversity Framework

INTRODUCTION

Globally, the spatial extent of protected and conserved areas (PCAs)[1] has grown significantly over the past decades (UNEP-WCMC & IUCN, 2024), but not all these areas are effectively conserving biodiversity. Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF) therefore highlights that 30 per cent of land and ocean need to be "effectively conserved and managed" and "equitably governed" within protected areas and other effective area-based conservation measures (OECMs) by 2030 (CBD, 2022).

'Effectiveness' in the context of PCAs refers to areas that are well-designed, equitably governed, and managed to successfully deliver conservation outcomes. Various approaches are used to assess these elements, including Protected Area Management Effectiveness (PAME) tools such as the Management Effectiveness Tracking Tool (METT), governance-focused approaches such as the Site-level Assessment of Governance and Equity (SAGE), and frameworks such as the IUCN Green List Standard. There are many more, including nationally specific approaches (UNEP-WCMC, 2025).

Effectiveness assessments are essential for adaptive management and to promote accountability and transparency (Hockings et al., 2006). Gathering data nationally and globally helps track progress towards area-based conservation targets (Geldmann et al., 2021). To date, the Global Database on Protected Area Management Effectiveness (GD-PAME) has provided limited insights into PCA effectiveness as it has only

[1] Protected and Conserved Areas (PCAs) refers to protected areas and other effective area-based conservation measures in this context.

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tracked where assessments have taken place (UNEP-WCMC & IUCN, 2024). In 2025, Protected Planet partners implemented changes to allow the GD-PAME to offer insights into the governance, design, management and outcomes of PCAs, while being non-prescriptive regarding the assessment tools or approaches used.

Here, we describe the policy context and evolution of the GD-PAME, outline the benefits of reporting data and highlight remaining challenges. Finally, we provide recommendations for advancing efforts to track PCA effectiveness at the global level.

POLICY CONTEXT

In 2022, CBD Parties adopted the KMGBF to guide action for halting and reversing biodiversity loss by 2030. The KMGBF encompasses four overarching goals and 23 targets, including Target 3 on protected areas and OECMs (CBD, 2022).

The Monitoring Framework of the KMGBF includes headline indicators, which all Parties are requested to report on, plus optional 'disaggregations' (i.e. data broken down by specific characteristics), component, and complementary indicators, which Parties are encouraged to use (CBD, 2025). The headline indicator for Target 3 is "coverage of protected areas and other effective area-based conservation measures" (CBD, 2025). To support consistent reporting, data are collated in the World Database on Protected and Conserved Areas (WDPCA)[2], compiled in collaboration with CBD Parties and other stakeholders, as part of the Protected Planet Initiative. The Monitoring Framework also includes an optional disaggregation of PCA coverage "by effectiveness" (CBD, 2025), and CBD Parties are invited to provide data on effectiveness of PCAs. The GD-PAME provides the mechanism for collating these data, which can be built upon within future post-2030 global target-setting and monitoring approaches.

EVOLUTION OF THE GD-PAME

The GD-PAME was the main source of data for global reporting on the effectiveness of PCAs under Target 11 of the 2011–2020 strategic plan for biodiversity which preceded KMGBF Target 3 and called for PCAs to be "effectively and equitably managed" (UNEP-WCMC & IUCN, 2021).

As of January 2026, the GD-PAME contains 33,206 records for 178 countries, using 77 methods/tools. Of the PCAs in the WDPCA, 21,902 (6.7 per cent) have at least one management effectiveness assessment recorded in the GD-PAME (21,896 protected areas and six OECMs). In terms of spatial coverage, 5.23 per cent of the terrestrial and inland water area, and 1.92 per cent of marine and coastal areas covered by PCAs have been assessed for effectiveness (Supplementary Online Material, Appendices 1 & 2).

As noted above, while the GD-PAME has provided insights into the global application of assessment tools, it has not included data on effectiveness (UNEP-WCMC &

[2] The WDPCA combines the World Database on Protected Areas (WDPA) and World Database on Other Effective Area-based Conservation Measures (WD-OECM), which existed as distinct databases until 2025.

IUCN, 2021). The adoption of the KMGBF highlighted the need for an improved system which enables globally consistent reporting, while allowing local and national flexibility (Geldmann et al., 2021). This was the key underlying principle informing the re-development of the GD-PAME.

As of 2026, the database includes the following data 'types':

1. *Basic data (mandatory for all data submissions)*: relating to the PCA and the assessment method.
2. *Additional data (optional)*: relating to governance, design and planning, management and conservation outcomes (Box 1).
3. *Source data (mandatory)*: details on the data provider to ensure that ownership of the data is maintained and traceable.

The new optional fields represent the key change in the GD-PAME, enabling analyses relevant for global reporting. They are described below.

New optional data fields

The enhanced GD-PAME includes additional fields (Box 1) to capture high-level information in a way that is comparable across sites and countries.

The GD-PAME data submission form provides a drop-down menu of answers to each question and points to relevant sections from some commonly used tools (e.g. METT, SAGE and others) that can be used as a basis for providing answers. (Description of the questions and drop-down menu of answers are provided in Supplementary Online Material, Appendix 3.)

While reporting is optional, countries are encouraged to provide data for these fields. If this is done, Protected Planet will be in a position to share new insights into the quality of PCAs in the form of statistics on the extent to which, for example, actors are involved in decision-making; major biodiversity values are identified; monitoring, evaluation and adaptive management are undertaken; PCAs have sufficient staff resources; and positive trends in conservation outcomes are reported. This will include statistics on the coverage of PCAs with these characteristics, aligning with the requirements of the KMGBF Monitoring Framework and providing vital insights into progress towards Target 3.

There is an important distinction between effectiveness *assessments* (which are designed to capture detailed data and inform adaptive management) and the GD-PAME *reporting framework* (which collates the results of effectiveness assessments in the form of high-level information). The GD-PAME questions do not address every aspect of PCA effectiveness but cover a subset of important issues to consider. They focus on aspects that can be feasibly reported and align with global best practice such as the key 'themes' in the IUCN WCPA PAME Framework and the four components of the IUCN Green List Standard (Hockings et al., 2006; 2019). Data providers are encouraged to submit supporting evidence, though this is not a requirement. In the forthcoming phase of work, the new fields will be tested in collaboration with national governments and other data providers. The fields and other aspects of the reporting framework may be refined following this phase.

Box 1. New GD-PAME fields (UNEP-WCMC, 2025)

To what extent are key actors involved in decision-making relating to the site?

Is governance of the site periodically assessed and is action being taken to advance effective and equitable governance?

What types of biodiversity values have been identified for the site?

Have other values and/or associated functions, services been identified?

Have management objectives been set for the identified values?

Is management undertaken according to the site's objectives?

Are management actions regularly monitored, evaluated and adapted?

Are there enough people to manage the site to achieve its objectives?

Is the current budget sufficient to manage the site to meet its objectives?

Are the threats to the main values of the site being addressed?

Are biodiversity values monitored over time?

Have biodiversity values improved or been maintained since the last assessment?

Reporting process and benefits of reporting

Data can be reported to the GD-PAME by any entity, including governments, international convention and agreement secretariats, regional entities, Indigenous Peoples and local communities and NGOs, following the procedure outlined in Figure 1. The entity reporting should have authorisation from the PCA governance

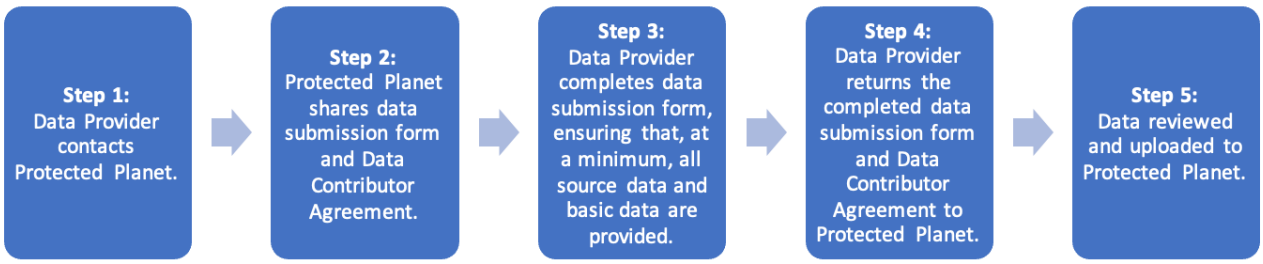

Figure 1. Process for reporting effectiveness data to Protected Planet

authority (UNEP-WCMC, 2025). Data reported by or in collaboration with governments are marked as 'state verified' to support reporting on Target 3 by CBD Parties.

In addition to facilitating global reporting, the GD-PAME offers a centralised data management mechanism. Data on PCA effectiveness are often managed by different entities including private organisations, NGOs, governments and funding agencies. The GD-PAME facilitates the collation of data from multiple sources, providing national governments with an overview. It also offers a data-management option for countries that do not have a system in place.

CHALLENGES

Several institutional, technical and capacity-related challenges continue to limit comprehensive global reporting on PCA effectiveness.

There is well-established global guidance on protected area effectiveness assessments processes and many PCAs and PCA networks have monitoring systems in place (Wells et al., 2026). However, resource and staffing shortfalls are barriers to ensuring monitoring is a standard part of all PCA management (Appleton et al., 2022). Targeted financial and capacity building support is needed.

Knowledge gaps also remain. Assessments of governance quality, including whether governance is equitable for local people, are still rarely undertaken, compared with assessments of management processes (Dehmel et al., 2025). Furthermore, establishing a direct, measurable link between management and conservation outcomes continues to be a challenge. These issues are likely to be amplified for OECMs, given the large spectrum of areas they encompass, and their diversity of objectives and management arrangements.

Effectiveness data remain dispersed among different entities and CBD Parties face technical and financial constraints for reporting (CBD, 2025). Historically, there has sometimes been a hesitancy to share information on PCA effectiveness due to fears that this may impact funding opportunities (Geldmann et al., 2021). These challenges will not be overcome unless reporting is streamlined and incentivised.

NEXT STEPS

Addressing these challenges will require coordinated action by CBD Parties, international organisations, regional bodies, Indigenous Peoples and local communities, donors, and technical partners. The following priorities identify where targeted investment and collaboration could most effectively strengthen global monitoring of PCA effectiveness:

Support PCA assessments and monitoring

Support and encourage authorities responsible for PCAs to make effectiveness assessments and monitoring an integral part of governance and management. This includes ensuring that biodiversity outcomes are better captured, which may involve updating existing effectiveness assessment approaches. The role of remote-sensed data, which can provide important insights into habitat extent and condition and supplement information gained through site-level assessments, should also be explored and piloted (Geldmann et al., 2021).

Streamline data collation and storage

Ensure site-level assessments feed into global reporting. Many countries, territories and regional networks have well-established monitoring and reporting systems, but this does not always lead to reporting to GD-PAME. Offering tailored support and identifying technological solutions that can help simplify the reporting process will facilitate seamless information flow and reduce reporting burdens. It will be important to gather feedback from data providers on the reporting process, identify support needs and respond to these adaptively.

Incentivise reporting

Raise awareness of the value of reporting data. Reporting on effectiveness is optional within the KMGBF, but the target will not be met by increasing PCA coverage alone. This message must be transmitted clearly at the global policy level. It will be important to demonstrate how reporting data allows success to be showcased, whilst also highlighting support needs and shared challenges. National and regional workshops, webinars and knowledge exchanges involving practitioners and policymakers, including from countries with different levels of financial resources and capacity, will be key to providing an opportunity for sharing best practices and lessons learned. They will also help to identify persistent challenges and barriers to reporting. Insights gained through these types of fora can guide future funding proposals and projects relating to assessing and reporting on PCA effectiveness.

CONCLUSION

By operationalising reporting on PCA effectiveness in a flexible yet globally consistent manner, the enhanced GD-PAME provides a critical bridge between site-level assessment and international biodiversity policy. Addressing remaining challenges will require a collaborative effort. It will be important to continue to identify opportunities for improving the GD-PAME to ensure it is fit-for-purpose and responsive to local and national needs. Implementing the next steps outlined here will help advance understanding of progress towards Target 3 of the KMGBF and build a foundation for setting enhanced qualitative PCA effectiveness targets after 2030.

The GD-PAME is available at https://www.protectedplanet.net/en.

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Field trip during METT national adaptation and development in Myanmar © Equilibrium Research

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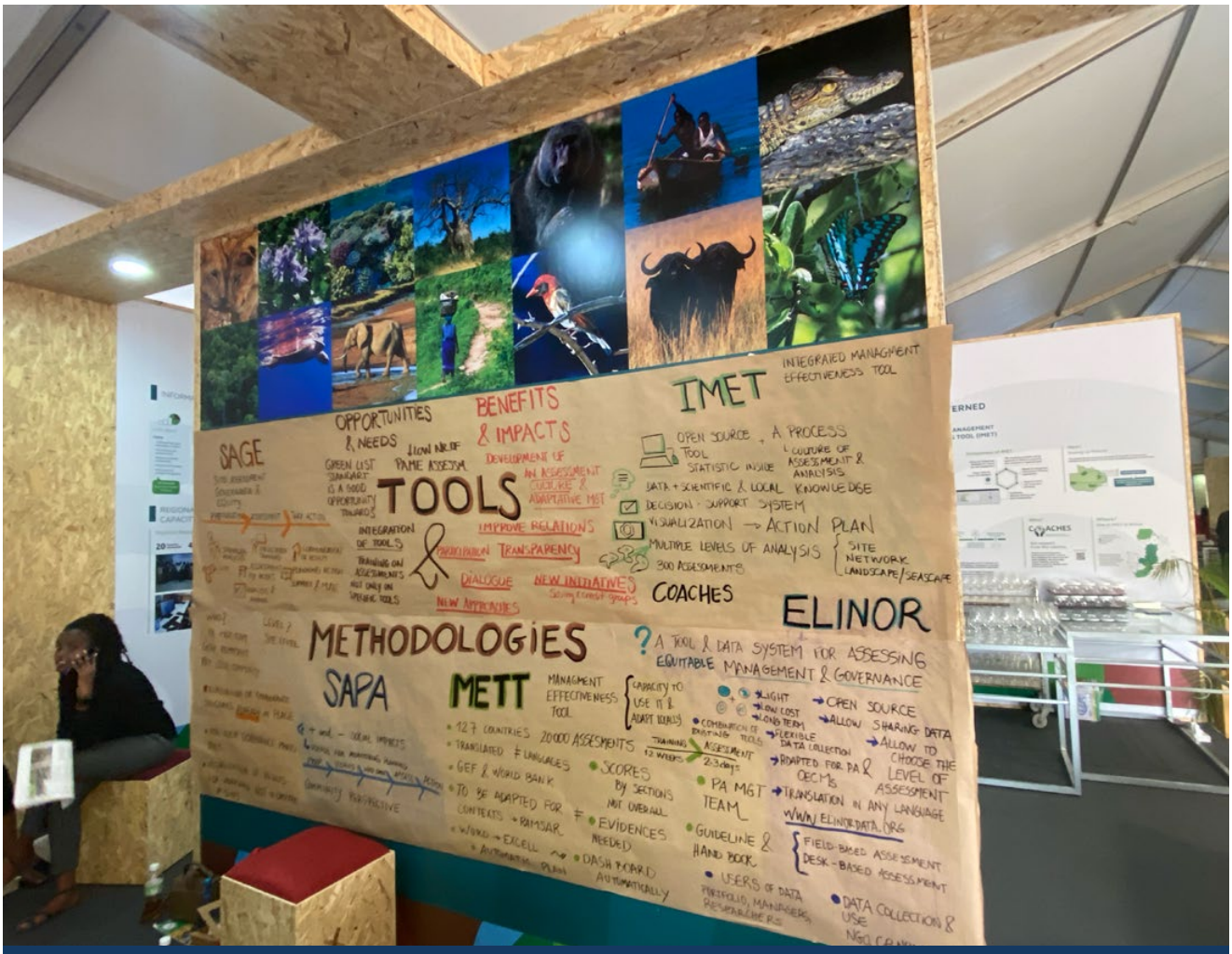

Understanding PAME tools at the African Protected Area Congress, Rwanda © Equilibrium Research

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RÉSUMÉ

L'augmentation de la superficie des aires protégées et conservées (APC), sans garantir que ces zones préservent efficacement la biodiversité, ne suffit pas pour atteindre les objectifs mondiaux en matière de conservation. Au niveau local, l'évaluation de l'efficacité est un élément important de la gestion adaptative et un large éventail d'outils a été développé à cette fin. La collecte de données sur l'efficacité au niveau mondial est importante pour suivre les progrès accomplis dans la réalisation de l'objectif 3 du Cadre mondial de Kunming-Montréal pour la biodiversité (KMGBF). Cependant, la capacité à synthétiser les enseignements tirés des évaluations de l'efficacité a été limitée en raison d'un problème fondamental : comment recueillir des données significatives et normalisées compte tenu de la diversité des outils utilisés à travers le monde ? Le présent document présente les récentes améliorations apportées à la base de données mondiale sur l'efficacité de la gestion des aires protégées, qui permettront de communiquer les informations relatives à l'efficacité de manière standardisée mais flexible. Si ces changements constituent une étape importante, un effort de collaboration est nécessaire pour surmonter les défis persistants, notamment les lacunes en matière de financement et de capacités. La priorisation des prochaines étapes décrites dans le présent document contribuera à faciliter la collecte de données sur l'efficacité des AEP et à améliorer la compréhension des progrès accomplis vers la réalisation de l'objectif 3 du KMGBF.

RESUMEN

Aumentar la extensión de las áreas protegidas y conservadas (PCA), sin garantizar que estas áreas conserven eficazmente la biodiversidad, es insuficiente para alcanzar los objetivos de conservación mundiales. A nivel local, evaluar la eficacia es una parte importante de la gestión adaptativa y se han desarrollado una amplia gama de herramientas para este fin. Recopilar datos sobre la eficacia a nivel mundial es importante para seguir los progresos hacia la meta 3 del Marco Mundial de Kunming-Montreal para la Diversidad Biológica (KMGBF). Sin embargo, la capacidad de sintetizar los conocimientos adquiridos a través de las evaluaciones de eficacia ha sido limitada debido a un problema fundamental: cómo recopilar datos significativos y estandarizados dada la diversidad de herramientas que se aplican en todo el mundo. En este documento se presentan las recientes mejoras introducidas en la Base de Datos Mundial sobre la Eficacia de la Gestión de las Áreas Protegidas, que permitirán comunicar la información sobre la eficacia de manera normalizada y flexible. Si bien estos cambios representan un hito importante, se requiere un esfuerzo de colaboración para superar los retos persistentes, entre ellos las deficiencias en materia de financiación y capacidad. Dar prioridad a las próximas medidas esbozadas en este documento contribuirá a facilitar la recopilación de datos sobre la eficacia de las áreas de conservación y a mejorar la comprensión de los avances hacia la meta 3 del KMGBF.