BMZ'S SUPPORT FOR PROTECTED AREAS

Evaluation report

2024

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The present evaluation examines the interventions of German bilateral development cooperation (DC) in protected areas. There are two overarching goals for BMZ's support for protected areas: conserving global biodiversity and securing sustainable incomes for the local population. This support must therefore navigate tensions arising between protection and use interests and strive to align them.

This evaluation of the support for protected areas considers all OECD-DAC evaluation criteria. It rates the relevance, effectiveness, coherence, and sustainability of the DC and illustrates patterns, practices, and challenges for the criteria impact and efficiency. Data from nine representative partner countries were collected and analysed for the evaluation. Based on these data, the evaluation provides conclusions and recommendations for future support for protected areas.

Overall performance when it comes to the support for protected areas is mixed. DC succeeds in stabilising the ecological and socio-economic situation in protected areas, particularly in the short term. Improvement is necessary in regard to sustainable mitigation of economic use pressure on protected areas, more effective monitoring of biodiversity, and when it comes to the implementation of the human rights-based approach of DC interventions.

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IMPRINT

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EXECUTIVE SUMMARY

Across the globe, increasing resource needs and resulting changes in land use are putting biodiversity under significant pressure. Global biodiversity loss, climate change and pollution are often referred to as the "triple planetary crisis". Their underlying causes must be tackled together (UNFCCC, 2022). This is because well-functioning ecosystems, whether terrestrial or aquatic, provide essential services in the form of clean air, water, food and medicine, which are the foundation of human life.

Together with the international community, Germany recognises the importance of conserving biodiversity. The Convention on Biological Diversity (CBD) is the most important international legal framework among the shared obligations. This convention is further defined by the 20 Aichi Targets and the Kunming-Montreal Global Biodiversity Framework (GBF) and pursues the goal of protecting 30% of the world's land area by 2030. The CBD also stipulates that countries in the Global North should support their partner countries in achieving their biodiversity goals through development cooperation (DC) efforts. For this reason, the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, BMZ) promotes biodiversity and protected areas.

The BMZ is pursuing two main goals in its support for protected areas: an ecological goal and a socio-economic goal. It aims to conserve ecosystems, species diversity and genetic diversity by strengthening and expanding protected areas that are integrated into conservation and use systems. The aim of supporting these areas is to contribute to reducing poverty and creating development opportunities for local communities, while also decreasing their direct, unsustainable dependence on natural resources as well as conserving biodiversity. A key aspect of this approach involves striking a balance between conservation and use interests.

The support of protected areas illustrates how closely the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda are interlinked. While socio-economic and ecological interventions can be mutually beneficial, they can also lead to conflicts if conservation and use interests are not aligned. Different factors such as a country's type of government, national priorities for biodiversity conservation, and the nature of ecosystems influence these tensions, with local community participation being crucial for balancing interests.

Subject of investigation and methodological approach

This evaluation examined the BMZ's bilateral support for protected areas. The study period was limited to the years 2016 to 2021. Using various data sources, the evaluation team reconstructed the portfolio of bilateral interventions supporting protected areas relevant for this study period, spanning from 2016, when the 2030 Agenda officially entered into force, to the start of the evaluation in 2021. The reconstructed portfolio comprises 177 projects in 40 countries with a combined financial volume of around EUR 1.9 billion.[1] The majority of the interventions are concentrated in Africa (47%), followed by Latin America and the Caribbean (33%), and Asia (16%). The governmental implementing organisations are Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and KfW Development Bank (KfW). This portfolio is a representative selection of all the biodiversity and protected area interventions funded by the BMZ over time.

This evaluation relies on a theory-based approach. The evaluation team developed an overarching theory of change (ToC) for the support for protected areas, based on a retrospective analysis of BMZ strategy documents. This served as the basis for formulating the evaluation questions, benchmarks and assessment criteria for all six evaluation criteria of the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD). The evaluation questions were comprehensively addressed using a mixed-methods approach, which incorporated a range of analytical and data collection techniques (Creswell, 2009). Qualitative and quantitative primary and secondary data were collected and analysed in nine representative country case studies. Subsequently, the results were validated for plausibility and triangulated.

[1] Details of the portfolio reconstruction are provided in Box 2 as well as in the online annex. Throughout this report, the term "PA portfolio" refers to the portfolio of state bilateral support for protected areas identified in this evaluation for the period from 2016 to 2021. Readers should be aware that this only represents a subset of the total biodiversity and protected area interventions funded by the BMZ over the years.

Results

The BMZ's support for protected areas is partially relevant. On a conceptual level, the projects are aligned with international frameworks for biodiversity, climate and sustainable development, as well as the national development plans of the partner governments. In practice, however, the practical implementation of these approaches is complicated by differing priorities among partners and changes in government. Relevant human rights treaties and the needs and capacities of local stakeholders and communities have not always been (fully) taken into account.

While the support for protected areas is mostly effective, it is not possible to rate its longer-term, overarching impact. The effects of the support for protected areas at the outcome and impact levels are difficult to differentiate given their considerable overlap. Furthermore, the measurement and attribution of long-term and broader impacts are complicated by insufficient data and the involvement of various international (bilateral and multilateral) stakeholders.

While the BMZ's support for protected areas successfully strengthens the respective national protected area systems, other ecological goals were only partially achieved. The BMZ contributes to integrating biodiversity conservation into the national policies of partner countries and provides support by procuring equipment and carrying out conservation activities. The construction of park infrastructure and provision of training for protected area staff also serve to strengthen these protected areas. However, the direct intended effects on biodiversity development vary greatly across the different country contexts studied. While some contexts show slight improvements of biodiversity indicator results others have declined. For the most part, however, these developments cannot be backed by quantitative data.

At the socio-economic level, there are positive effects to be seen in the short term, but these do not improve the income situation of the local community in the long term. The projects focus on strengthening tourism as a source of income or promoting various value chains such as agricultural or traditional products. At the impact level, however, there is little or no increase in income that secures the livelihood of the local population or reduces poverty in the long term. Communities face significant challenges in accessing regional, national and international markets, particularly with regard to non-timber forest and agroforestry products. This does not mitigate the long-term utilisation pressure on protected areas, despite this being essential for ensuring the sustainable conservation of biodiversity.

The support for protected areas is mostly coherent. This is particularly true for external coherence, relating to the coordination with other donors and the partner country: German DC largely incorporates the strategies and structures of almost all partner countries under study, yet integrating the support for protected areas into the country portfolio and coordinating with the implementing organisations reveals several overlaps and administrative challenges. There is also a lack of consensus on the perceived best way to implement the interventions, both within the implementing organisations and among the partners.

The efficiency criterion was not formally rated. However, general observations were gathered on operational management, project timelines and administrative operations. Many of the projects that were studied experienced delays, some of which were caused by external factors such as the COVID-19 pandemic. There are also various internal factors at play, including slow administrative processes during project implementation – particularly with regard to complicated and time-consuming procurement and approval procedures. In general, however, the relevant stakeholders deemed the spending on support for protected areas to be reasonable. The spending is overseen by the implementing organisations. Especially in Indonesia, which differs from the other partner countries due to its size and geographical layout comprising many small islands, a focused approach has proven more effective than a broad regional spread.

The support for protected areas is only partially sustainable, with a high reliance on international donors remaining a significant issue. Some sources suggest that the protected status of these areas could not be maintained without German support. Under Article 20 of the CBD, Germany has pledged to continue supporting countries in the Global South in their efforts to conserve biodiversity. In this context, the ongoing co-financing of protected areas in the Global South is not necessarily a sign of unsustainability in German DC; however, with regard to the management of protected areas, partner governments are expected to have sufficient resources and capacity to manage their national protected area systems independently. The responsible institutions, however, fulfil this requirement to a limited extent. DC can only partially increase the political ownership of partner governments and the public's awareness of – and commitment to – biodiversity.

The evaluation investigated how the involvement of local communities can help mitigate tensions between conservation and use interests. The application of participatory practices is rooted in the human rights-based approach (HRBA). Their practical role in mitigating the tensions between ecological and socio-economic goals in the support for protected areas however, could not be determined due to a lack of evidence. In principle, it appears that the HRBA is not consistently applied, as rights-holders are primarily informed or consulted rather than being actively involved in making decisions or creating policies. A variety of participatory practices are used, with significant differences in terms of the extent and timing of involvement as well as the selection of participants. While a context-specific selection of practices is consistent with the HRBA, the decision regarding which participatory practices to use in the projects lacks a criteria-based framework. Similarly, complaints mechanisms are insufficiently formalised, making it all the more difficult to access them.

Recommendations

Based on the results of this evaluation the following recommendations are presented:

Recommendation 1

In light of the global threat to biodiversity posed by environmental destruction and climate change, long-term support for protected areas is crucial for the conservation of natural resources in the long run. The BMZ should therefore uphold its support for protected areas, maintaining at least the existing level. The BMZ should also sustain its international advocacy efforts to support the financing of protected areas.

Recommendation 2

The BMZ should work to further emphasise the importance of socio-economic activities that reduce unsustainable utilisation pressure and it should anchor these more systematically into its strategic planning across all sectors. This will help to safeguard biodiversity in protected areas and ensure the sustainability of the support for protected areas.

Recommendation 3

The implementing organisations should expand the socio-economic dimensions of the support for protected areas. In doing so, they should engage the relevant stakeholders and identify the key factors that contribute to the economic and unsustainable pressure on protected areas in each country context. Appropriate socio-economic interventions should then be implemented to mitigate this pressure.

Recommendation 4

The implementing organisations should expand existing cooperation mechanisms with partner governments and other donors when planning and implementing projects supporting protected areas, for example to enhance the connectivity of the supported protected areas.

Recommendation 5

To improve its result-oriented steering of interventions, the BMZ should work with the implementing organisations to define indicators at DC programme level for measuring the outcomes of the support for protected areas. In addition, a consensus should be established on the indicators to be used for determining the contribution to higher-level impacts.

The BMZ should collaborate with the implementing organisations to significantly improve the availability and utilisation of data for assessing the effects of the support for protected areas at both the outcome and impact level.

Recommendation 6

The BMZ and implementing organisations should make greater use of an HRBA in relation to the support for protected areas. To this end, the implementing organisations should on the one hand advance the active participation of rights-holders in protected area management. On the other hand, the BMZ should demand and review the implementation of participatory approaches more rigorously and close possible gaps in the operationalisation of the HRBA.

Box 1 Contribution of the support for protected areas to the 2030 Agenda

The BMZ supports protected areas as part of its commitment to conserving biodiversity – a goal that also stems from Germany's commitment to the 2030 Agenda. Several SDGs address the issue of biodiversity protection. The support for protected areas projects considered in the evaluation are primarily linked to SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 13 (Climate Action), SDG 15 (Life on Land) and SDG 17 (Partnerships for the Goals). SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production) and SDG 14 (Life Below Water) are also addressed secondarily. The SDGs relating to ecological aspects are also reflected in the Aichi Targets of the CBD for the years 2011 to 2020.

The individual SDGs exist within a framework characterised by tensions and mutual dependency, which is reflected in the duality of socio-economic and ecological objectives within the support for protected areas (see Section 1.2.3). This is demonstrated during project implementation in the country case studies where both unintended positive and negative interactions occur (see Section 4.2.2).

Universal applicability, shared responsibility, and accountability

Projects relating to the support for protected areas are designed based on a holistic understanding of sustainable development, which also forms the basis of the 2030 Agenda (see Section 1.2.1). While the projects are generally coordinated with other donors and development partners, political and economic changes, conflicts in partner countries, and complex administrative processes can hinder collaboration and the effectiveness of protected areas. With regard to international donor coordination, differing concepts of support for protected areas and diverging interests further complicate coordination efforts. This undermines the ability to capitalise on the existing potential for coordinated support interventions (see Section 4.3.2).

Leave no one behind

The BMZ strives to include and empower particularly disadvantaged and vulnerable individuals and groups in its support for protected areas. By aligning the support for protected areas with the 2030 Agenda's "leave no one behind" and the principles of the human rights-based approach, it promotes equality of opportunity and combats discrimination – particularly regarding gender equality. Nevertheless, in the field of support for protected areas, there is still room for improvement in systematically involving rights-holders and consistently applying the human rights-based approach (see Chapter 5).

Evaluation as a cornerstone for achieving the 2030 Agenda

With the SDGs, the international community has set itself ambitious targets. To achieve these goals by 2030 with the available resources, it is crucial to understand the progress made so far and the direction future efforts need to take. This evaluation makes a significant contribution by addressing the biodiversity-related aspects of the 2030 Agenda and providing evidence on various elements of the support initiatives.

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ABBREVIATIONS AND ACRONYMS

ABS
Access and Benefit Sharing

AC
Assessment Criterion

BMUV
German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz)

BMZ
German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)

CAS
Core Area Strategy (Kernthemenstrategie)

CBD
Convention on Biological Diversity

CBNRM
Community-Based Natural Resource Management

DAC
Development Assistance Committee

DC
Development Cooperation

DEval
German Institute for Development Evaluation (Deutsches Evaluierungsinstitut der Entwicklungszusammenarbeit)

DRC
Democratic Republic of the Congo

eDNA
environmental DNA

EGM
Evidence Gap Map

EU
European Union

FC
Financial Cooperation

GBF
Kunming-Montreal Global Biodiversity Framework

GIZ
Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

GNU/GNJ
Donor round table Germany – Norway – United Kingdom (or Japan)

HRBA
Human Rights-Based Approach

IAPP
International Association for Public Participation

ICCA
Indigenous and Community Conserved Area

ILO
International Labour Organisation

IP & LC
Indigenous Peoples and Local Communities

IUCN
International Union for the Conservation of Nature

KfW
KfW Development Bank

LLF
Legacy Landscapes Fund

METT
Management Effectiveness Tracking Tool

NDCs
Nationally Determined Contributions

NGO
Non-Governmental Organisation

NTFP
Non-Timber Forest Product

OECD
Organisation for Economic Co-operation and Development

OECM
Other Effective Area-based Conservation Measure

OIs
Outcome Indicators

PA
Protected Area

PES
Payments For Ecosystem Services

SDG
Sustainable Development Goal

TC
Technical Cooperation

ToC
Theory of Change

UN
United Nations

UNCCD
United Nations Convention to Combat Desertification

UNDP
United Nations Development Programme

UNDRIP
United Nations Declaration on the Rights of Indigenous Peoples

UNDROP
United Nations Declaration on the Rights of Peasants

UNESCO
United Nations Educational, Scientific and Cultural Organisation

UNFCCC
United Nations Framework Convention on Climate Change

USD
US-Dollar

WHO
World Health Organisation

1.

INTRODUCTION

This chapter begins by outlining the global significance of biodiversity and the current challenges posed by the triple planetary crisis. It is in this context that support for protected areas is presented as an instrument for biodiversity conservation. The international framework for support for protected areas by the German Federal Ministry for Economic Cooperation and Development (BMZ) as well as the BMZ's strategies are explained. The chapter concludes by examining the tensions that may arise from pursuing both socio-economic and ecological objectives within the context of support for protected areas.

1.1 Background and context of the evaluation

Functioning ecosystems, whether terrestrial or aquatic, provide essential services in the form of clean air, water, food, and medicine, which are the foundation of human life (BMZ, 2008, 2020a, 2024a; IUCN, 2021a). Biodiversity, defined as the variety of ecosystems, animal and plant species, and genetic resources (BMZ, 2024a), provides existential economic and societal benefits as a functional component of our ecosystems (EEA, 2020). For this reason, it is generally regarded as a global public good (BMZ, 2024a), even if individual ecosystem services may be subject to restrictions on use.[2] The conservation of biodiversity is one of the cornerstones of the United Nations' (UN) 2030 Agenda and is reflected in numerous Sustainable Development Goals (SDGs) (BMZ, 2020a; Secretariat of the Convention on Biological Diversity, 2020). Similarly, the realisation of a number of human rights – including the rights to food, water, and health – is directly dependent on biodiversity and healthy ecosystems (OHCHR and UNEP, 2021; Council of Europe, 2024; UN, 1976).

Worldwide, however, biodiversity is under pressure due to increasing resource needs and the resulting changes in land use (BMZ, 2008, 2020a; Pereira et al., 2024). The drastic decline in biodiversity in the twentieth and twenty-first centuries has been described as one of the greatest mass extinctions in the history of the Earth (Proença and Pereira, 2017). The global population of wild animals, for instance, has fallen by two-thirds since 1970 (Secretariat of the Convention on Biological Diversity, 2020). Three-quarters of the global land surface have already been significantly altered by humans (IPBES, 2019). Global biodiversity loss, climate change and pollution are often collectively referred to as the triple planetary crisis, the underlying causes of which must be tackled together (see Figure 1) (UNFCCC, 2022).

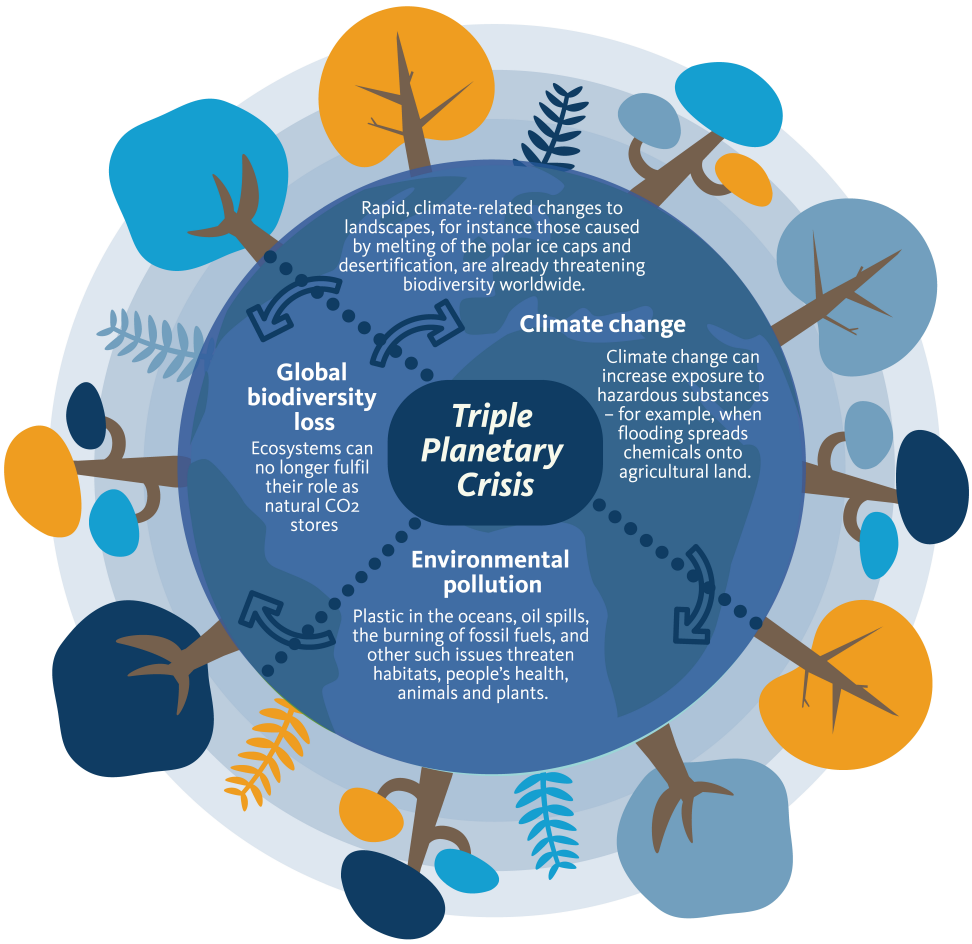
The international community has recognised the urgency of biodiversity conservation and has made corresponding joint commitments. Germany, too, has joined them. The most important reference framework since 1993 has been the Convention on Biological Diversity (CBD), which is binding under international law. By ratifying the convention, Germany has, inter alia, committed to supporting developing and emerging countries in their efforts to achieve their biodiversity goals (BMZ and BMUV, 2022).[3] From 2017 to 2021, the BMZ and the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz – BMUV) jointly provided an average annual contribution of around EUR 750 million for international biodiversity conservation (German Federal Government, 2022). The German Federal Government's plans indicate that the relevant annual budget for the two ministries is to increase to EUR 1.5 billion by 2025 in line with the international agreements on raising the ambition of the Kunming-Montreal Global Biodiversity Framework (GBF) (Federal Government, 2022).[4] The BMZ is one of the world's largest bilateral donors in this area (BMZ, 2020a). From 2018 to 2022, important recipient countries of BMZ funds at the bilateral level included Brazil, Cameroon, Madagascar, the Democratic Republic of the Congo (DRC), Ecuador, and Indonesia (BMZ, 2024b).

2 Global public goods are not limited to individual stakeholders; they affect all people and, consequently, all states across generations. They are characterised by the absence of access restrictions, meaning that no one can be excluded from using them. They are also non-exhaustible in the sense that one person's use does not limit another's ability to use them. The global nature of a good is evident when its benefits extend significantly across borders. Examples of global public goods include biodiversity, health, and peace (German Bundestag, 2010). While biodiversity is defined as a global public good, not all of the ecosystem services it provides are also considered global public goods. Some of them are not universally accessible, for example, or they may not be infinitely available. For instance, regulatory services such as climate regulation, plant pollination and water purification are typically global public goods, whereas the provision of natural resources in protected areas benefits only a specific group (for example hunting concessions, mining permits, and timber production).

3 In addition to the commitment to support countries in the Global South with biodiversity conservation, the CBD also obliges the German Federal Government to protect biodiversity within its own borders. At present, 38% of the land in the Federal Republic of Germany is protected (Joint Research Centre (JRC), European Commission, 2024). The federal states are responsible for designating protected areas. Current debates regarding the expansion of the Black Forest National Park in Baden-Württemberg and the establishment of a second national park in North Rhine-Westphalia, as well as a Baltic Sea National Park in Schleswig-Holstein, demonstrate that conflicts over conservation and use interests also exist in countries in the Global North. Against this backdrop, the findings of this evaluation can potentially also be applied to biodiversity conservation in Germany.

4 This is a declaration of intent to increase funding to EUR 1.5 billion. It is not yet clear what exactly these funds will be used for. The distribution between the two ministries is also unclear, although the BMZ's share has been around 75% in the past (BMZ and BMU, 2021).

Figure 1 **Triple planetary crisis**



Source: DEval, own illustration, based on Climate-ADAPT (2024) and UNFCCC (2022)

Support for protected areas (PAs) plays an important role in biodiversity conservation (UN, 1992a). Sufficiently large and contiguous terrestrial or marine areas that are not used for economic or infrastructural purposes support the conservation and further development of biodiversity (Perrings and Gadgil, 2003; Geldmann et al., 2019; Riggio et al., 2019; Noon et al., 2022). The task of deciding which areas are designated as PAs falls to the responsible authorities in each country. The designation should principally be based on the presence of a high level of biodiversity, meaning there should be a wide variety of animal and plant species, with particular emphasis on protecting endangered species (Dudley, 2008). A formal declaration of protected areas alone is not enough for biodiversity conservation (Wauchope et al., 2022). Against this backdrop, the relative risk of biodiversity loss resulting from anthropogenic factors such as climate change is another factor for identifying areas of high conservation relevance (Geldmann et al., 2019).

International development cooperation (DC) is based on a holistic understanding of sustainability as outlined in the 2030 Agenda. Balanced and enduringly successful development is based on equal support for ecological, social and economic sustainability.[5] These objectives may be mutually beneficial: the type of protection and the approach to addressing local

5 This understanding was first laid out in 1992 in the declaration of the UN Conference on Environment and Development in Rio de Janeiro (A/CONF.151/26 (Vol. I)) (see Section 1.2.1) and may be traced back to the Brundtland Report of 1987.

stakeholder needs can significantly affect the effectiveness of PAs (Hajjar et al., 2021; Karanth, 2007; Oldekop et al., 2016). However, it is also apparent that tensions may arise between economic, ecological, and social objectives (Barbier and Burgess, 2017; Josephsen, 2017; Nilsson et al., 2018). If, for example, agricultural use of an area is limited for ecological reasons, conflicting goals concerning food security or economic development for the local community may arise. Clashing conservation and use interests can even lead to armed conflicts (BMZ, 2008, 2020a; Doyle et al., 2019; UNDP, 2020). The involvement of local stakeholders and the consideration of their social and economic needs are therefore of great importance – not only for the conservation of biodiversity, but also for the realisation of other international development goals.

Against this backdrop, the literature on PAs indicates that areas may be prioritised for protection despite contributing less to biodiversity conservation if they present less conflict potential with local communities. Opportunity costs are considered to be lower in these cases (Börner et al., 2020; Margules and Pressey, 2000). As a result, internationally set (area) targets may indeed be met, but these PAs are often located in economically less relevant or more remote regions where there is only limited representation of the biodiversity that is to be protected (Geldmann et al., 2013; IUCN, 2021b; Joppa and Pfaff, 2009; Woodley et al., 2019).

1.2 Aim, purpose and target audience of this evaluation

The triple planetary crisis is one of the greatest global challenges and is receiving increasing political and societal attention. The support of ecosystem services and PAs through German DC is therefore of great interest to both policymakers and the public. To address this, the evaluation aims to provide accountability regarding the use of public funds (accountability function). On the other hand, the report strives to retrospectively derive insights that contribute to institutional learning (learning function). A particular focus of this evaluation is the duality of objectives of the support for PAs, especially potential areas of tension as well as synergies between these objectives.

1.2.1 International objectives and scientific discourse

As one of the three Rio Conventions[6], the CBD is the most important international legal reference point for biodiversity conservation. Germany committed to these goals as a contracting party in 1993. The CBD includes an obligation for countries in the Global North[7] to support developing and emerging countries with implementing these goals. They are to provide the necessary financial resources (Arts. 20, 21, CBD) as well as technical support (Art. 18, CBD). As a result, measures to support biodiversity conservation through technical cooperation (TC) and financial cooperation (FC) are derived not only from a general responsibility for the global public good of biodiversity but are also legally binding under international law (Ekardt et al., 2023).

The objectives of the CBD were operationalised through the Strategic Plan for Biodiversity 2011–2020 and the 20 international Aichi Biodiversity Targets. Aichi Target 11 states that 17% of the Earth's terrestrial surface and 10% of the oceans should be placed under protection by 2020. This protection might be granted either in the form of traditional PAs, as explained below, or as other effective area-based conservation measures (OECMs)[8] (UN, 1992b).

6 At the UN Conference on Environment and Development (1992) in Rio de Janeiro, the concept of sustainable development was established through three conventions on climate protection, biodiversity conservation, and combating desertification which are legally binding under international law. The conventions adopted there – the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD) – are thus referred to collectively as the three Rio Conventions (UNFCCC, n.d.).

7 In the original text of Art. 20, CBD, reference is made to "developed country parties".

8 One of the goals of the Strategic Plan for Biodiversity 2011–2020 is to create a network of PAs and OECMs. Unlike PAs, OECMs do not have to have nature conservation as their primary goal. They can also contribute to the long-term conservation of biodiversity beyond the PA system. This makes them a complement to PAs that allow only restricted or no use (IUCN-WCPA Task Force on OECMs, 2019). Indigenous peoples and community conserved territories and areas (ICCAs) can also be counted and thus contribute to the area target. However, as the process of documenting OECMs and ICCAs is still in its infancy and therefore only limited evidence is available, this evaluation will exclusively perform a systematic examination of PAs in the traditional sense. OECMs and ICCAs were partially included in individual country case studies where data collection has progressed further. However, it was not possible within the scope of the evaluation to identify or assign all BMZ-funded OECMs. For this reason, OECMs are not systematically considered in this evaluation.

Since 2004, the CBD has used the definition of PAs provided by the International Union for Conservation of Nature (IUCN) as "a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008). PAs are divided into six management categories[9], each with varying restrictions on use. Other PA definitions are used by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) for World Heritage and by the Ramsar Convention. In practice, these definitions frequently overlap with that of the IUCN (Dudley, 2008). Furthermore, Aichi Target 11 refers to the importance of connectivity among PA systems as well as of effective and equitable management of PAs (UNEP and UN, 2010). Aichi Targets 14 and 18, which deal with ecosystem services and participation, are also relevant for this evaluation.[10]

The periodic report regarding the achievement of the Aichi Targets stated in 2020 that none of the 20 targets had been fully met on a global scale (Secretariat of the Convention on Biological Diversity, 2020). The report notes that while there has indeed been progress in many areas regarding the protection of biodiversity, it has not yet been sufficient to meet the targets. Aichi Target 11 for the designation of PAs has been partially achieved: although the two thresholds of 17% of terrestrial areas and 10% of marine areas have been formally met, some PAs are still only planned and not yet designated. When considering OECMs, both target values have been exceeded. However, the report states that there is room for improvement in the connectivity of PAs and in effective and socially equitable management, which are also components of Aichi Target 11. Furthermore, Aichi Targets 14 on ecosystem services and 18 on participation (see Footnote 10) have not yet been achieved (Secretariat of the Convention on Biological Diversity, 2020).

Against this backdrop, the GBF was adopted in 2022 during the 15th Conference of the Parties to the CBD. It specifies the guidelines for implementing the CBD for the contracting parties (UNEP, 2022). The BMZ, for example, has also committed to the goals of the GBF in its current core area strategy (CAS) entitled "Conserving nature and natural resources, protecting life on Earth" (Erhalt unserer natürlichen Lebensgrundlagen) (BMZ, 2022a, 2024a). The GBF also once again includes an area target known as the 30x30 target, which states that at least 30% of the Earth's surface should be protected by 2030. Compared to Aichi Target 11, the GBF adds the aspect of sustainable use and emphasises that the rights of Indigenous peoples and local communities (IP & LC) must be upheld (UNEP, 2022). Since the GBF was not yet in effect during the evaluation period, it will only play an important role in shaping the BMZ's support for PAs in the future.

1.2.2 Strategies for support for PAs in German DC

Within the framework of the BMZ's 2030 Agenda thematic model, support for PAs is assigned to the field of action of biodiversity, which falls under the core area of "Conserving nature and natural resources, protecting life on Earth". It is embedded within the BMZ's biodiversity portfolio. The sectoral concept of "Biological diversity" (Biologische Vielfalt) (BMZ, 2008) is the key strategic document for support for PAs that was in effect during the evaluation period. It is therefore also fundamental for reconstructing the intervention logic for the support for PAs (see Section 2.1.2). In addition to support for PAs, the concept also focuses on access to genetic resources, equitable benefit-sharing[11] and biological safety. Since 2020, these priorities have been expanded to include focuses on combating poaching, biodiversity-friendly supply chains, the biodiversity-climate nexus and One Health (BMZ, 2020a).

9 1a. Strict nature reserve / 1b. Wilderness area: Wilderness protection and research, 2. National park: Protection of ecosystems and recreational opportunities, 3. Natural monument or feature: Conservation of certain characteristics, 4. Habitat/species management area: Conservation through management, 5. Protected landscape/seascape: Management for the conservation of landscapes and recreational opportunities, 6. PA with sustainable use of natural resources: Management for sustainable use.

10 Target 14 focuses on the safeguarding and restoration of ecosystems that are important for the provision of livelihoods and essential health services. It specifically addresses the needs of vulnerable community groups, particularly women and local Indigenous communities. This ties in with Target 18, which states that Indigenous peoples and local communities should be effectively and fully involved in the conservation and sustainable management of ecosystems at all relevant levels.

11 Under the Nagoya Protocol and Aichi Target 16, the contracting parties to the CBD have committed to implementing equitable access and benefit-sharing (ABS). The equitable distribution of benefits arising from the use of natural resources is a primary objective of the CBD. Through equitable benefit-sharing, countries or groups providing a resource should gain decision-making authority over access to that resource and a legal entitlement to a fair share of the profits generated from it. The use of resources may only occur with the free, prior and informed consent of the providing party (UN, 1992b).

The CAS "Conserving nature and natural resources, protecting life on Earth" (Erhalt unserer natürlichen Lebensgrundlagen) published in 2024 will serve as the guiding document for future support for PAs (BMZ, 2024a). Within the field of action "biodiversity", it identifies the protection and restoration of ecosystems, their sustainable utilisation and valuation, and the financing of biodiversity conservation as key focuses of DC (BMZ, 2024a).

In its support for PAs, the BMZ has two overarching goals instead of focusing solely on nature conservation. The ecological goal encompasses the conservation of ecosystems, species and genetic diversity through strengthened and expanded PAs embedded within conservation and use frameworks. In the longterm, the ecosystem services arising from PAs are intended to contribute to securing people's livelihoods (BMZ and BMUV, 2018). As a socio-economic goal, the BMZ aims to reduce poverty and create development opportunities for local communities (BMZ, 2008; BMZ and BMU, 2018). Their unsustainable, direct dependence on natural resources should be mitigated, thereby helping to conserve biodiversity (BMZ, 2008).

Since 2008, the BMZ has published additional concept papers on biodiversity conservation, which were also examined in the evaluation. In the 2018 document "Committed to Biodiversity" (Biologische Vielfalt – unsere gemeinsame Verantwortung), the BMZ commits to the Aichi Targets, which have guided international biodiversity efforts since 2010. Additionally, the 2020 position paper "Investing in biodiversity – A matter of survival" (In Biodiversität investieren – Überleben sichern) (BMZ, 2020a) called for the 30x30 objective even before the adoption of the GBF.

In its CAS "Conserving nature and natural resources, protecting life on Earth", published in April 2024, the BMZ reaffirms its commitment to contributing to intact ecosystems. The CAS represents an evolution of the 2008 sectoral concept, in which the BMZ names the GBF as the new guiding framework for its biodiversity support and reiterates its commitment to the 30x30 objective. Furthermore, the CAS, which is valid until 2030, places greater emphasis on the topic of participation. With regard to PAs, an expansion of the bilateral and multilateral portfolio is envisioned, which will involve local communities (while ensuring their rights, representation and resources), to strengthen their socio-economic development (BMZ, 2024a). Additionally, the support for PAs is linked to strategies aimed at reducing the causes and effects of climate change. Intact ecosystems, particularly forests and wetlands, serve as important CO_2 stores, and their protection helps to mitigate climate change (BMZ, 2008). On the other hand, ecosystems and communities are also affected by the effects of climate change (BMZ, 2008, 2020a).

The support for PAs is linked to the BMZ's human rights concept (BMZ, 2011, 2013).[12] The commitment to support partner countries with the progressive realisation of human rights also extends to the biodiversity sector and is derived from both the strategic goals of the BMZ (2008) and Germany's international obligations.[13] The logic of the 2030 Agenda and its core principle of "Leave no one behind" is also based on the idea that the SDGs, which encompass the protection of fundamental human rights, are inextricably linked and interdependent.

1.2.3 Tensions between ecological and socio-economic objectives

The legal framework for biodiversity conservation at the international level is part of a comprehensive international legal framework for sustainable development and the human rights system. The comprehensive approach to sustainable development, based on social, economic and ecological sustainability, was first formulated in 1992 in the Rio Declaration (UN, 1992a) (see also Section 1.2.1). However, it can additionally be derived from the international human rights framework and its underlying principles, which are analogously represented in the 2030 Agenda (Cebreros, n.d.). The principles of human rights – universality, interdependence, indivisibility, equality and non-discrimination – mean that states, as duty-bearers[14], must respect, protect and ensure all human rights. Legally binding agreements relevant for biodiversity conservation include the UN Covenant on Civil and Political Rights, the UN Covenant

12 The BMZ published a new human rights concept in 2023, but it had not yet come into effect during the period under review.

13 Since the international legal framework for biodiversity conservation does not include specific human rights requirements, these must be derived from the human rights reference framework (DIMR, 2020; Hattendorff and Probst, 2020).

14 See Footnote 38 for a definition.

on Economic, Social and Cultural Rights, International Labour Organisation (ILO) Convention No. 169[15], the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the UN Declaration on the Rights of Peasants (UNDROP). The right to a clean, healthy and sustainable environment has been recognised as a human right by UN General Assembly Resolution A/76/L.75.[16]

In terms of biodiversity conservation, this means a balance must be met between conservation and use interests. This duality is also evident in the CBD (Article 8 and Aichi Targets 11, 14 and 18). The BMZ, too, aims to satisfy both interests in its support for PAs (BMZ, 2008, 2020a), thereby operating within a potential field of tension between equally important goals[17] and between various national and international laws and agreements related to PAs, SDGs and human rights. Support for PAs therefore encompasses both ecological and socio-economic measures and goals. This field of tension can be more or less intense depending on the type of PA and the nature of the restrictions on use.

Numerous studies indicate that socio-economic and ecological support measures can mutually reinforce each other. By promoting the sustainable use of resources in protected areas, for example, it is possible to conserve biodiversity while simultaneously addressing (rural) poverty and inequality (Fidler et al., 2022; Naidoo et al., 2019; Higuera-Mendieta, 2019; Habtezion, 2016; Oldekop et al., 2016). Additionally, when local communities, especially women, are involved in the management of PAs, this can strengthen democratic structures and boost the ecological effectiveness of conservation efforts, as highlighted by various studies (Bonilla-Mejía and Higuera-Mendieta, 2019; Habtezion, 2016; Oldekop et al., 2016).

When conservation and use interests significantly diverge, however, there is potential for conflict. This is particularly true in fragile states with armed conflicts and weakened rule of law, where serious human rights violations have sometimes taken place in and around PAs. This includes incidents in the Kahuzi-Biega and Salonga PA in DRC, where there has been widespread violence and displacement, including the killing of local residents (BMZ, 2022b).[18] Conflicts have also arisen in northern Tanzania between PA management and members of the Maasai community (UNHCR, 2022).

A number of factors influence whether and how this potential field of tension affects the conservation and expansion of PAs. These include the national and institutional context, the dependence of the community on the use of natural resources, and the diversity of interests among the involved stakeholders (Allendorf, 2020; Baynham-Herd et al., 2018; den Braber et al., 2018; Brockington and Igoe, 2006; Durant et al., 2022; Joppa and Pfaff, 2009; Nelson and Agrawal, 2008; Persson et al., 2021; Pfaff et al., 2018; Tadesse and Kotler, 2016; Verde Selva et al., 2019; West et al., 2006).

The participation of various stakeholders, particularly local communities, is of particular importance in the support for PAs. It is sometimes viewed as a necessary condition for achieving the objectives of the support for PAs (Clement et al., 2020; Fidler et al., 2022; Ghoddousi et al., 2022; Hajjar et al., 2021; Hovik et al., 2010; Miller et al., 2020; Nugroho and Numata, 2020; Oldekop et al., 2016; Ruiz-Mallén et al., 2014; Salerno et al., 2021; Shafer, 2020; Zafra-Calvo and Geldmann, 2020). It has been claimed that participation not only enhances the ecological and economic effectiveness of support for PAs but is also essential for negotiating diverse interests and needs, raising awareness of different perspectives, and thus fostering acceptance, legitimacy, and ownership (see Chapter 5). On the other hand, rights-holders might articulate interests through participatory processes that may differ from the objectives of DC or the biodiversity conservation goals of the partner country that the DC support aims to address, which could lead to conflicts. Similarly, the selection of participants in these participatory processes might disadvantage other, non-involved segments of the community, which also presents potential for conflict (see Chapter 5). It is therefore essential to manage different interests appropriately at the local level and to create conditions for the participation of all relevant stakeholders (BMZ, 2008).

15 ILO Convention 169 is relevant for the international legal framework. Germany only ratified it in 2021. Various partner countries had already taken this step earlier, including Brazil (2002) and Ecuador (1998), for which country case studies were conducted as part of this evaluation.

16 For further information, see the online annex.

17 In terms of sustainable development, the protection of biodiversity today can also safeguard the use interests of future generations. In this case, both objectives are already in alignment.

18 For information on the role of German DC in protecting human rights within its support for PA, see the online annex.

2.

FOCUS AND SCOPE OF THE EVALUATION

This chapter defines the subject of the evaluation. It also presents a reconstructed theory of change (ToC) to trace the impact pathways of the support for PAs and derive the associated assessment criteria for its rating. It then introduces the evaluation questions, which are based on the six evaluation criteria of the OECD DAC and which guide the evaluation.

2.1 Evaluation subject and theory of change

2.1.1 Evaluation subject

In this evaluation, direct cooperation with individual partner countries is examined within the framework of the BMZ's bilateral state support for PAs. Projects with regional organisations and those with regional or global reach are not examined. Through bilateral support for PAs, which is aimed at specific partner countries, German DC directly supports these countries rather than working through intermediaries, which is why a direct influence on the PA systems in the respective partner countries is assumed. Furthermore, in the case of regional and global projects, it is not possible to allocate PAs to individual projects as required for the evaluation (see Section 3.2.1). The following chapters therefore refer to "bilateral support" as the portfolio under review, which relates to direct cooperation with individual partner countries unless otherwise described (see also Box 2).

This bilateral support includes both technical cooperation (TC) and financial cooperation (FC) interventions. TC projects are usually implemented by the German governmental implementing organisation Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, with a focus on advisory services and capacity building in line with sustainable development. FC, on the other hand, provides financing in the form of grants or loans to partner governments and is handled by KfW Development Bank (KfW) in German DC. For this evaluation, TC and FC are considered together, although there are specific differences in the support for PAs provided by these two implementing organisations.

The study period covers the years 2016 to 2021. This time frame was chosen because the 2030 Agenda for Sustainable Development has served as the guiding framework for DC since 2016. The 2030 Agenda is central to this evaluation, as its focus also addresses the potential tension between the ecological and socio-economic development goals of support for PAs. The evaluation started in 2021.

2.1.2 Theory of change

This evaluation relies on a theory-based approach. As a result, the evaluation follows the overarching intervention logic of the interventions being evaluated (also referred to as "programme theory", cf. Giel, 2013), with both the methodological approach and assessment of results tailored to this framework. If no intervention logic exists, it must be reconstructed to create a basis for rating (cf. Patton, 2008; Stern et al., 2012; White, 2009; Giel, 2013). At the start of the evaluation or following the adoption of the CAS, no intervention logic or overarching ToC for the support for PAs had been agreed upon (BMZ, 2024a).[19] Therefore, the evaluation team developed a ToC based on the international and national strategic documents outlined in Section 1.2.1, which were valid during the evaluation period. The evaluation relied in particular on the sectoral concept of biological diversity (BMZ, 2008), supplemented by the position paper "Investing in biodiversity – A matter of survival" (BMZ, 2020a) and the publication "Committed to Biodiversity" (BMZ and BMU, 2018).[20] Workshops were also held with the BMZ and the implementing organisations and strategically derived adjustments were subsequently made.

19 At the level of the projects or DC programmes in a given country, the implementing organisations develop their own, context-specific intervention logics, which are included in the analysis. However, there was no overarching impact model for the support for PA.

20 Elements of various other sectoral strategies, such as economic promotion, rural development or food security, also play a role in the conservation of biodiversity, but are not taken into account in this evaluation as they are not directly encompassed within the support for PA. Nevertheless, their relevance is reflected in the orientation of other sectors, for example in terms of cross-sectoral anchoring.

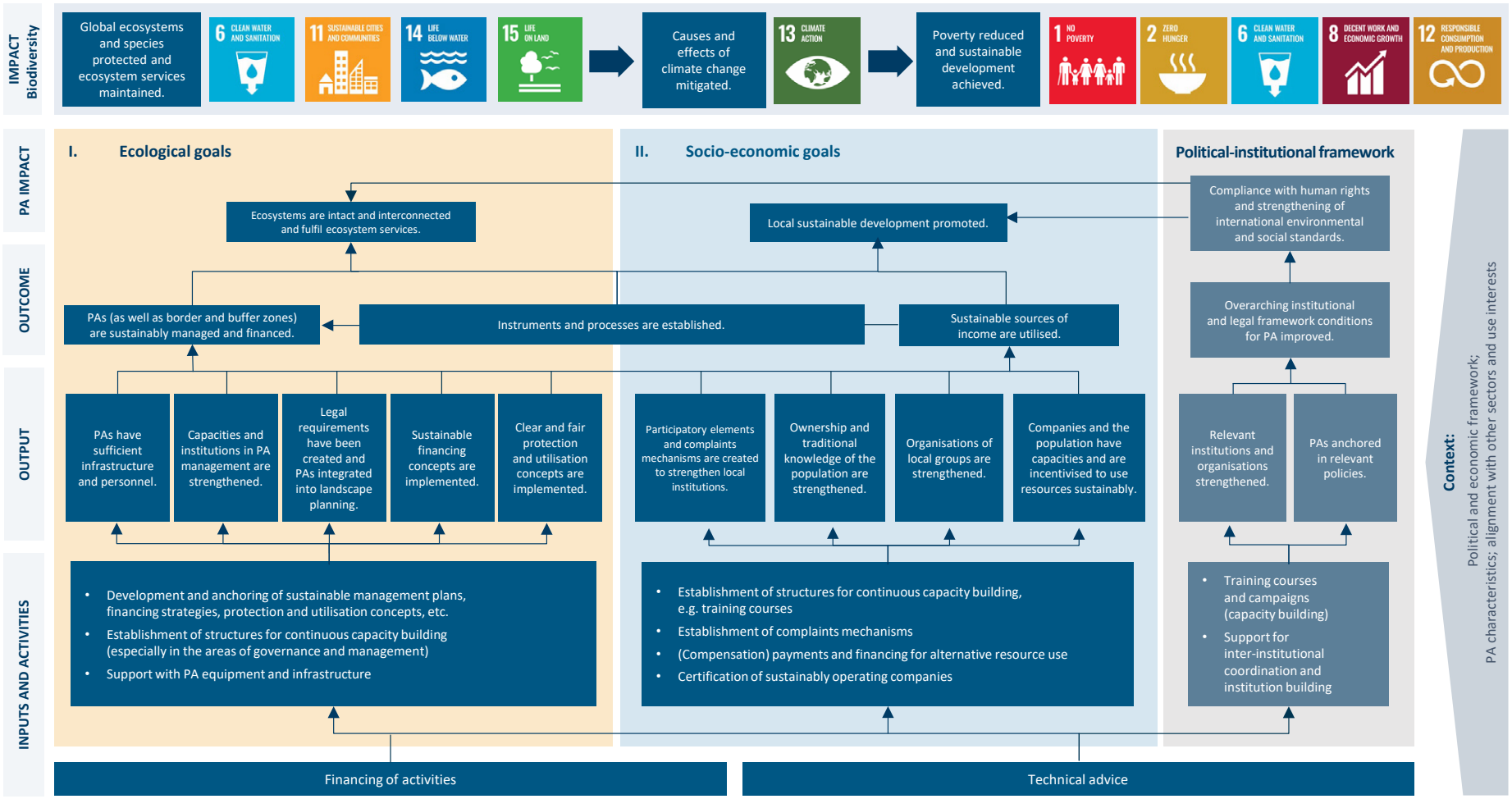
The ToC is a generalised and idealised representation of the intended overarching operative relationships of the support for PAs. It should therefore not be understood as a representation of what individual projects are implementing in practice. Due to the high degree of heterogeneity of the BMZ country portfolio, the goals of individual projects, and the relevant stakeholders, the components of the ToC and the assumptions about operative relationships are formulated generically to capture the complexity of the evaluation subject while focusing on the core elements of support for PAs.

The derived ToC is divided into four levels: inputs, outputs, outcomes, and impacts. At the lowest level, there are various resources (inputs) required for carrying out the planned activities. These activities lead to specific results (outputs), which together contribute to benefits at a higher level of effect (outcomes). The medium-term goals of the support for PAs are situated on the outcome level. Above this, the long-term development impacts of supporting individual PAs are presented (PA impact). At the highest level, contributions to the broader development impacts of biodiversity support within the framework of the 2030 Agenda and SDGs are expected (biodiversity impact). Due to the complexity of the evaluation subject, the impact pathways are interconnected rather than linear, meaning individual outputs can contribute to different outcomes, and elements within the same level can influence each other. The key relationships are illustrated with arrows.

Across all four levels and in the processes that connect them, a range of contextual factors are at play, whose characteristics vary locally and influence the outcomes of the support for PAs beyond the operative tracks. Frequently, DC cannot directly influence these contextual factors, such as the national institutional context (particularly the rule of law) in the partner countries where support for PAs takes place. A similar situation applies to the institutional capacities for effective PA management, including the staffing and financial resources that can be provided by the partner country. Local factors such as the population's dependence on resource use, the diversity of interests among relevant stakeholders, and how long a PA has existed as well as its size and protection level also play a role.

The two intended overarching development impacts of the support for PAs are reflected at all levels of the ToC. The two left-hand tracks represent the ecological and socio-economic impacts that are to be achieved through support for PAs. The right-hand side outlines the political and institutional operative relationships that facilitate the success of support for PAs. These operative tracks can be separated into direct and framing support for PAs. Both are interconnected and interdependent, and both must be achieved in equal measure, which makes support for PAs a complex undertaking.

Figure 2 Theory of change



Source: DEval, own visualisation

2.2 Evaluation questions

This evaluation used all six OECD DAC evaluation criteria to assess the BMZ's support for PAs. The OECD DAC evaluation criteria are relevance, effectiveness, impact (overarching development effects), coherence, efficiency and sustainability[21] (OECD, 2019). Six evaluation questions were developed based on these criteria and the reconstructed ToC. To address both the duality of the objectives and the potential tensions, sub-questions were developed that also examine the topic of participation. Chapter 4 outlines the evaluation findings based on the six OECD DAC criteria, while Chapter 5 is dedicated to the topic of participation. The evaluation questions and sub-questions are as follows:

These evaluation questions were operationalised during the planning phase of the evaluation in the form of an evaluation matrix based on benchmarks and assessment criteria (see annex 8.2)**.** Assessment criteria refer to evaluative judgements on the conditions that must be met for a development intervention to be considered successful. The development of assessment criteria is based on the ToC presented in Section 2.1.2 and was introduced to the stakeholders involved in the evaluation during the planning phase. In Chapter 4, the assessment criteria are explained for each OECD DAC criterion, with the complete evaluation matrix provided in annex 8.2.

Relevance: To what extent is the BMZ's support for PAs aligned with the international reference framework for biodiversity conservation and the needs and capacities of local communities and involved partners?

Effectiveness: To what extent does the BMZ's support for PAs achieve the intended goals?

- To what extent are the ecological goals of the BMZ's support for PAs achieved, or have the necessary conditions for achieving them been created?
- To what extent are the set socio-economic goals of the BMZ's support for PAs achieved?
- If there are tensions between the goals of support for PAs and other DC goals, is German DC successful in mitigating these tensions?

Impact: To what extent does the BMZ's support for PAs contribute to protecting ecosystems and promoting local development?

- What intended developmental effects can be identified and attributed to German DC?
- Can unintended (positive and negative) developmental effects be identified?

Coherence: To what extent is the support for PAs coherent within German DC?

- To what extent is the support for PAs within German DC designed and implemented in a complementary and cooperative way?
- To what extent does the BMZ's support for PAs complement and assist the efforts of the involved (DC) partners and local communities?
- To what extent is the BMZ's support for PAs designed and implemented in a complementary and cooperative way with regard to other donors and agencies?

Efficiency: To what extent are the inputs of the support for PAs in balance with the outcomes achieved?

- To what extent could the outcomes of the support for PAs have been achieved in other ways at a lower cost?

Sustainability: To what extent are the effects of the support for PAs permanent?

[21] On the one hand, sustainability is one of the six OECD DAC evaluation criteria on which DEval, too, bases its evaluations. It refers here to the extent to which the benefits arising from a DC intervention are sustained. This includes an analysis of financial, economic, social, ecological and institutional capacities, as well as a review of resilience, risks and potential goal conflicts, to estimate the expected scope of the intervention's benefits (OECD, 2023). On the other hand, sustainability is also understood in the ecological sense. As part of the broader concept of sustainable development, with its economic, social and environmental components, ecological sustainability refers to environmental and nature conservation, aiming to ensure that ecosystems remain available for future generations and retain their intrinsic value (German Bundestag, n.d.).

3.

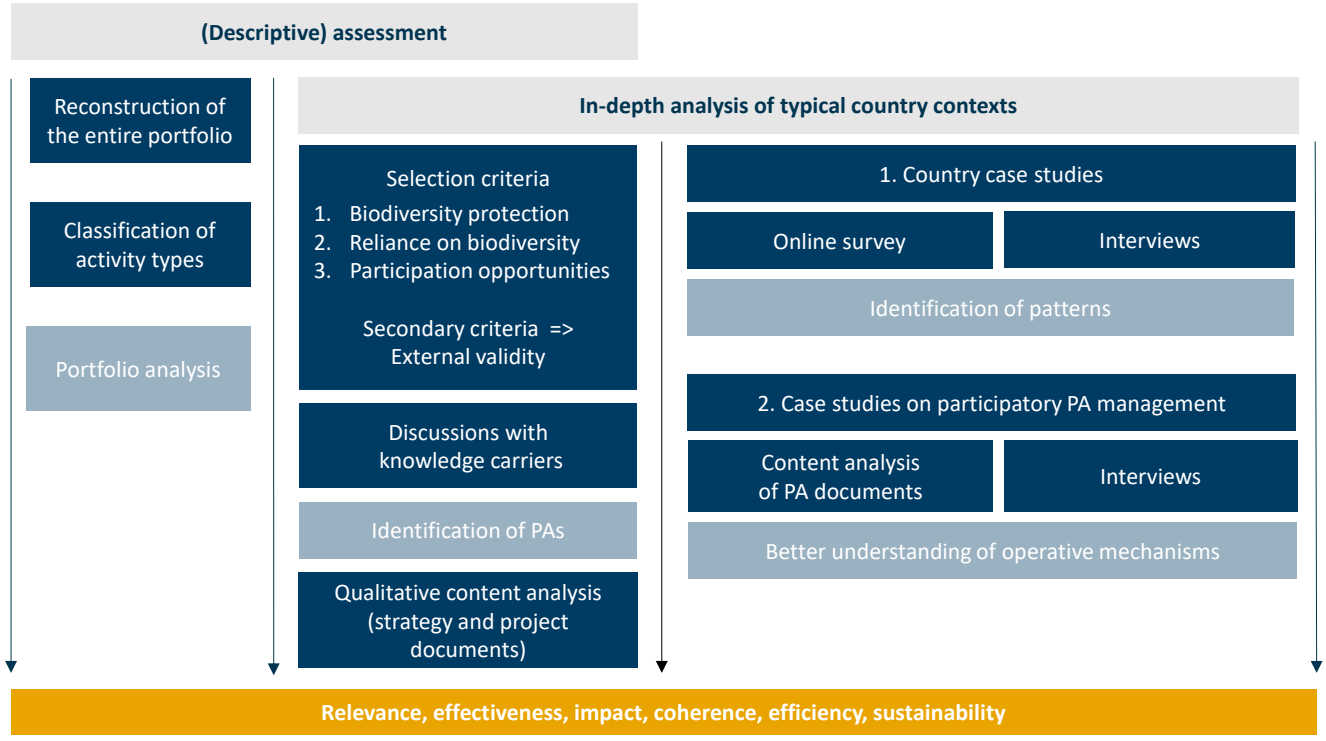
EVALUATION DESIGN AND METHODOLOGICAL APPROACH

This chapter presents the evaluation design followed by a description of the methodological approach for the evaluation. This section is divided into the reconstruction and description of the BMZ PA portfolio identified for this evaluation. The rationale for selecting the countries examined in this evaluation, which are typical for the support for PAs, is also provided. Finally, it reflects on the methodological approach described above and identifies limitations for the evaluation.

3.1 Evaluation design

The evaluation questions were comprehensively addressed using a mixed-methods approach, which incorporated various analysis and data collection methods (Creswell, 2009). The analysis and data collection were carried out in two complementary phases (see Figure 3). A primarily quantitative inventory of the support for PAs which also incorporated qualitative elements was carried out first. This was followed by a primarily qualitative in-depth analysis (see also Kuckartz, 2014).

Figure 3 Evaluation design



Source: DEval, own visualisation

This methodological approach is based on elements of triangulation, following the approach of interpretive explanation (Creswell, 2009). Various methods were used to generate evidence to answer the evaluation questions, which were then checked for plausibility and compared (Kelle, 2018; Mertens, 2017). Qualitative elements, for example, are used to interpret and validate patterns identified quantitatively (Creswell, 2009). This design was also used to bring together and compare different perspectives from knowledge holders on both sides, German DC and partners in the Global South, as well as to confirm information from various data sources (see also Section 3.2.2 on synthesis and triangulation).

Overall, this evaluation used a combination of theory-testing and theory-building elements. To this end, it tested existing assumptions from the literature and the BMZ's experience, and these were combined with exploratory elements, such as gathering new information through open-ended questions in interviews. This approach seemed appropriate given the complexity of the influences that can affect the support for PAs.

3.2 Methodological approach

Various data sources were used to answer the evaluation questions and different methodological approaches were combined (see Section 3.1 and Table 1). The evaluation team first reconstructed the entire portfolio of bilateral interventions supporting PAs using data provided by the BMZ and implementing organisations for the study period (see Section 3.2.1). Using this as a foundation, representative countries were selected for more detailed analysis (see Section 3.2.2).

3.2.1 Reconstruction and analysis of the PA portfolio

The BMZ does not consider support for PAs as an independent field of action within its 2030 Agenda thematic model, but rather as part of the biodiversity field of action. There is thus no comprehensive list of the portfolio of BMZ's support for PAs for the study period. For this reason, the evaluation team reconstructed a portfolio of bilateral interventions supporting PAs for the years 2016 to 2021 based on data provided by the BMZ and the implementing organisations (see also online annex and Section 2.1.1). This step also included data preparation and coordination with the BMZ and the implementing organisations. As additional data was provided during the evaluation, the final PA portfolio for the evaluation was validated again in spring 2024 by the GIZ and KfW (see Box 2).

Box 2 Identification of the portfolio of bilateral interventions supporting PA relevant for this evaluation

Support for PAs forms part of the BMZ's biodiversity portfolio. Since support for PAs is not classified as its own field of action within the BMZ's support system, the BMZ and implementing organisations create annual lists that detail the BMZ's PA portfolio by project and region. According to the BMZ and implementing organisations, it was not possible to compile a retrospective list for the study period that would link supported PAs and PA projects and include completed projects, as this would have required a disproportionate amount of effort. Therefore, the portfolio for the study period was reconstructed by the evaluation team based on data provided by the BMZ and the implementing organisations. This included a list from the BMZ of all ongoing projects[22] related to PAs in partner countries as of the reference date, 31 December 2019. As the evaluation period extends from 2016 to 2021, however, this list was supplemented with data from the BMZ's management, finance and information system (MeMFIS): an excerpt was created listing all ongoing or completed projects with the biodiversity convention identifier (Rio Marker) BTR-1 and BTR-2 as of 11 March 2022. In particular, this allowed for the consideration of projects that were completed during the study period. Since PAs supported by the BMZ are recorded separately and cannot be directly linked to PA projects, the supported PAs were assigned to the respective projects based on communication with knowledge holders. The evaluation team also used a list provided by the BMZ with all PAs that were supported up to the reference date of 31 December 2021 in order to more precisely assign projects by partner country or selected case study countries. Projects that could not be clearly assigned to a PA or country (such as regional projects and global FC funds), and therefore did not fall within the scope of the evaluation, were not considered in this evaluation (see Section 2.1.1).

The identified portfolio was last reconciled and updated with the implementing organisations involved in spring 2024.

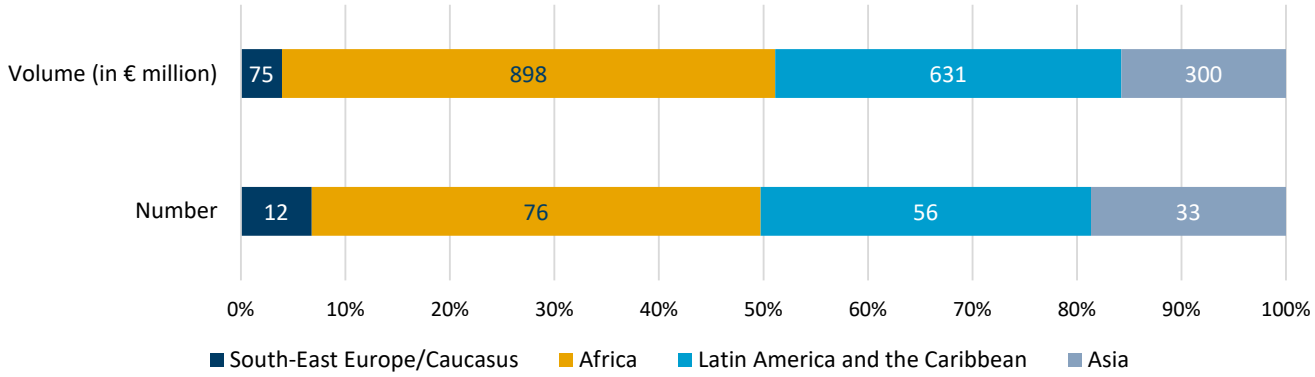
Throughout this report, the term "PA portfolio" refers to the portfolio of bilateral state support for PAs identified by the evaluation team for the period from 2016 to 2021. This represents merely a sample of all the biodiversity and PA interventions that have been supported by the BMZ over the years.

22 The term "project" refers to modules and individual interventions.

The portfolio identified for the study period comprises 177 projects in 40 countries with a total volume of around EUR 1.903 billion.[23] However, this only represents a portion of all projects financed in this field.[24] Beyond the portfolio presented here, it is not possible to make a precise allocation nor quantify financial commitments for projects and actual fund disbursements for a specific period or a particular reference date.[25] By comparison, the entire German Federal Government invested an average of approximately EUR 750 million annually in international biodiversity conservation between 2017 and 2021 (German Federal Government, 2022).

The regional focus of bilateral state support for PAs during the study period was in Africa (47%), followed by Latin America and the Caribbean (33%), and Asia (16%) (see Figure 4). The same focuses are reflected in the number of projects by region, with most being implemented in Brazil (17), Namibia (15) and Madagascar (12). The regional distribution of funding followed a similar pattern.

Figure 4 Number of projects and their funding volume by region, 2016–2021



Source: DEval, own visualisation

The KfW implements more projects supporting PA than the GIZ, which is also reflected in the funding volume. The FC implements 62% of the projects and 70% of the committed funds,[26] while the TC covers 38% of the projects and 30% of the funds (see Figure 5). The financial scope of GIZ and KfW projects differs partly due to the division of labour in German DC and the resulting different approaches taken by the two implementing organisations.

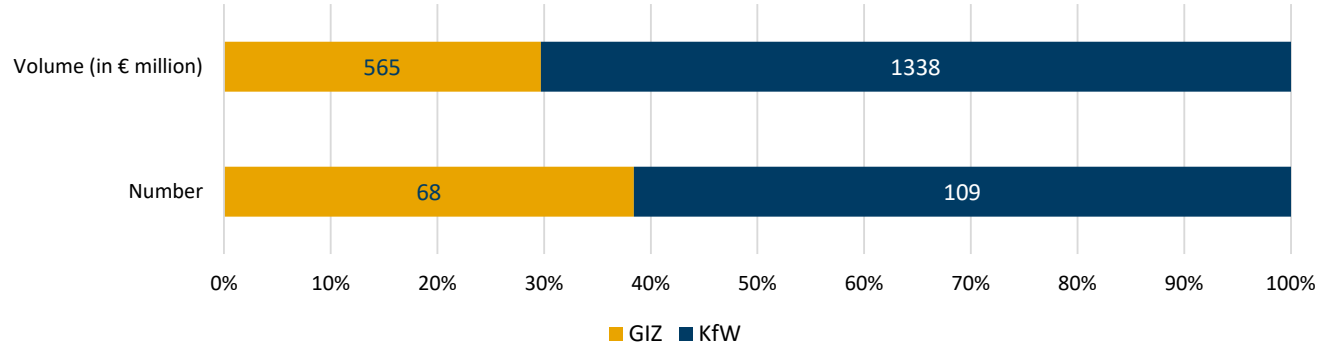
23 This sum includes the volume of all ongoing and completed projects during the study period and is therefore made up of commitments from different years, in contrast to the annual budget for biodiversity mentioned in the introduction.

24 The bilateral state support for PAs, which relates to projects with regional organisations as well as those with regional or global reach, encompasses a further 122 projects with a volume of approximately EUR 1.25 billion.

25 Since the cash flows are partly based on commitments, and some projects started before or ended after the study period, this can only be a rough estimate of the actual funds disbursed.

26 It was not possible to perform a breakdown by financing instruments, as the KfW project database only distinguishes between a) grants/loans from budgetary funds and b) development loans for the projects considered. The full contract volume of the projects was used to calculate the percentage shares, even if other objectives were pursued in addition to the support for PA.

Figure 5 **Number of projects and their funding volume by implementing organisation, 2016–2021**



Source: DEval, own visualisation

The number of supported PAs per project varies significantly. For example, some FC projects, which focus solely on financing, support several hundred PAs. The average number of all PAs funded by TC and FC per project is ten, with the median at four. The average duration of the projects is 5.9 years.[27] At the time of data collection, one-third of the projects in the study period had been completed, while two-thirds were still ongoing.

3.2.2 Selection and analysis of typical country contexts

Nine representative countries were selected from this portfolio for a more detailed analysis of the evaluation questions. These are Brazil, DRC, Ecuador, Indonesia, Cameroon, Madagascar, Namibia, Tanzania, and Vietnam. Content-wise, the country sample is representative of the PA portfolio in terms of the IUCN activity types (Salafsky et al., 2008)[28]. It is also representative in terms of implementation channels (FC or TC), average financial resources and project durations, covering around half of all projects in the PA portfolio. The country case studies were enhanced through case studies conducted on-site to better understand the operative mechanisms. Ecuador, Indonesia, and Cameroon were chosen as on-site case studies.[29]

The evaluation questions were addressed using qualitative and quantitative primary and secondary data (see Section 2.2 and Table 1). Project documents from the PA portfolio and interviews with involved stakeholders[30] were evaluated through content analysis. The number of people interviewed was higher than the number of interviews, as some were conducted as group interviews or focus group discussions. This explains, for example, how 227 rights-holders were reached through 26 interviews with the local population. The online survey, however, was not conducted with the local population due to difficulties in reachability. It targeted knowledge holders from the BMZ, implementing organisations, partner organisations, and non-governmental organisations (NGOs) from Germany and the partner countries[31] in order to gather their perspectives on challenges and factors affecting the achievement of the goals of support for PAs. Finally, the extent

27 The figures on the number of PAs per project and their average duration refer to the entire portfolio, meaning FC as well as TC projects. Follow-up phases are listed as individual projects.

28 The IUCN activity types are a classification of activities in PA management, comprising seven main categories. These IUCN activity types were derived from the project descriptions ex post.

29 For a detailed description of the approach and a comparison of the PA portfolio and country sample, see the online annex.

30 The interviews were distributed among the stakeholder groups as follows: 1) German DC (BMZ, implementing organisations, consultants, N = 76); 2) Partners (state, N = 41); 3) Local population (N = 26); 4) Civil society (national and international, N = 23); 5) Other donors (N = 6); and 6) Experts (N = 4).

31 The respondents' answers were categorised into three groups to take into account possible differences in perspectives: 1) Affiliation with German DC (BMZ, GIZ, KfW, consultants, N = 50); 2) Partner organisations (partner country institutions, national civil society organisations, N = 21); and 3) Others (other donors, research institutions, international organisations, others, N = 28). However, it became clear that the responses were generally quite homogeneous across organisation types. Differences were mainly observed between different country contexts. A possible bias of the respondents resulting from their affiliation with different organisations is therefore unlikely.

Table 1 Data sources for the evaluation

Data sources	Method of analysis	Number	Evaluation criteria
Interviews and focus group discussions	Qualitative content analysis	176	All
Project documents	Qualitative content analysis	Sample of 136 project documents[32]	All
Online survey	Quantitative analysis	99	Relevance, effectiveness, impact, sustainability
Outcome indicators	Quantitative analysis	284	Effectiveness
Literature review			All

Source: DEval, own visualisation

to which the implementing organisations' outcome indicators (OIs) were achieved was also analysed quantitatively.[33] A secondary data analysis of various biodiversity indicators yielded no results that could be of use (see Section 3.3).

The evidence generated from these data sources was checked for plausibility and triangulated. The data collected was compiled using the evaluation matrix. DEval used a six-point rating scale for the assessment, ranging from "missed" to "exceeded" (see annex 8.1) and evaluated the data entries individually using indicators for each rating level and assessment criterion. The median of the individual assessments from all countries was then used for the overall rating of each criterion. The results from all data sources were also triangulated. Finally, the evaluation team aggregated the ratings for each assessment criterion for the respective OECD DAC criterion.

3.3 Reflections on the methodical approach/ Limitations

For many of the PAs studied, only limited or outdated data was available, which did not provide sufficient information on the ecological development of the PAs. As a result, it became necessary to make adjustments during the evaluation, particularly with regard to the criteria of impact and efficiency. Patterns, practices, and challenges could be identified for both evaluation criteria, but a rating was not possible. The reasons for this were varied and are discussed in detail in Section 4.2.2. One example is the planned secondary data and regression analysis.

A regression analysis[34] of various biodiversity indicators was originally intended to determine the long-term effects of the support for PAs (impact). Despite extensive research, no robust data was available for a regression analysis for the study period.[35] The results that could be generated from the additional, primarily qualitative data available for the impact criterion are presented in this report. However, no rating was given.

32 Approximately 1,700 documents were submitted to the evaluation team. Following a review, 136 project documents were included in the synthesis and evaluation.

33 The OIs were analysed quantitatively to determine the outcome of the projects. The degree of target achievement as a percentage was used to determine the degree of fulfilment based on the scale in the online annex. For ongoing projects, the goal achievement was extrapolated from the actual value at the time of the last available report to the end of the project duration. Projects that had been running for less than a year at the end of the evaluation period were not included, as no impact was expected yet.

34 The results of the analysis are available in the online annex. However, they could not be used to assess the impact.

35 The originally planned evaluation of the Management Effectiveness Tracking Tool (METT) could not be carried out, for example. The UN Environment Programme World Conservation Monitoring Centre informed us that a METT reform process was underway at the time of the data request, which is why the data could not be released. The deforestation rate, on the other hand, could be determined throughout. Nevertheless, it is not universally applicable and provides no information on the type of forestation or other biodiversity indicators, such as species diversity. This means it cannot, for example, be applied to PAs with little or no forest cover, such as savannahs or marine PAs.

The focus of the evaluation, with regard to the efficiency criterion, is on a descriptive analysis of efficiency, particularly in operational management. This is because statements on allocation efficiency could not be made due to the lack of data on the impact of the interventions. With regard to production efficiency, however, statements could be made based on the collected and available data.[36]

The COVID-19 pandemic fell within the study period from 2016 to 2021. The global health, economic, social, and political effects of the pandemic also influenced the projects examined in this evaluation. Local interventions to mitigate the pandemic meant that some projects could not be carried out as planned, for example those affected by curfews and restrictions on in-person events. A further factor was the evacuation of implementing organisation staff, who were only able to manage or implement the projects from Germany to a limited extent. While these circumstances were taken into account during the data analysis wherever possible, the results of this evaluation should nevertheless be viewed in this context.

In some of the countries analysed, there were significant political upheavals or changes of government during or shortly before the study period. These affected the German government's cooperation with the partner country, and projects could not be carried out as planned. This resulted in delays or the need to find alternative implementation methods, such as direct collaboration with international NGOs. These and other external factors are discussed in the following chapters. While potentially reduced effects in these cases cannot be solely attributed to German DC, the DC must adapt to changed contextual conditions and reshape activities accordingly to enable continuous implementation. As a result, the cases mentioned above were taken into account in the evaluation.

The evaluation team actively countered the risk of bias towards the German perspective on support for PAs. However, bias could not be entirely ruled out. This prompted the evaluation team to employ a mixed-methods approach to address this challenge. The BMZ and the implementing organisations provided most of the information and served as the first points of contact. While the information from the BMZ and implementing organisations was triangulated using other sources such as literature, supplied documents, and the online survey, the evaluation team used a snowball sampling method to identify additional interviewees. This allowed the interviews to be conducted with roughly equal numbers of people from the implementing organisations, partner organisations and civil society.[37] The results of the online survey were also analysed by breaking them down into stakeholder groups, allowing for the identification of any deviations between participants from German DC and other stakeholders. In the country case studies, relevant stakeholders specific to each country (duty-bearers, rights-holders,[38] civil society and the private sector) were identified and given the opportunity to participate in the evaluation. Nevertheless, some business relationships existed between the interviewees and the German DC system, which means that a social desirability bias in their responses could not be completely ruled out. Similarly, a degree of social desirability bias could not be fully excluded from the documents regarding the implementing organisation's projects.

36 Allocation efficiency refers to the appropriateness of the relationship between the inputs and the outcomes achieved (project objective or development policy objective; outcome or impact level) of the intervention (BMZ, 2020b). Production efficiency refers to the appropriateness of the relationship between inputs and outputs (BMZ, 2020b).

37 For further information, see the online annex.

38 In the human rights-based approach (HRBA) for international DC (see Section 5.1), the target groups of DC projects are referred to as "rights-holders". This implies that the target groups are not merely "beneficiaries" of DC but also have rights. They therefore have the right to demand the fulfilment of their human rights, such as the right to work, to a clean environment, and to an adequate standard of living. "Duty-bearers" refers to governments and, in some cases, implementing organisations that are required to create the conditions necessary to ensure human rights for all. The term "rights-holders" is used in this evaluation to refer to individuals and, occasionally, to NGOs and other stakeholders who are affected by the support for PAs. This follows the understanding of rights-holders and duty-bearers as outlined in the UN's HRBA (UNSDG, 2003). The term "local population" is also used in the evaluation when specifically referring to this group of rights-holders.

4.

RESULTS

This chapter presents the results of the evaluation according to the OECD DAC evaluation criteria. It begins by addressing the relevant evaluation questions and assessment criteria, before presenting the results based on this framework. Each chapter concludes with a summary assessment, using a six-point scale to rate the extent to which the assessment criteria were met (see also Section 3.2.2). As explained in Section 3.3, the criteria impact and efficiency are not rated.

4.1 Relevance

The relevance criterion considers whether the support for PAs is "doing the right thing". This includes assessing whether it aligns with existing policies and strategies and whether it is directed at the relevant target groups.

4.1.1 Relevance: Evaluation questions and assessment criteria

The relevance of the BMZ's support for PAs was assessed based on the following evaluation question (EQ):

EQ 1: To what extent is the BMZ's support for PAs aligned with the international reference framework for biodiversity conservation and the needs and capacities of local communities and involved partners?

The assessment criteria for the evaluation question are listed in Table 2. Information gathered from project documents, strategy papers and interviews were used to answer the question. The complete evaluation matrix, including the assessment criteria and indicators, can be found in annex 8.2.

Table 2 Assessment criteria: Relevance

Assessment criterion (AC)	Content
AC 1a	The strategic orientation and operational implementation are based on the international reference framework for support for PAs (CBD and associated strategies and goals, 2030 Agenda, UN Covenant on Civil and Political Rights, UNDRIP and UNDROP).
AC 1b.1	The strategic orientation is based on the objectives of the partner countries.
AC 1b.2	The needs and capacities of the affected local communities, participating organisations and institutions have been analysed and are given appropriate consideration in the projects.
AC 1c	The participatory processes involve relevant stakeholders, including rights-holders, throughout the entire programme cycle and are perceived as fair and transparent by the rights-holders.

Source: DEval, own visualisation

4.1.2 Results and rating

Alignment with the international reference framework

In all nine countries, the 2030 Agenda and the CBD serve as the primary reference frameworks during the programme and project design phases. In project planning, particular attention is given to SDGs 1 (No Poverty), 5 (Gender Equality), 13 (Climate Action), 15 (Life on Land), and 17 (Partnerships for the Goals). Some projects also address SDGs 6 (Clean Water and Sanitation) and 8 (Decent Work and Economic Growth). For projects that started before the adoption of the 2030 Agenda, the relevant Millennium Development Goals 1 (Eradicating Extreme Poverty and Hunger) and 7 (Ensure Environmental Sustainability) are also taken into account (D1408, D1359, D1249, D1586, D1578, D1599, D576, D78, D259, I57).[39] The projects in all countries are also based on the CBD, its associated goals and protocols from Conferences of the Parties. They are guided by the Aichi biodiversity targets, valid from 2011 to 2020, for the implementation of the CBD

39 Citation note: This chapter refers to project documents, internal documents, interviews and focus group discussions from the country and case studies. For reasons of confidentiality, these have been pseudonymised. Project documents and internal documents are referenced in the report in the format D[Number], while interviews and focus group discussions are referenced as I[Number]. To improve readability, only the most relevant documents and interviews with strong evidence are referenced in the main text. The complete list of sources used for each assessment criterion is available to DEval.

(D797, D405, D1408, D1236, D1586, D521, I146, D1162, D1103, D1501, D371, D344, D328, I16, I44, I24, D78, I57). In terms of operational implementation, they often align with national biodiversity strategies and action plans, which include specific steps taken by partner governments to implement the CBD.

In seven out of nine countries, projects also refer to the UNFCCC (United Nations Framework Convention on Climate Change)**.** This includes the Paris Agreement and the nationally determined contributions (NDCs) (D1408, D1249, D1599, I146, D1162, D1103, D1501, D371, I24, D78, D259). In Vietnam, Brazil, Indonesia and Cameroon, explicit reference is also made to the REDD+ mechanism[40] (D371, D353, D365, D363, D356, D12, D405, D576). The projects acknowledge the interdependence and interaction between climate change mitigation and biodiversity conservation. Individual projects refer to the fundamental need to protect global public goods without naming the international legal framework (D1599, I140, D1596, I1594). In parallel to the CBD, the projects carry out activities that contribute to fulfilling the partner countries' NDCs.

The projects occasionally refer to other environmental agreements. For instance, the UNCCD is mentioned in Namibia and Cameroon (D1103, D371, D1162, D31), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is cited in Tanzania, Namibia and Cameroon (D344, D1162, D1236). Regional African agreements, such as the African Agenda 2063, also play a role in the project design in Tanzania, Cameroon and Madagascar (D1249, D371, I24, D1223), alongside the strategies of the Central African Forest Commission (COMIFAC) in Cameroon and the DRC (I82, I97).

Human rights agreements, including those concerning the rights of Indigenous peoples, vulnerable groups and women, are rarely referred to in programme and project planning. They are occasionally mentioned and only in five out of nine countries (I16, I44, D1501, D1374, D1578), primarily in contexts where, for example, the militarisation of protected area staff is presumed to increase the risk of human rights violations (D1178, D1251). There is no further consideration or specification of which human rights could be of particular relevance. In cases where the BMZ's human rights concept is referenced, the project reports, as well as the module and programme proposals, also remain abstract. The BMZ's human rights concept (BMZ, 2011, 2013)[41] does not provide an international reference framework and, as such, is not included in the rating of the assessment criterion. However, it is not yet sufficiently reflected in the support for PAs, either. Furthermore, the DEval evaluation "Human Rights in German Development Policy (Part 2)" concludes that "information from preparatory appraisals is not systematically taken into account when elaborating the content and implementation of projects" (Polak et al., 2022, p. 78). This highlights that the mainstreaming of human rights as an overarching issue in the support for PAs and beyond has so far been limited.

In the operational work, some projects include specific activities related to the international reference framework (I57, I60, D371, D344, D328, D566, D1103, D1162, D1596, I146). In Cameroon, for example, certain individuals were given the opportunity to attend the CITES Conference of the Parties. In two other cases, the projects actively contributed to the adoption of an ABS mechanism.

Alignment with the objectives of the partner countries

Ratified agreements are not consistently implemented in all countries, making it more difficult to align the projects with the international legal framework. In Madagascar, Cameroon, and the DRC, project planning and interviewees note that, although these countries have ratified the relevant conventions and agreements, implementation is only possible to a limited extent due to the political situation (I61, I16). Particularly in these situations, aligning the projects with the objectives of the partner countries is relevant.

40 The international forest and climate protection programme REDD+*(Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries*) aims to limit deforestation and promote reforestation through financial incentives. This is intended to reduce greenhouse gas emissions. As part of a previous evaluation, DEval assessed Germany's contribution to REDD+ (Reinecke et al., 2020).

41 Cf. footnote 12.

In Brazil (until 2018), Tanzania, Indonesia and Namibia, PAs are in principle very relevant for the partner governments (I110, I114, I51, I136, I105). In Cameroon and Madagascar, however, biodiversity conservation does not take priority over economic development (D353, I92, I82, I44, I15); environmental protection is viewed as a capacity-dependent field of action, while other environmental issues, such as renewable energy and watershed management, are of higher relevance to the partner governments (D1162, I122). Overall, the relevance of PAs and biodiversity conservation varies depending on the interests of different stakeholder groups, which complicates DC in this area.

In seven out of nine countries, DC is explicitly guided by the national development plans of the respective partner government (D797, D1597, D1249, D1236, D1603, D576, D1596, D649, D1162, D1103, D371, I34, I79, I77, I11, I44, D78, I22). In all countries, the DC projects are aligned with national strategies on the environment, climate and resource use (D797, D4, D1236, D1578, D578, I147, I146, I142, D649, D1103, I36, I44, D1223, D1199, D43, D80, I75, I4) and aim to support the implementation of these strategies. Nevertheless, in most countries, there are discrepancies between the BMZ and the partner governments regarding the projects to be carried out (I115, I166, I126, D371, I92, D610, I69, I55, I75, I38). This includes, for example, the allocation of projects between FC and TC. The assessments of implementation capacity thereby diverge, particularly when the partner government sees no need for capacity building and prefers support of only a financial nature (I166). Differences of opinion also arise regarding whether it makes more sense to consolidate existing PAs or expand into new regions (I38, I145, D582).

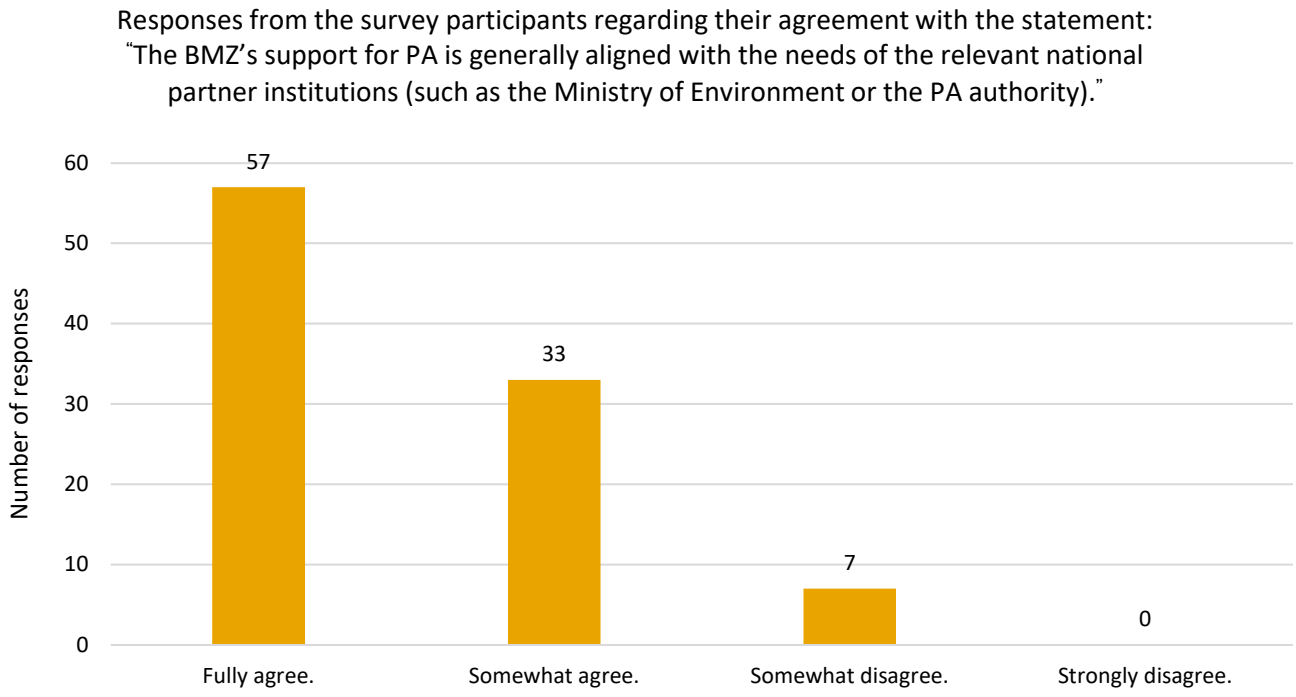
These discrepancies are partly due to the fact that the priorities of partner governments can change quickly, which can cause the implementation of international and national biodiversity conservation strategies to take a back seat (D776, I122, D1387, D1359, D12, I110, I108, I120, D1594). High turnover of decision-makers, along with their limited willingness to cooperate with German DC, has created difficulties in aligning with the partner governments in Brazil (since 2019) and Madagascar. In Cameroon and the DRC, the partner governments lack the resources to implement the strategies.

Decisions regarding the projects to be implemented primarily take place in government negotiations and consultations (D776, I166, I147, I145, I89, I47). Civil society and rights-holders should generally be involved in the review of the projects. During high-level consultations, the partner governments sometimes propose their own suggestions – particularly in Indonesia (I140, I147, I152, I132, I131, I47). Political agreement in government negotiations and consultations ensures the partner government's engagement and ownership (I65, I108, I133, I132, I140, I152, I40, I91), even if not all of the goals of DC or of the partner government can be achieved. Ownership and acceptance are particularly strengthened when the partner government perceives the negotiations as being conducted on equal terms.

Needs and capacities of the affected groups, organisations, and institutions

In seven of the nine countries, the implementing organisations or partner governments conducted analyses of the needs of the affected groups and organisations during the project design phase. The qualitative analysis and the online survey show that the needs of the partner organisations at the national level – including the responsible ministries and PA administrations – are mostly well analysed and considered (cf. Figure 6, I69, I24, D1194, D1223, I39, I97, D950, D1117, I147, I121, I141, I148, I129, D576, D1592, D595, I17). The online survey reveals only minimal differences between the stakeholder groups: between 89 and 95% of respondents fully or somewhat agreed that the projects were aligned with the needs of national partner institutions.

Figure 6 **Relevance of the support for PAs for partner institutions**



Source: DEval, own visualisation (2023, n = 97)

Needs analyses such as these are only carried out to a limited extent for subnational institutions such as provinces, regions and local councils (I20, I41, I43, I21, I154, I107, I90). In six countries, there are indications that capacity-building activities for partner organisations are insufficient or not designed to meet actual needs (I25, I75, I57, I19, I81, I11, I73, I166, I120, I112). However, high staff turnover in partner organisations complicates the design and sustainability of these implementing organisation activities.

The needs of rights-holders are primarily derived from secondary information, such as literature. Only rarely are the needs identified together with the rights-holders – for example, in interviews or workshops – as resources for a deeper analysis of local communities' needs are typically not provided. In some cases, the voices of NGOs, community representatives or target groups are included in the needs analyses. In four countries, the specific needs of women, Indigenous peoples and other vulnerable groups are given special consideration in the project design through dedicated vulnerability analyses (see also Section 5.2) (D593, D1592, D580, D433, D1597). In Indonesia, for example, women's groups were surveyed in fifteen villages, eight of which went on to take part in a mentoring process for business development during the course of the project (D593). Nevertheless, this type of direct involvement of rights-holders in the needs analysis is the exception and is otherwise limited to intermittent field visits by implementing organisation staff, such as during appraisal missions.

According to interviewees and project documents, the needs assessment based on secondary information nevertheless leads to a mostly needs-based project design in six of the nine countries studied (I105, D1501, I113, I146, I143, I122, I140, I148, D591, D1237, D1316, I115, D433, D484, I88, I17, D1586, I68). In Ecuador and Tanzania, there are, however, strong indications

that the projects are not sufficiently aligned with the needs of local communities (I104, I25, I75, I57, I166, I115, I153). Special attention is paid here to the fact that the projects are primarily focused on biodiversity conservation and insufficiently address context-related social and socio-economic issues or human-wildlife conflicts. Although an additional project on human-wildlife conflicts was set up in Tanzania, it was not launched until after the study period had ended (see also Box 4).

In five countries, the projects do not have sufficient resources available to identify all relevant needs (I60, I57, D611, D1190, I98, I21, I36, I126, I115, I114, D1597). This means that issues important to local communities, such as the aforementioned human-wildlife conflicts, cannot be addressed. In three countries, community representatives were meant to take part in interviews or other formats as part of the needs analyses; however, they could not raise the necessary funds to attend meetings with the implementing organisations. One group of rights-holders reported that, although they were invited to meetings as part of the analysis, they could not afford the transport costs. These expenses were not covered by the project (I49).

While the needs of the affected groups can be identified to some extent, this does not mean that they can also be addressed within the framework of the projects. For example, projects are informed about requests that relate to topics outside of the support for PAs, such as health and education, which ultimately results in disappointment among the target group. In Ecuador and Cameroon, there are also examples where the distinction between DC and the state is not clear to the target groups, leading to the articulation of needs that the projects cannot address.

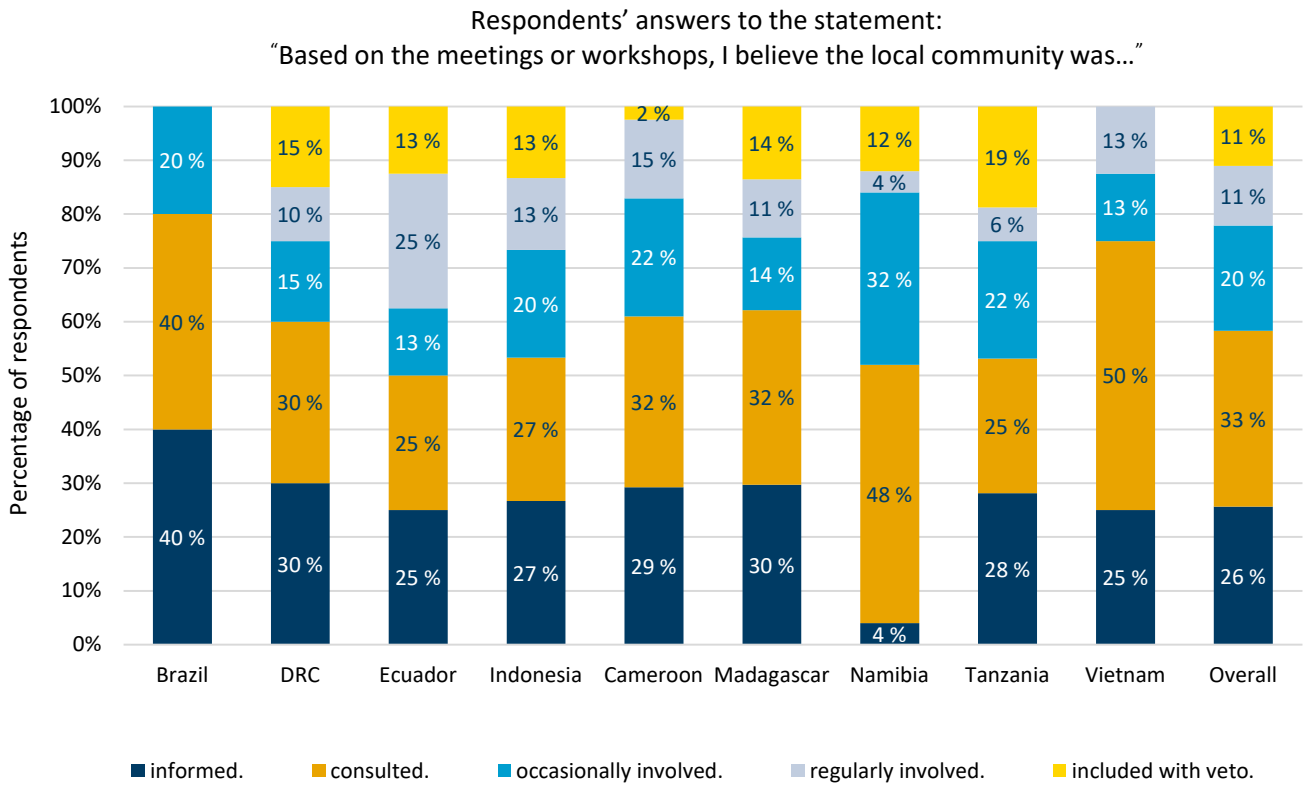
Involvement of rights-holders in the project cycle

The evaluation considered the extent to which rights-holders are involved in the projects throughout the entire project cycle – from planning and implementation through to evaluation. The level and type of rights-holder involvement vary greatly between countries, between PAs in the same country, and even within a single PA. The consideration of the needs of relevant stakeholders during project planning primarily encompasses the way support for PAs contributes to involving local rights-holders in PA management. As a result, participation is most prominent during the implementation phase of the project cycle.

This very heterogeneous picture of the involvement of rights-holders is reflected in all the data sources collected. Interviewees assessed the participatory processes differently for the same PAs. The target groups perceive the projects as less participatory than other stakeholders. Apart from a few exceptions, participants in the online survey responded to the question regarding the extent to which regular meetings or workshops are held to involve local communities in PA management with conflicting answers for the same PA. In some PAs, half of the respondents reported no regular participation, while the other half stated that regular participation did take place. Similarly, very different responses were given regarding the degree of rights-holder involvement.

Over half of the respondents felt that the rights-holders were "informed" and "consulted". There were no substantial differences between the various stakeholder groups. In Brazil and Vietnam, the answer "included with veto" was not selected at all. In the other countries, the percentage of this response ranged between 2 and 19%. The extent of regular involvement was also highly variable, ranging from 4 to 25% (cf. Figure 7). It is important to note that the perspective of local communities was not included in the online survey and is therefore not represented (see Section 3.2.2).

Figure 7 **Type and degree of participation of rights-holders**



Source: DEval, own visualisation (2023, n = 94)

This pattern of participation in the form of information and consultation is confirmed by the qualitative content analysis. Representatives of the local communities rated their involvement more negatively than the other stakeholder groups surveyed. Participation usually occurs during the implementation phase[42] or, to a lesser extent, during the design phase in the form of consultations. Local communities are rarely involved during the evaluation phase, when formulating exit strategies, or in the design phase of follow-up projects. With the exception of a few cases outlined in Box 7, participation typically occurs either during the design phase or the implementation phase, but not in both phases of the same project.

Good examples of involving local communities in PA management can be found in five of the nine countries studied. In Cameroon, Indonesia, and Vietnam, for instance, there are examples of conservation development agreements concluded with village representatives (D365, I139, I17). There are also examples of the joint development of community development plans in the DRC, Namibia and Indonesia (D1586, D1587, D576, D591, I140, I40, D638, D642, D649). In other PAs, consultations primarily take place with local NGOs (I37, D595, D444, I175). In some PAs, rights-holders are also involved through traditional authorities, specially established committees (I105, D1578, I51), or village facilitators. The KfW and GIZ are engaging with them

42 Examples include conflict mediation in Tanzania, participation in conservation interventions and patrols in Madagascar, Namibia and Vietnam, the signing of agreements on biodiversity conservation in Cameroon, Indonesia and Vietnam, and the joint development of community plans in Namibia, the DRC and Indonesia.

in Indonesia to support the implementation of projects. This increases the local communities' ability to influence the projects, as they remain in constant contact with them (D591, D582, I146, I124, I149, I123). Overall, there are indications of a higher degree of rights-holder involvement in Namibia and Indonesia compared to other countries.

Other examples suggest that local communities are either not involved or only minimally involved in PA management. This pattern is particularly evident in Ecuador, Madagascar, Cameroon, and Tanzania (I148, I49, I60, I27, D80, D610, D1594, D614, I37, I98, I92, I101, D1589, I111, I116, I114, I107). For instance, a group of rights-holders in Ecuador reported that the projects were very opaque, as they only received information via technical consultants and could not understand how the financial resources in the projects were being allocated (I49). At the same time, rights-holders also felt that they were not taken seriously (I73, I49). Rights-holders requested more involvement to allow them to contribute their own ideas, particularly since project outcomes often did not seem useful to them (I49, I80).

The decision regarding who is involved, in what way and at what time is generally made on a situational basis. Factors influencing these decisions include project timelines, the reachability of rights-holders, and the available budget for participatory processes. There is a notable lack of a fundamental, overarching understanding of participation among the implementing organisations. The extent to which the partner government allows participation also plays a decisive role. This is discussed in more detail in Chapter 5. Excluding partners and affected communities during the various phases of a project can lead to major challenges. This is particularly evident when tasks are handed over to these groups at the end of a project without having involved them earlier on (I142, I152, I153).

All findings on the topic of participation in the support for PAs are discussed collectively in Chapter 5. Since participation is an overarching theme across various evaluation criteria, there may be content overlaps with the chapters on the results of the individual criteria.[43]

4.1.3 Summary and rating

AC 1a is partially fulfilled. The projects primarily refer to the CBD, the 2030 Agenda and various climate agreements. Only a few of the project plans explicitly align with relevant human rights agreements, including the rights of Indigenous peoples (UN Covenant on Civil and Political Rights, UNDRIP and UNDROP). Some of the projects actively reinforce the involvement of the international reference framework, for instance, through conference participation.

AC 1b.1 is mostly fulfilled. National development plans, as well as strategies on the environment and resources, are largely analysed and integrated into project planning. German DC projects are primarily coordinated through government negotiations and consultations, which strengthens partner acceptance and ownership, but excludes civil society. Civil society is usually involved in project reviews. In some contexts, there are also inconsistencies regarding the projects to be carried out and the priority of biodiversity conservation over other environmental issues and economic interests.

AC 1b.2 is mostly fulfilled. The needs and capacities of partner organisations are taken into account in nearly all countries. However, the necessary resources and needs of subnational organisations, institutions and the population are given less attention. The HRBA is not systematically operationalised. Instead, needs analyses are mainly conducted without the direct involvement of rights-holders, although interviewees believe these analyses cover the needs of local communities.

AC 1c is partially fulfilled. The extent, timing and regularity of involvement vary greatly. There are examples of extensive involvement of rights-holders, but also cases where their inclusion is insufficient. It is evident that involvement mostly limits itself to information sharing and consultation, without being systematic. The reasons for this include insufficient resources to implement broad participation, the rule of law in each country and the authority of various stakeholders to represent others.

43 Various types of participation opportunities were also taken into account during the country selection process. More on this can be found in the online annex.

Overall, the relevance criterion is rated as partially fulfilled when all assessment criteria are aggregated.

Figure 8 Aggregated rating of relevance

The relevance criterion is ...

		X			
missed.	barely fulfilled.	partially fulfilled.	mostly fulfilled.	fulfilled.	exceeded.

Source: DEval, own visualisation

4.2 Effectiveness and impact

The following describes the results of the evaluation in terms of effectiveness and impact. It examines whether the intended goals of the support for PAs – specifically the ecological and socio-economic module objectives – were achieved. In terms of the impact criterion, the evaluation looked at whether the broader developmental impacts were achieved, namely those on biodiversity and the living standard of the local communities.

The effects of the support for PAs on both the outcome and the impact level are very difficult to differentiate. Both the project goal indicators and the data for these two levels of effect overlap. For example, programme goal indicators (= impact) include the area covered by management plans, the stabilisation of animal populations or the (sub-)national deforestation rate; however, the same indicators are used as OIs at the outcome level (= effectiveness) in other projects. Furthermore, no causal link could be established between German engagement and the effects achieved at the impact level, as only a limited amount of reliable and long-term data was available for impact, which represents the highest level of effect (see ToC). Scientific evidence on the SDGs also highlights that, particularly for SDG 14 (Life Below Water), but also for SDG 15 (Life on Land), there is little rigorous evidence on measuring the level of effect (Engelbert et al., 2023). For these reasons, the impact criterion is not rated. Patterns, practices and challenges are presented instead (see Section 3.3). These are discussed alongside the results and ratings under the effectiveness criterion.

The following section looks at the intended ecological and socio-economic effects separately.

4.2.1 Evaluation questions and assessment criteria

The effectiveness and impact of the support for PAs were analysed using the following evaluation questions and sub-questions:

EQ 2: To what extent does the BMZ's support for PAs achieve the intended goals? (Effectiveness)

- **EQ 2.1:** To what extent are the ecological goals of the BMZ's support for PAs achieved, or have the necessary conditions for achieving them been created?
- **EQ 2.2:** To what extent are the set socio-economic goals of the BMZ's support for PAs achieved?
- **EQ 2.3:** If there are tensions between the goals of support for PAs and other DC goals, is German DC successful in mitigating these tensions?

EQ 3: To what extent does the BMZ's support for PAs contribute to protecting ecosystems and promoting local development? (Impact)

- **EQ 3.1:** What intended developmental effects can be identified and attributed to German DC?
- **EQ 3.2:** Can unintended (positive or negative) developmental effects be identified?

The assessment criteria for the evaluation questions and sub-questions are listed in Table 3. Information from the project documents and interviews was used to answer the questions. The outcomes of the support for PAs were also assessed at the effectiveness level through the achievement of the OIs set in the projects. These were assigned to the different assessment criteria. OIs with a clearly ecological objective were assigned to assessment criterion 2.1, and OIs with a clear socio-economic focus to assessment criterion 2.2. There are also some OIs that pursue a dual objective, addressing the potential tensions between ecological and socio-economic targets, similar to the approach of the support for PAs as a whole. These were assigned to assessment criterion 2.3. The complete evaluation matrix, including the assessment criteria and indicators, can be found in annex 8.2.

Table 3 Assessment criteria: Effectiveness and impact

Assessment criterion (AC)	Content
Effectiveness	
AC 2.1a	The effective and sustainable management of each PA is ensured by adequate staffing, the necessary capacities and financial resources.
AC 2.1b	PA systems are supported by relevant public processes, structures, and resources.
AC 2.1c	The projects achieve their self-imposed ecological goals.
AC 2.2a	The projects include appropriate components for sustainable income-generating measures for the local communities in and around PAs.
AC 2.2b	The local community increasingly adopts approaches for sustainable income generation.
AC 2.3a	DC succeeds in mitigating existing tensions (for example, replacing harmful utilisation practices with sustainable sources of income).
AC 2.3b	Participatory processes play a role in identifying tensions between the desired goals and in coordinating and implementing suitable (preventive) measures.
Impact	
AC 3.1a.1	Ecosystems have improved in terms of integrity and biodiversity.
AC 3.1a.2	The area and connectivity of PAs have increased (worldwide).
AC 3.1b	The local community can support their livelihoods through alternative (ecologically sustainable) economic activities.
AC 3.2a	Unintended negative developmental effects are minimised.
AC 3.2b	Feedback submitted through complaints mechanisms is processed, and decisions are communicated to the communities.

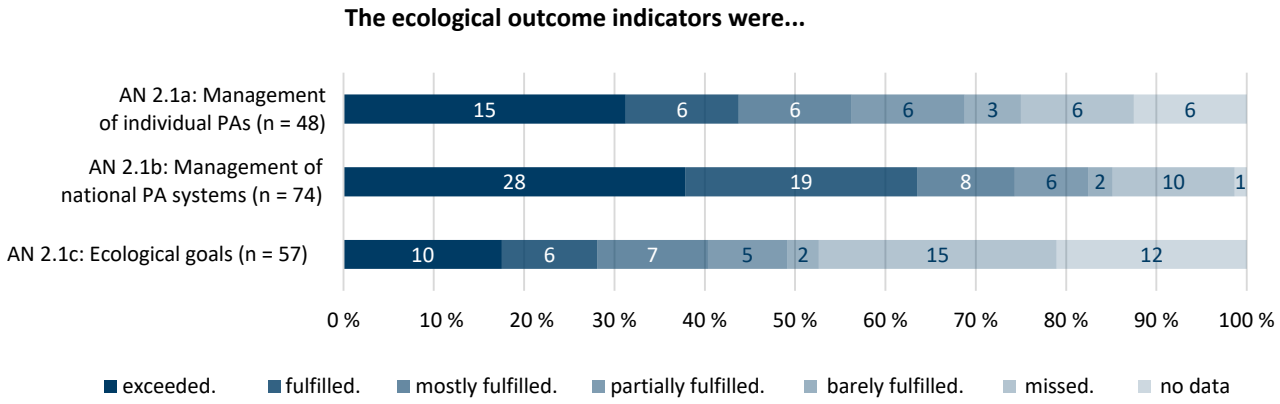
Source: DEval, own visualisation

4.2.2 Results and partial rating

Ecological effects

The intended ecological effects of support for PAs relate to all activities that directly or indirectly contribute to biodiversity conservation within and around the PAs. With regard to the achievement of the project OIs in the ecological area, the evaluation team had data from project documents for 160 out of 179 OIs. Of these OIs, 53 were exceeded by the end of the projects, 31 were fulfilled, 21 were mostly fulfilled, 17 were partially fulfilled, 7 were barely fulfilled, and 31 were missed. The achievement of each assessment criterion is shown in Figure 9.

Figure 9 Achievement of the ecological outcome indicators



Source: DEval, own visualisation

This data shows that the support for PAs was particularly successful in strengthening the respective national PA systems; however, the self-imposed ecological goals were rarely achieved. In the area of strengthening PA systems, more than 60% of the OIs were fulfilled or exceeded. For the achievement of the ecological goals, which were recorded under assessment criterion 2.1c, no data was available for 12 OIs, while 15 OIs were missed. The absence of data was especially evident for OIs that were supposed to collect data on the size of animal populations or forest cover. Through qualitative data analysis and a survey with DC stakeholders, these results were contextualised and factors for the non-achievement of the OIs were identified.

According to survey participants, the BMZ contributes to embedding biodiversity conservation within the national policies of the partner countries. All but two participants fully or somewhat agreed with this statement (n = 76); however, they pointed out that DC builds on existing protection projects, and its influence on the partner country's policy is limited – something the (German) DC aims for to respect the partner countries' autonomy. For example, Germany has no influence over election results, personnel decisions or the general prioritisation of national governments that enable the implementation of biodiversity policy.

Typical activities to strengthen PA administration in individual PAs (AC 2.1a) include acquiring equipment, carrying out protection activities, building park infrastructure and providing training for PA staff. By procuring items such as vehicles, GPS devices and cameras, German DC supports wildlife protection patrols in the PAs. Furthermore, DC funds the construction of ranger accommodation and provides training for PA staff on management tools like the METT or the Spatial Monitoring and Reporting Tool (SMART), which is primarily used during patrols.

The frequency and quality of protection patrols were partially improved, but there is still a need for expanded monitoring (D405, D786, I98). Limited staffing resources remain one of the biggest challenges. On the one hand, the number of staff employed for PA surveillance is too low and subject to high turnover. On the other hand, there is evidence that the positions in this area are poorly paid, which negatively affects staff motivation (I89, I11, I161, I101).

Despite improvements in data management, technology and infrastructure, the current equipment in the PAs is still not sufficient to ensure effective monitoring and the proper functioning of the PAs. There is a lack of staff, protective gear, vehicles, generators, field equipment and suitable accommodation for protection personnel (I44, I63, I66, I35, I101, D380, I116, D9). Within the scope of this evaluation, it became evident that PA administrations in some African countries are becoming increasingly militarised (I115, I126, D1236). In some cases, there is specific cooperation between the (typically understaffed) PA administration and the military (D527, I37, D371, D353, D296, D380).

In almost all countries, PA administrations still lack sufficient financial resources to carry out their duties and improve their structures. However, the capacity for sustainable PA management varies greatly between individual PAs and countries. For smaller PAs, the administrative burden of applying for funding and participating in tenders can be too high, while older parks benefit from already established structures. In some cases, however, DC projects have helped strengthen the capacity of PA administrations with regard to financial management. An example of good practice in Namibia highlights this potential. It was found that park committee members did not have the capacity to properly apply the complex financial management system. As a result, a simplified system was developed and continuously refined with input from the users to ensure that even those with no computer skills could use it effectively (D921).

The financing of PAs is neither planned nor possible through German DC funding exclusively. Nevertheless, the existing financial gaps compromise the effectiveness of Germany's engagement. Interviewees pointed out that funds could serve as a financing instrument in this area to improve the financial situation of the PAs, as they could ideally cover the ongoing costs through their returns, without relying on further capital increases. An example of this is the Madagascar Protected Areas and Biodiversity Fund (Fondation pour les Aires Protégées et la Biodiversité de Madagascar, FAPBM) (cf. Section 4.5.2 and Box 6). The contributions from partner governments are addressed under AC 4.2b (coherence).

The national PA systems (AC 2.1b) in the countries studied are characterised by significant uncertainty due to political developments and funding issues. While some institutions are well established and equipped, in other contexts they occupy very weak and politically dependent positions. The available personnel and financial resources are often insufficient and subject to political and seasonal fluctuations. Some countries have developed national monitoring systems, while others lack such systems entirely. The landscape approach[44], which positions PAs within an intersectoral and regional context, has been strengthened in Ecuador, Cameroon and Namibia, while there is little understanding of it in Madagascar (D614). The projects also contribute to strategy development and the networking of relevant stakeholders.

Conflicts over land and usage rights in Brazil and Namibia are partially mitigated through land use planning, with the support of German DC. Namibia, for example, has adopted new development and management plans for PAs in the north-east of the country. This tool is also recognised in other countries studied, but it has not yet been institutionalised. According to the qualitative data analysis, other perils for the PA systems include the increasing militarisation of protection personnel, lack of accountability, low political commitment from the partner government or government changes, contradictory laws, and a difficult security situation. Success in tackling illegal deforestation at the national level has, however, been achieved in Cameroon, for instance. There, the forestry ministry decided to stop auctioning confiscated illegally harvested wood. As a result, contractors can no longer legally purchase it (D371). This has helped curb a market for illegal timber, although deforestation remains high.

44 The landscape approach is based on the idea that environmental issues can only be addressed when viewed within an intersectoral and regional context. For PAs, this means including buffer zones and other surrounding areas within the same landscape. It also incorporates the socio-economic needs of the community.

The direct effects on biodiversity indicators (AC 2.1c) have been measured and achieved with varying success across different countries. Deforestation could not be significantly reduced in Vietnam. It remained stable in Indonesia and individual regions of Brazil. In other Brazilian PAs, as well as in Cameroon and Madagascar, deforestation remained high or continued to increase. The conservation of animal populations was partially to mostly successful in Namibia and Madagascar. Namibia also saw a reduction in poaching, while in other countries, particularly Cameroon, it remained persistently high. In Ecuador, it is evident that the spread of invasive species in PAs poses an external threat to the improvement or stabilisation of animal populations and biodiversity. These species can crowd out the native fauna (I28, I70, I27). Measuring biodiversity indicators is challenging in the countries studied, with only Tanzania and Namibia systematically collecting monitoring data on these indicators. Other projects do not collect such data, and one project explicitly stated that data collection was not within its scope.

The ecological goals at the impact level (AC 3.1a.1) largely align with those at the outcome level/OIs and focus on the conservation and improvement of biodiversity. Stabilisation and, in some cases, improvement have been achieved, though there are exceptions. A good example is Tanzania, where the elephant population in the Selous-Niassa Corridor recovered after a 60% decline (I138). In other cases, however, the populations of key species decreased (D593, D365). Success in tackling deforestation in the countries studied has been less clear-cut, with both reductions and increases in deforestation rates.

DC primarily has a stabilising effect on biodiversity conservation, but it does not necessarily lead to structural improvements. Interviewees confirmed that, without DC, PAs would have faced even greater use pressure or been released for land use (I24, I32, I16, I66, I34, D380). 68% of participants in the online survey also estimated the impact of PAs on biodiversity as somewhat large or very large and 89% attributed this effect to the BMZ's support. However, measuring the BMZ's actual contribution was noted to be challenging.

In many cases, protected areas (AC 3.1a.2) have been expanded by designating additional areas. However, the international commitment to protect 17% of land area by 2020 was only achieved by Tanzania, Brazil and Namibia (Saura et al., 2019). In line with Aichi Target 11, additional objectives focus on expanding PAs and increasing connectivity between PAs. This refers to the ability of animals to move freely from one PA to another, which is essential for maintaining ecological processes in these areas. Without the opportunity for cross-PA foraging, reproduction and territory expansion, populations and entire ecosystems are at risk of collapse. Connectivity is often hindered by infrastructure such as roads, fences or dams (Brennan et al., 2022; Saura et al., 2017).

Most stakeholders recognise the importance of connectivity between PAs, but the implementation of interventions to promote it is still in its early stages. One example is the Biocorredor del Puma in Ecuador, which was initiated with the help of German DC, but is not expected to be fully established until 2050 (I104, I27, I71, I20). In some cases, progress has been made in creating national corridors and transboundary PA complexes (D380, D1501). The Protected Connected Index indicates what proportion of a country's land area is protected and connected. Among the country case studies, Namibia, Tanzania and Brazil performed the best (Joint Research Centre (JRC) European Commission, 2024).[45] However, there are administrative barriers, such as the lack of land titles, that hinder the establishment of PAs and corridors, as well as economic interests opposing them.

DC support for partner countries in the (more) sustainable use of natural resources in use zones has partially improved the threat levels to PAs. For example, two PAs in the DRC were supposed to be removed from the list of endangered World Heritage sites[46] (I50, I68, D784). Nonetheless, the threat to biodiversity in the countries studied remains high. Unsustainable practices continue to be used in charcoal production, agriculture, hunting and mining.

45 See also online annex.

46 The List of World Heritage in Danger includes UNESCO World Heritage sites that are threatened by factors such as conflicts, natural disasters or other potential dangers. The list aims to raise international awareness of these threats and to ensure stronger protection for these sites. PAs in the DRC which are vital habitats for endangered species like okapis and mountain gorillas have been on the list since 1994, following the conflicts in the Great Lakes region. The Salonga National Park is no longer considered threatened, but four other PAs in the DRC remain listed. Other endangered World Heritage sites in the sample countries include the Atsinanana Rainforest in Madagascar and the Selous Game Reserve in Tanzania (UNESCO, 2024).

As outlined in Sections 1.2.3 and 2.1.2, various contextual factors influence the achievement of the goals of support for PAs. These include the rule of law in the partner country and the commitment of the partner government to support PAs. Ecological successes are also linked to the quality of PA management. A lack of political will on the part of the partner governments to provide the necessary resources for the support for PAs is a limiting factor. Against this backdrop, poaching and illegal logging within PAs may persist.

Measuring the level of effect at the impact level is challenging, not only within the scope of this evaluation but also for the implementing organisations and other donors. For example, an evaluation by the United Nations Development Programme (UNDP) concluded that the impact of UNDP on ecosystem management and biodiversity conservation could not be assessed due to the lack of globally accessible data and limited indicators (UNDP, 2024). The difficulty in measuring the level of effect is partly due to the complexity of conservation interventions, which often target multiple goals at different levels that may sometimes be difficult to reconcile.

Ecosystems are also characterised by a variety of non-linear dynamics, which are continually influenced by global processes such as climate change. The connectivity of ecosystems further complicates the identification of causal relationships and the development of counterfactual scenarios. As a result, measuring biodiversity is generally challenging and costly. The use of proxies, such as forest loss, for simpler monitoring is therefore a feasible approach[47]. However, this increases the risk of errors in the design and implementation of projects. Often, though, the necessary data for an evaluation is simply not collected at all. Moreover, the projects are often too recent to assess their contribution at the impact level (Baylis et al., 2016; Coad et al., 2015; GEF IEO, 2016; Geldmann et al., 2013; IUCN, 2024; Lindenmayer, 1999; Stepping and Meijer, 2018; Strange et al., 2024).

In any case, both the available quantitative data and the qualitative analysis indicate that existing monitoring opportunities are not being sufficiently utilised. This is also a fundamental factor behind the limited data available in this area. Monitoring issues arise in both the selection of indicators and during data collection. Firstly, indicators are often formulated that provide limited insight into biodiversity conservation. Secondly, data for these indicators is frequently not collected, and it is often the case that baseline and current values can only be estimated. Wildlife counts in particular are conducted at irregular intervals, so there are no up-to-date figures for the key species mentioned in the indicators.

Ecological impacts are often not comparable because the chosen indicators are not standardised. In some cases, the assignment of indicators within the intervention logic of the projects differs substantially. For example, the same indicators are assigned as OIs in some projects and at the impact level in others. In other cases, indicators have been selected that are not specific, measurable, accepted, realistic or time-bound (SMART), making them unusable for project monitoring (D797).

As mentioned above, an exception to this is forest loss as an indicator. This can be effectively measured using geospatial data and new technologies such as drones. Some projects are already using these tools for monitoring (see Box 3), but they are not yet widely available. At the same time, interpreting forest loss or the development of the forest loss rate in relation to biodiversity conservation is not without controversy, as it only indirectly reflects biodiversity rather than directly measuring it. Nevertheless, forest loss cannot be used as an indicator in all PAs, as the BMZ also supports biodiversity conservation in other ecosystems. Furthermore, PAs in non-forested areas are particularly threatened by anthropogenic stressors (see Geldmann et al., 2019).

47 The predominant use of the "forest loss" indicator is also reflected in various evidence gap maps (EGMs) from the International Initiative for Impact Evaluation 3ie. An EGM is a visual representation of the collection of (rigorous) evidence on a specific topic, sector or programme, and it provides an overview of the existing evidence on a particular issue (DEval, 2024). With regard to biodiversity, the Africa EGM, structured around the SDGs, shows that there is little evidence for SDG 15 and no evidence for SDG 14 (3ie, 2019). Contributions related to SDG 15 focus on forest cover, which is also reflected in the EGMs for Forest Conservation and Land Use Change and Forestry, where PAs are listed as an intervention type (3ie, 2016a, 2016b).

Box 3 Additional context: Monitoring biodiversity conservation

The use of geospatial data holds great potential for DC in the environmental sector in the future. Satellite-based forest cover monitoring, as an easily accessible and reliable data source, is now also being used by the implementing organisations (Wong et al., 2022). DEval has also increasingly worked with geospatial data in recent years (BenYishay et al., 2023; Lech et al., 2017; Nawrotzki, 2019).

GPS data is used during patrols in PAs, and the use of the Spatial Monitoring and Reporting Tool is also supported by German DC. Geospatial data is also applied in land-use planning. Some responsible institutions also have capacity for geospatial data analysis. This demonstrates the strong applicability of geospatial data both at the micro-level of PAs and on a larger scale. Increasing the use of this data would be an effective way to enhance the efficiency and effectiveness of monitoring, especially when field data collection is not possible.

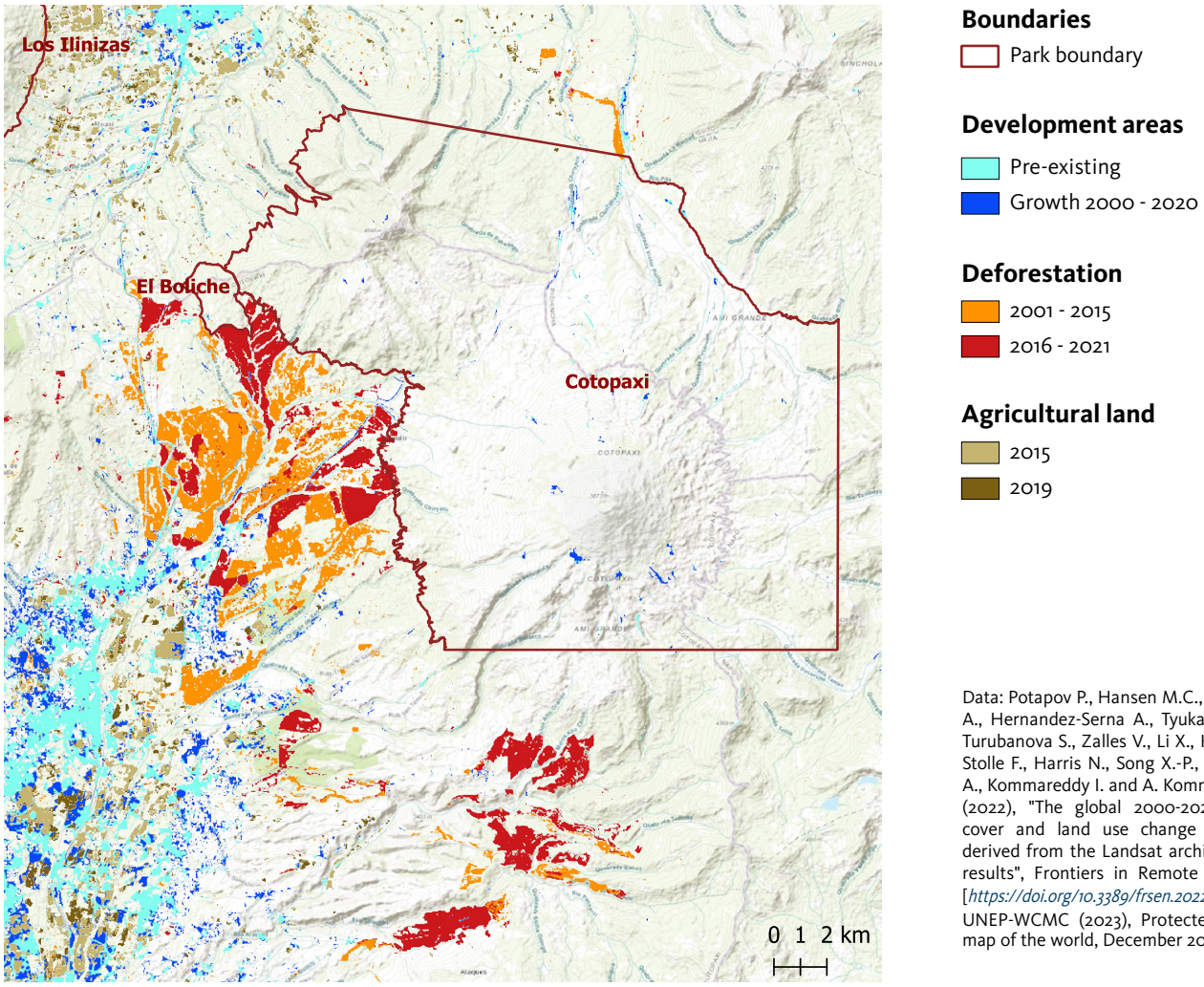
At present, forest cover is primarily measured using remote sensing, but there are also more advanced methods that have been developed in recent years (see Cavender-Bares et al., 2022). It is now possible, for example, to measure vegetation biodiversity using remote sensing, and there have been advances in satellite-based animal tracking. Moreover, geospatial data can be used for risk prevention and management, such as in the case of natural disasters or to identify drivers of degradation.

Two further technology-based options for biodiversity monitoring, which were not fully developed during the study period, are bioacoustics and environmental DNA (eDNA). Bioacoustics involves recording animal sounds, which are then analysed by experts or artificial intelligence. This allows for the identification of species living in the PA (Müller et al., 2023; Wrege et al., 2017). eDNA refers to DNA traces found in the environment. Samples from bodies of water or carnivore scat are collected and analysed in the laboratory. The DNA provides insights into the plant and animal species living in the area (Nørgaard et al., 2021; Thomsen and Willerslev, 2015). However, laboratory analyses are often not possible in the partner country and exporting the samples is complicated by the Nagoya Protocol on access to genetic resources.

All of the methods outlined here are cost-effective but require specialist knowledge and technology. They can be used when field data collection is possible only to a limited extent or in order to validate observations. Furthermore, monitoring with geospatial data, bioacoustics and eDNA is less disruptive and invasive to animals compared to, for instance, conducting animal counts during patrols.

In this evaluation, geospatial data was used descriptively to illustrate the various threats to PAs. Deforestation and the subsequent conversion of areas into agricultural land or settlement are well captured through remote sensing data. The map of Cotopaxi National Park in Ecuador clearly demonstrates the protective effect of PAs (see Figure 10). On the one hand, the forest plantation on the south-western edge of the PA (red and orange areas) is clearly visible, extending up to the park boundary. At the bottom left of the image is the town of Mulaló (blue areas). Agricultural land is found only in small patches in the north-west of the park and south-west of the forest plantation (brown areas). Additional examples are provided in the online annex.

Figure 10 Geodata analysis of the Cotopaxi National Park in Ecuador



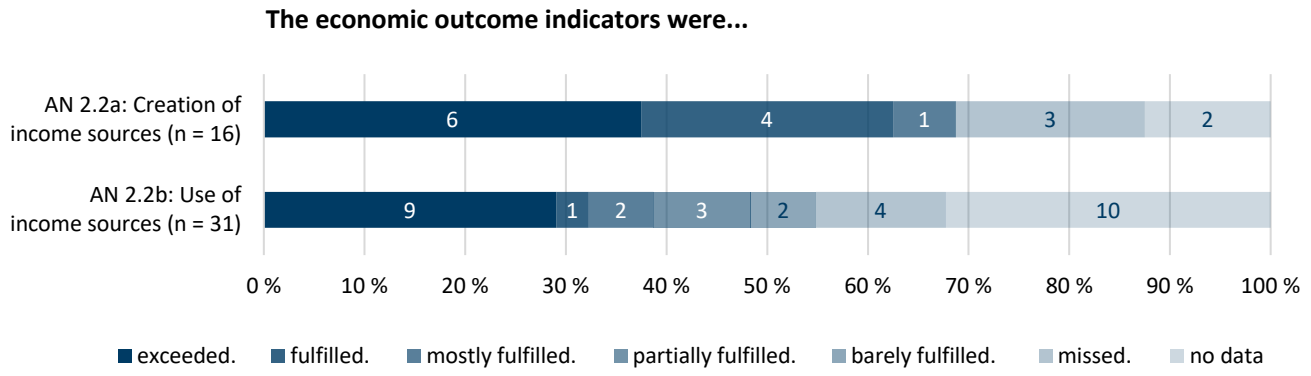
Data: Potapov P., Hansen M.C., Pickens A., Hernandez-Serna A., Tyukavina A., Turubanova S., Zalles V., Li X., Khan A., Stolle F., Harris N., Song X.-P., Baggett A., Kommareddy I. and A. Kommareddy (2022), "The global 2000-2020 land cover and land use change dataset derived from the Landsat archive: first results", Frontiers in Remote Sensing [*https://doi.org/10.3389/frsen.2022.856903*] UNEP-WCMC (2023), Protected areas map of the world, December 2023.

Source: DEval, own visualisation

Socio-economic effects

The socio-economic effects at the outcome level were assessed based on two assessment criteria. Analogously to the ecological effects, the level of goal achievement for the socio-economic OIs was determined using the project documents available to the team. A total of 47 OIs were assigned to this area, with data available for 35 of them. Of these, 15 OIs were exceeded, 5 were fulfilled, 3 were mostly fulfilled, 3 were partially fulfilled, 2 were barely fulfilled, and 7 were missed. As shown in Figure 11, the achievement of goals varies significantly between the two assessment criteria. While around 60% of the OIs for AC 2.2a were fulfilled or exceeded, it is noticeable that no data is available for the largest category of OIs under AC 2.2b. This aligns with the observation that the monitoring of ecological effects is insufficient. While activities to create income alternatives are being carried out, their effects are not adequately monitored. The qualitative data reveals that the level of engagement and success of socio-economic project components vary greatly depending on the context.

Figure 11 Achievement of the economic outcome indicators



Source: DEval, own visualisation

The majority[48] of projects in all the countries studied incorporate socio-economic objectives into their projects (AC 2.2a), but there is also a significant proportion of projects that primarily or exclusively focus on ecological objectives. This is especially the case in Ecuador, Madagascar and Cameroon, and to a lesser extent in Indonesia and the DRC (I2, I38, I49, I93, D80, D1185, I6, D1174, D1594, D1592, I24, D610, I43, I16, I82, I100). Some of the project documents mention improving the socio-economic situation of local communities as an indirect objective. In some projects, the hypothesis was put forward that improved biodiversity would lead to more tourism and increased income sources for local communities (D647, D1237, D1316, D1358, D1359). In certain projects, the improvement of the socio-economic situation in local communities is addressed by advising partner governments and organisations on national or PA-specific development plans (D1595, D444). Other projects, particularly in the field of FC, invest in infrastructure for the public good (such as the construction of schools, hospitals, and transport infrastructure) around PAs to generate spill-over effects (D1587, D1236, D1237, D365, D363, D282, D296, D1103, D1162, I32, I51, I81, I77). A sequential approach is occasionally used. In these cases, subsequent phases of the projects focus solely on improving the living conditions of local communities, while earlier phases were dedicated exclusively to biodiversity conservation (D784).

The income-generating interventions of the projects that pursue dual objectives can be classified into seven types. These are (listed in order of frequency): 1) promotion of tourism, 2) training in the production, processing and sale of agricultural products and non-timber forest products (NTFPs), 3) employment of local staff in PAs, some of which are co-managed (see Section 5.1), 4) allocation and registration of land use rights or the joint development of land use plans and regulations, 5) concessions for local communities, 6) payments for ecosystem services, and 7) loans for micro-projects and support for small businesses.

Many projects focus on strengthening tourism in PAs, although tourism potential is not always present. In Namibia, Ecuador, Indonesia, Cameroon and Tanzania, there are examples where the significant tourism potential of PAs is being utilised well, and lost income (such as from human-wildlife conflicts) is partially offset by revenue from tourism. These revenues stem either directly from entrance fees or the sale of hunting licences, or are partially generated through services (tour guides, transport, hospitality) or from selling local products to tourists (D1501, D638, D1596, D1105, D595, D1120, D1105, I116, I126, D80, I60, I35, I166). Nevertheless, it is evident in these countries, particularly in Madagascar and Cameroon, that the tourism potential of PAs

48 Around two-thirds of the data entries for this assessment criterion are rated as mostly fulfilled or fulfilled. Furthermore, 56 out of 75 projects in the country sample include at least one socio-economic OI. Projects with exclusively ecological objectives are mostly from the earlier part of the study period.

is overestimated, and they are unable to generate sufficient revenue (D1199, D610, I48, I49, I44, I103). This is partly due to a lack of attractiveness for follow-up investments (I126), but also because of insufficient infrastructure around the PAs as well as their remoteness (I140, I71, D1501). There are also varying initial conditions in the partner countries that limit the potential for tourism. Another key question is who ultimately benefits from tourism – the local population or (inter)national elites (I116, I98, Snyman et al., 2023; Zhu et al., 2021; Nepal, 1997).

Focusing on the tourism sector increases economic vulnerability and reduces the reliability of income for local communities. This became particularly evident during the COVID-19 pandemic, when tourism – and thus income from the sector – completely collapsed for the local communities. This was especially pronounced in Madagascar, Cameroon, Tanzania, Namibia and Ecuador (D608, D610, D363, D356, D296, I53, D1501, D638, D639, D948, D647, D649, I71, D1236). The sector did not recover during the evaluation period. In Namibia, salaries for tourism positions were partially funded by German DC during the COVID-19 pandemic to ensure these positions could be maintained for the future (D1162, D1105, D1236). While the COVID-19 pandemic was a crisis of exceptional global scale, it highlighted the tourism sector's significant vulnerability to crises.

Other crises also have a negative effect on the tourism sector. In Indonesia, for example, income from tourism collapsed due to earthquakes (I140, I144). This underscores the need to diversify income-generating activities to ensure they have a sustainable and lasting impact: the instability of (alternative) income sources negatively affects the local communities' sense of ownership of PAs and potentially weakens the sustainability of biodiversity conservation (see AC 6.3 on sustainability).

Another common strategy used by the projects to create alternative income is supporting the communities in the sustainable cultivation of alternative grains and crops, or in the production of other agricultural and agroforestry products. This includes providing seeds and seedlings, offering training on crop cultivation and management, or funding equipment for land cultivation. The agricultural products are varied and tailored to the climatic conditions of the respective country contexts. Examples include coffee, cocoa, grains, pulses, quinoa, maize, cashew nuts, yams and cassava. The production of honey, milk, alpaca wool, and meat, as well as the cultivation of devil's claw, rubber and moringa trees, and the breeding of orchids, is also supported. Training modules on NTFPs (such as Brazil nut management) are offered in Brazil. In maritime areas of Madagascar, seaweed farming is also supported (D609, D612, D1181, D1185). In densely forested PAs in Brazil, Indonesia, Namibia, Ecuador and Cameroon, training and awareness-raising measures are partially carried out as part of the projects to promote sustainable forest management in the buffer zones. The strengthening of existing value chains is also a key objective (I123, D636, D428, D1359, I70, D1216, D1501, D647, D638, I53, D635, D1120).

In most of the countries studied, mechanisms have been put in place to ensure that local communities receive direct or indirect payments from the PA management or project budget. On the one hand, this is achieved through shares of the PA's revenue (entrance fees, donations, benefit-sharing agreements) (I22, D635, D639, D1374, D4). On the other hand, members of communities, particularly in co-managed areas (see Chapter 5) in Namibia, Madagascar, Vietnam, Tanzania and Cameroon, are employed directly by the PA management or paid for wildlife protection patrols (D649, I116, I17, I78, D792, D797). In doing so, the projects make use of the local community's knowledge of the PA (I66, I43). In Tanzania, Village Game Scouts are trained and then recruited for the state ranger training (I138). Income is generated through the awarding of concessions for the use of the PAs.

In seven of the nine countries studied, projects address the income situation of the local communities. This includes involving them in the creation of development plans or formalising land rights in cooperation with partner governments. In Namibia, the DRC, Tanzania and Madagascar, local communities are granted land use rights for buffer zones, where agricultural activity can continue (D638, D610, D153, I116, D613). In Indonesia, these rights are limited to traditional-use zones (I141). However, not all of these development plans are implemented accordingly in all cases. (D786). In Indonesia, Brazil, Vietnam and the DRC, the projects work with partner governments to formalise existing land rights, thereby legalising and supporting the agricultural activities of the local communities (D576, 1593, I123, D1603, D484, D1436, D1578).

In Indonesia, Cameroon, Vietnam, Tanzania and Namibia, the projects promote micro-entrepreneurship through various activities. The focus here, for example, is on granting microloans either directly from the project budget or via village development funds (I593, I591, I88, D582). In some cases, training is also offered on business plan creation, marketing and product quality enhancement to assist micro-entrepreneurs (D1101, D591, I137). In one project, no loans were granted as the business ideas suggested by the target group were assessed as having little potential (D1457).

In Indonesia, Vietnam and Tanzania, some projects adopt the approach of paying local communities for ecosystem services. For example, the local population receives payments for rehabilitating previously agricultural land, planting a living border for the PA, or implementing greenhouse gas storage measures (D781, D405, D78, I149, D578, cf. Box 5). In some projects, financial mechanisms (such as green deposits and village development funds) are used to link socio-economic activities with compliance monitoring in the ecological field (D587, D791). In Tanzania, one project supports a community in generating income through carbon credit activities (I153).

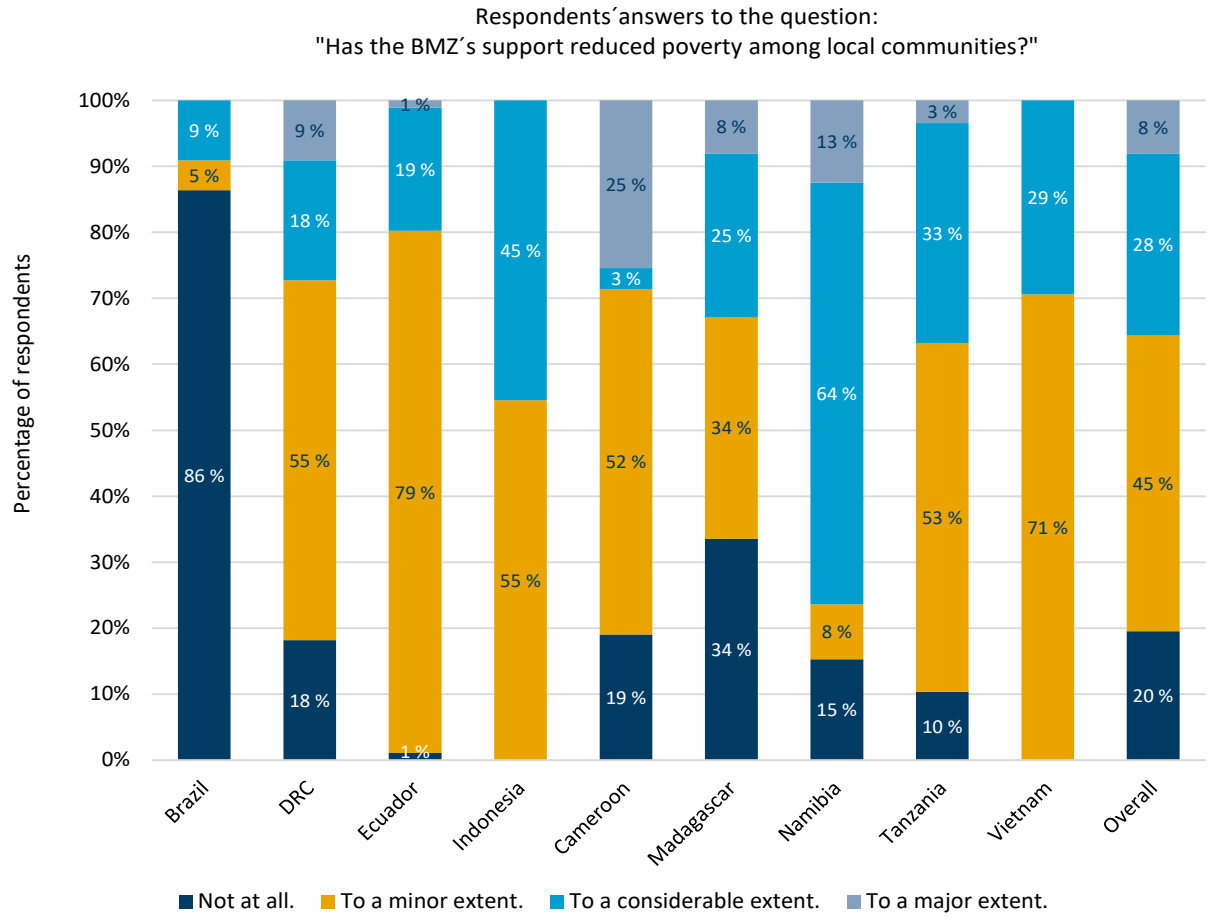
The creation of alternative income opportunities outside tourism has led to short-term income increases for the local communities in some projects (AC 2.2b). Projects in Vietnam, Indonesia, Namibia, Madagascar, Cameroon and Ecuador have contributed to raising incomes for local communities in the short term (D791, I137, I142, I151, I123, D1501, I12, D1176, D1216, I47, I75, I42, I95, I77, I86, D365). In a project in Vietnam, more than 50% of households participating in village development funds reported higher incomes (D791). In Indonesia, with the support of a project, a local coffee variety was officially registered, greatly improving market access for the community. Coffee farmers also reported successes in scaling up their production with the help of DC (I144, D567). In Cameroon, a project achieved notable success in the cultivation and sale of moringa leaves, as this type of activity closely follows the traditional land management practices and offers high profit margins. The cultivation of moringa leaves led to higher incomes, especially for women in Cameroon (I18, I36). The income of most participants also increased by more than 20% (D365) as a result of promoting 207 micro-projects in one project. In Ecuador, women saw positive income effects through the sale of high-value products such as vanilla, crab meat and frankincense (D909). The use of commiphora, a form of myrrh, secured the income of members in five PA in Namibia (D1103). In Brazil, over ten years, the legal wood volume increased by 582% and sales grew by more than 1,000%, along with the creation of 1,053 direct jobs (D1359). The establishment of ABS mechanisms led to success in Vietnam and Namibia in legally regulating access to – and use of – genetic resources, as well as ensuring fair profit-sharing from these resources (D781, D1596). In Indonesia, improved access to seedlings enhanced the profitability of agriculture (I151).

There are concrete examples showing that the availability of sustainable income opportunities promotes the achievement of ecological objectives. For instance, there is evidence that the creation of these alternatives has led poachers to abandon their activities (I84); similarly, promoting beekeeping outside of PAs helps to reduce the wild harvesting of honey and the associated felling of individual trees and environmental destruction (I86, I148). In the DRC, a decline in illegal activities within PAs has been observed (D1589). In Indonesia, women are being trained in orchid cultivation, which reduces the cutting or collecting of orchids within PAs (I149, I140, I146).

In Madagascar, Indonesia, Tanzania and Namibia, direct collaboration with the private sector has led to increased incomes. Private investments in the tourism sector in Namibia and Tanzania, for example, helped scale up revenues. Similarly, both countries experienced successes in product marketing through synergies with the BMZ's develoPPP funding programme (D591, I146, D1105, D1408).

At the impact level, there have often been no – or only slight – income increases that can sustainably support the livelihoods of the local communities and reduce poverty in the long term (AC 3.1b). This is also reflected in the online survey, in which 65% of respondents in the countries studied stated that the support for PAs had little or no effect on poverty reduction (see Figure 12). Namibia is an exception, where 77% of respondents reported rather large to very large impacts. According to the qualitative content analysis, the main reasons for the limited impacts are 1) a lack of market access for agricultural products, NTFPs and agroforestry products, 2) local value chains that are too short, and 3) insufficient support for economic activities from the projects in the long term (I51, I50, D786, I141, I140, I92, I13, I1, I43, I56, I80, I49, D1174, D1501). These factors are explored further below.

Figure 12 **Results of the online survey on socio-economic impacts**



Source: DEval, own visualisation (2023, n = 76)

Communities face challenges in accessing regional, national and international markets, particularly with regard to the sale of agricultural products, NTFPs and agroforestry products. In most cases, product sales are limited to local or informal markets, where income generation opportunities are restricted. Revenue growth typically stagnates after initial increases or starts to decline. These issues regarding market access are common in the majority of the country case studies, affecting the sale of products such as alpaca wool, soap, mushrooms, rattan, oils, and palm sugar (I104, D259, D66, I84, I39, D371, D315, I135, I123, I142, I140, D636). Another factor hindering market access, especially in Indonesia, is the lack of business licenses and permits. Bureaucratic hurdles for entering international markets can also be prohibitively high (I122, I130). This significantly limits marketing opportunities and forces producers to sell their goods in informal, local markets. However, access to these markets is also partially restricted (I139, I123, I144). A lack of analysis of local market dynamics was occasionally mentioned in interviews as a contributing factor (I45), even though market studies are conducted. Additionally, in some cases, the quality of the products is too low to sell them beyond local markets (D259, D591).

Producers lack the necessary capacities to meet the qualitative and quantitative export requirements for (international) market access. This severely limits income potential, particularly when there is limited local and regional demand (I122). The sale of coffee and cinnamon in Indonesia stands as an exception, as a project supported the certification of these products, allowing them to be sold in Europe (I130). This was complemented by advice to the government on regulating cooperatives, which facilitated the certification process (I142).

The local community generates income primarily through the sale of raw products, with only a few on-site processing steps that add value to the goods. For example, the processing of cassava into cassava chips adds local value (D356, I123); however, most producers focus on selling raw products, some of which are processed abroad, because they often lack the knowledge and skills to refine products or because the necessary infrastructure is unavailable (D591). In one case, cocoa is sold for further processing in Singapore with the support of a DC project (I139). While the projects initiate value chains, the local population is unable to capitalise on the economic potential after harvest. As a result, the measures primarily strengthen subsistence economies, but monetary effects remain absent (D636).

One reason for the lack of leverage derived from the created income sources is the short-term nature of support for the development of new economic activities and value chains. On the one hand, local populations in Ecuador and Indonesia lack the financial resources and capacity to maintain production structures after funding ends (I180, D591) or to repair damage caused by environmental factors. For example, a community in Cameroon is unable to restore production equipment destroyed by termites without further support (I86). On the other hand, long-term shortages of fertilisers, storage facilities, essential infrastructure such as water pumps and tanks, or bank accounts for cooperatives are also of problematic nature (I62, I13, I18).

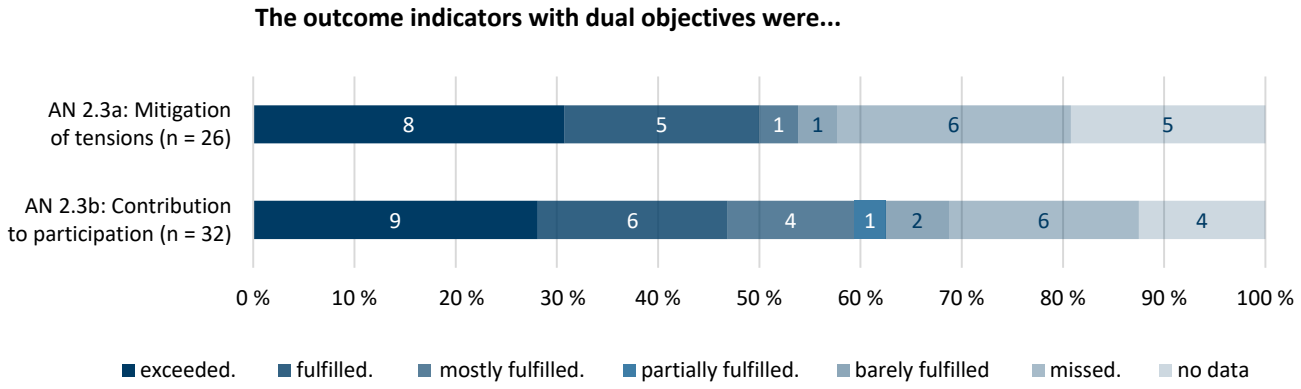
Various other factors influence the effectiveness of the interventions, but they tend to occur in a more isolated and context-specific manner. In one project, for example, chicks were provided for rearing, but a delay in the project meant they were only delivered during the rainy season, which rapidly led to their death (I1). The wet conditions in the rainy season cause diseases and parasites to spread among chicks, so they must be raised in as dry an environment as possible (Mungube et al., 2008). In another community, individuals from other areas were hired for PA management, which frustrated the local population (I62). In Namibia, a national timber trade moratorium was declared, which caused the market for timber from community forests to collapse (D636). At times, delays in project implementation due to the COVID-19 pandemic meant that only measures aimed at achieving ecological goals were carried out, while those designed to improve the livelihoods of the local population were not (D610, I19). In a fully self-managed PA, the local population suffered significant financial losses because the decline in tourism during the COVID-19 pandemic was not compensated for by other stakeholders (I105). The potential of payments for ecosystem services (PES) as an income source was somewhat overestimated, as there are too few paying users and payments to the population are made irregularly (D781, D405, I81, I78, I65).

It is often difficult to determine how much the projects contribute to poverty reduction because, as with the ecological impacts, no corresponding monitoring data is collected. Data availability in this area is particularly poor in Brazil, Indonesia, Cameroon, Ecuador and Vietnam (D1436, I137, I123, I144, D591, D576, D380, I66, I82, I49, D405). In some cases, inadequate indicators were chosen for monitoring (D1174, D82, D1501, D636). For instance, income was only measured in aggregate terms, and it later became clear that the achievement of targets was driven by a few specific PAs. Progress reports from implementing organisations and interviews also suggest that the socio-economic objectives were retrospectively rated as unrealistic and that the limitations of income potential were insufficiently considered or analysed (D786, I140, I50, D786, I140, D380). In some projects, it was not yet possible to assess the effects, as they only started towards the end of the evaluation period (I64, D315, D593, I123).

Tension between goals

The tension between ecological and socio-economic goals represents an important aspect of support for PAs and is particularly addressed in this evaluation across two assessment criteria. The data collected by the evaluation team confirms the difficulty of aligning both goals. Among other approaches, German DC addresses this tension through project components and OIs that pursue a dual objective rather than focusing solely on ecological or socio-economic goals. There are 58 OIs with dual objectives, 9 of which lacked complete data. In total, 17 OIs were exceeded, 11 were fulfilled, 5 were mostly fulfilled, 1 was partially fulfilled, 3 were barely fulfilled, and 12 were missed. The two assessment criteria showed little difference in this case, with both being fulfilled or exceeded in about half of the cases (cf. see Figure 13).

Figure 13 Achievement of the outcome indicators with dual objectives



Source: DEval, own visualisation

Interviews and project documents indicate that the tension between ecological and socio-economic goals can only be mitigated to a marginal extent, if at all (AC 2.3a). The unsustainable use of resources persists. Typical examples include land use conflicts, which occur in almost all the countries studied, or disputes over access to water for different neighbouring communities (I116, D1103, I9). A continued high dependency on natural resources, especially in Cameroon and Tanzania, is reflected in the ongoing issue of poaching.[49] National policies in partner countries can also exacerbate this tension. In six out of nine case study countries, environmental laws are inadequately enforced or there are too few incentives for sustainable resource use.

Interviews and project documents highlight the expectation that increasing population pressure and the ongoing climate crisis will further exacerbate the tension. Water scarcity is becoming more prevalent, putting stress on both the population and wildlife, which can lead to conflicts (in Namibia, Tanzania and Cameroon). In Indonesia, Cameroon and Tanzania, migration from other regions to areas near PAs is causing tensions and increasing pressure on natural resources.

Human-wildlife conflicts, such as those between small-scale farmers and wildlife, highlight the tension between the objectives most clearly. These conflicts can be a direct result of the recovery of animal populations in PAs, and thus represent an unintended effect of DC. Elephants in particular can cause significant damage to agricultural land in buffer zones and the surrounding areas of PAs, with local communities expressing a desire for this factor to be more thoroughly considered in project planning (see Box 4 and Section 4.1.2).

German DC addresses the tension and attempts to engage with these issues in various ways. One approach is to reduce pressure on PAs by providing alternative income opportunities, as described above. By fostering greater acceptance of PAs among local communities, conflicts were reduced during the evaluation period (I17, I135). Acceptance therefore plays a key role in support for PAs. Involving the local population in PA management is particularly crucial, as explained under AC 2.3b.

While participation takes place in all the countries studied, the effect of participation on mitigating the tension (AC 2.3b) could not be conclusively established. The data does not show the extent to which tensions have been reduced through participatory practices. However, patterns and challenges in implementing such practices can be observed, as discussed in Chapter 5. One example of participatory practices aimed at mitigating the tension is the joint development of PA management plans or consultations on these plans (Vietnam, Indonesia, Namibia, Cameroon, Madagascar, Ecuador, Brazil and Tanzania). Another approach is the establishment of management committees or PA advisory boards, in which

49 Poaching can occur for a variety of reasons. The evaluation assumes it is primarily a strategy for securing personal livelihoods (consumption of bushmeat, use of pelts, etc.); however, poaching also takes place on a commercial scale to meet the demand for bushmeat in urban centres. Furthermore, poaching serves as a source of internationally traded wildlife products such as ivory and pangolin.

rights-holders are represented. Furthermore, benefit-sharing mechanisms have been developed in Namibia, Cameroon, Vietnam and Tanzania (D776, I85, D1457, I100, D344, D292). PA types that allow for sustainable use of natural resources (such as *Reservas Extrativistas* in Brazil or Wildlife Management Areas in Tanzania) and simultaneously enable the participation of rights-holders may therefore demonstrate less tension compared to more restrictive PA types.

Box 4 Additional context: Conflicts between humans and wildlife

Human-wildlife conflicts present a major challenge to peaceful coexistence between people and animals in PA and their surrounding areas, especially on the African continent. This parallels the current debate over the tension between nature conservation and agriculture in the context of wolves returning to Germany (I122, I138). Human-wildlife conflicts can have three potential negative consequences: 1) the destruction of crops or livestock, undermining the livelihoods of local communities, 2) (sometimes fatal) injuries, and 3) a decline in local acceptance of PAs.

The projects supporting PAs carry out various activities to prevent human-wildlife conflicts, such as using chilli to repel elephants (D1237). There is also the question of whether and how the community is compensated for damage in the villages. Compensation payments are a popular method but can only be made once complaints about human-wildlife conflicts have been recorded by the PA management (see Section 4.2.2). Ultimately, it is important to find a context-specific combination of methods for prevention, adaptation and compensation in relation to human-wildlife conflicts. In Tanzania, a project was set up that primarily addresses human-wildlife conflicts. In Namibia, the community-based natural resource management (CBNRM) module has implemented a variety of measures in this regard.

Unintended effects

Unintended positive and negative effects of DC projects were observed in the case study countries (AC 3.2a). While these unintended effects can be directly attributed to the activities of DC projects, they were not foreseen during the design phase. Positive unintended effects may increase or enhance project successes, whereas negative unintended effects should be mitigated to the greatest extent possible in accordance with the do-no-harm principle. To this end, projects conduct environmental and social impact assessments, human rights and conflict analyses, as well as other risk assessments, and use these to identify mitigation measures for project implementation. However, not all unintended effects are anticipated or predicted by these analyses.

In the partner countries studied, positive unintended effects were mainly observed in terms of enhancing the capacity and independence of women (cf. Chapter 5). In a project in Brazil, for example, activities aimed at strengthening the PA system could not be carried out due to the political situation and the COVID-19 pandemic. Instead, the funds were used for an online course to support film-makers in producing educational videos about Indigenous territories across five biomes. 40% of the videos were filmed and produced by Indigenous women. These female film-makers also specifically addressed the rights and equality of women in Indigenous communities. In another case, women in Cameroon became financially independent through increased income, allowing them to leave abusive relationships. Additional unintended positive side effects were seen in the increased attractiveness of PAs as places of employment, which positively influenced the recruitment of qualified staff and their motivation (I1, I36, D1501, D1422).

Unintended negative effects span across various aspects of support for PAs. Improvements to infrastructure, for example, have sometimes proven to be ineffective or even counterproductive. The construction of two sales centres for traditional handicrafts led to a loss of income for the sellers. In one case, the uniformity of the sales areas and stall furniture failed to attract the interest of tourists. Furthermore, the relocation of the stalls to a new sales centre meant the goods were no longer visible to tourists from the outside (I80). There are also unintended effects that only affect women or Indigenous groups in the areas surrounding PAs, which are further explored in Chapter 5.

As suggested in Section 4.2.2 an increased reliance on a single source of income, such as tourism, can lead to a deterioration in living conditions due to crises (I55, I75). While other value chains may improve the socio-economic situation of local communities, they can have a negative effect on the environment.

There are also indications that DC projects contribute to – or even exacerbate – tensions between population groups. This was the case in the DRC and Indonesia, for example, when not all rights-holders were involved in the planning of the projects, leading some groups to feel disadvantaged over others (D527, D576). Interviewees also pointed out that Indigenous populations may lose their habitats, traditional sources of income and culture as a result of the support for PAs (I101, I33, I95). In other cases, the recruitment of national staff led to a brain drain, with well-trained individuals leaving governmental positions to join DC organisations (D1103, I25). Tensions between PA staff and local communities, as well as misconduct by rangers, were also reported (I43, I44, I9, I7, D380, I115, I107).

Some unintended effects can be traced back to the choice of partners (or partner organisations). For example, cooperation with traditional authorities may promote or, at the very least, implicitly legitimise patriarchal structures. However, DC can also cause harm by attempting to change the long-established social fabric. In this context, it may seem sensible to involve traditional authorities in achieving the project's actual goal – especially if the national government holds little legitimacy with the target group (see Chapter 5).

Complaints mechanisms

Complaints mechanisms are a key pillar of the HRBA in international DC (BMZ, 2011, 2023a; Polak et al., 2021, 2022). They play an important role in responding to unintended effects, problems and conflicts arising from or linked to DC projects. In the context of support for PAs, they can enable rights-holders to report incidents to the implementing organisations, the PA management or other (national) authorities that negatively affect them. This notably includes human-wildlife conflicts and other negative effects discussed in the previous section. They also serve as an important complement to participatory processes (cf. Chapter 5).

Complaints mechanisms allow responsible parties to identify unintended negative effects and take steps to prevent them in the future, or to provide fair compensation. However, they can only fulfil this accountability function if they are accessible, independent and transparent. To ensure accessibility for all rights-holders, they should be available through various communication channels and tailored to local conditions (access to the internet, telephone networks, etc.). They should also consider vulnerabilities such as disabilities, gender, and illiteracy. Moreover, it is essential that those submitting complaints understand how to use these mechanisms and how complaints will be processed. Independent handling of complaints is crucial to minimise any bias from the responsible authorities, which is why complaints mechanisms should be anonymous (Müller-Hoff, 2023). A complaints mechanism only works if incoming complaints are addressed and responded to promptly with appropriate actions. This process must also be communicated to the rights-holders. Whether a complaints mechanism is part of a DC project, a central complaints mechanism of the implementing organisation, or handled by national authorities in the partner country is of secondary importance as long as the above requirements are met. The country case studies therefore examined the extent to which complaints are submitted through complaints mechanisms in the context of support for PAs and whether these complaints are processed and decisions communicated to the rights-holders.

In four of the nine countries studied, there are no formal complaints mechanisms in some projects (AC 3.2b) (I102, I145, I130, I82, I5, I49). Where mechanisms are in place, they are sometimes complaints mechanisms operated by the involved NGOs (Tanzania). In Namibia, Indonesia and Tanzania, there are also national complaints bodies referred to in the project documents and interviews.[50] Some projects mention the existence of a complaints mechanism but fail to provide details on how it is structured (I82, D315, D296, I40, I85). In seven of the nine case study countries, projects recognise the role of a

50 Complaints mechanisms operated by implementing NGOs and national institutions have the advantage of being available beyond the duration of the projects. This makes it possible to report long-term problems or unintended effects. In addition to the complaints mechanisms of the projects themselves and the complaints bodies of the responsible institutions or authorities in the partner country, GIZ and KfW have their own central complaints mechanisms. However, these are not mentioned in the data available for this evaluation.

complaints mechanism and plan to implement one in the future (I126, I115, D786, D790, D521, D1578, I44, I6, I87, D613, D612, D1185, D578, I105, D1408).

In countries where complaints mechanisms have been established, the qualitative content analysis reveals that they are often not sufficiently institutionalised. This has consequences for their accessibility and transparency. In some cases, accessibility is also hindered by the chosen forms of communication if these do not take local conditions into account. One community, for example, had no telephone network to communicate their complaints via the established complaints hotline (I45).

Complaints from rights-holders are generally communicated through personal contacts. In these cases, PA staff, committees, advisory boards or community contacts receive complaints from local communities through face-to-face conversations. This approach makes it harder particularly for vulnerable groups, or those who do not know these contacts, to access the system. It also does not guarantee the anonymity of the complainants. In Indonesia and Cameroon, rights-holders reported not knowing who to approach with their complaints (I49, I95, I21).

It was also clear, especially in Cameroon but also in three other countries, that rights-holders do not receive an appropriate response to their complaints. Either no action is taken to address the complaints, or the actions that are taken are not communicated (I107, I13, I86, I62, I41, I37, I95, I21, I7, I9, I80). Rights-holders in Namibia reported that they would approach the rangers directly with their complaints, as they had no other point of contact. However, according to the rights-holders, the rangers are usually absent due to their other responsibilities or lack the capacity to follow up on the complaints (D794). In cases where the rangers themselves are the cause of the complaint and are also the only point of contact, rights-holders ultimately have no place to turn. This highlights the importance of independent complaints bodies that are accessible to the rights-holders.

4.2.3 Summary and (partial) rating

AC 2.1a is mostly fulfilled. DC improved the equipment and infrastructure of individual PAs, although the full extent of the need could not be met. The frequency of patrols was increased, and training sessions were held to enhance the capacities of PA staff. However, the staff are often underpaid, leading to low motivation and staffing shortages.

AC 2.1b is mostly fulfilled. Successes were also achieved at the PA system level in terms of capacity building. Moreover, the German DC contributes to improving the legal framework in partner countries and establishes land-use planning as a tool for mitigating conflicts, for example. Nevertheless, risks such as corruption and lack of accountability continue to hinder the effectiveness of national PA systems, and insufficient funding in particular remains a significant barrier.

AC 2.1c is partially fulfilled. The achievement of ecological module goals is highly context-dependent. More specifically, the deforestation rate varies significantly between the countries studied. However, the animal population was maintained in most cases. A key issue here is the low availability of monitoring data.

AC 2.2a is mostly fulfilled. The projects include a variety of interventions aimed at creating alternative income sources. Very often, these involve ecotourism and value chains for agricultural products and NTFPs. Savings models or PES are also sometimes used. Socio-economic infrastructure, such as schools and hospitals, is also being developed. However, some interventions do not align with the expectations of the local population, or the projects lack the contextual knowledge to implement them effectively.

AC 2.2b is mostly fulfilled. Local communities embrace the opportunities for alternative income sources but often struggle to increase their earnings. Nevertheless, their unsustainable dependence on natural resources is reduced, and income sources are diversified. In some cases, communities face challenges due to limited market access. Monitoring issues are also reported.

AC 2.3a is mostly fulfilled. Almost all projects encounter conflicts arising from the tension between ecological and socio-economic goals. The most common issues include land-use conflicts and human-wildlife conflicts. DC acknowledges this tension and tries to mitigate it, though only limited success has been achieved. It is expected that this tension will be further exacerbated in the future.

AC 2.3b is exploratory in nature and is therefore not rated. The evaluation found that participatory methods are used in all the countries studied. Classic forms of participation include management forums and PA committees, community-defined use zones and plans, as well as meetings with rights-holders.

The OIs are fulfilled in the median. There is also a strong focus on ecological outcomes, with a clear majority of OIs being assigned to this area.

Overall, the effectiveness criterion is rated as mostly fulfilled when all assessment criteria are aggregated.

Figure 14 Aggregated rating of effectiveness

The effectiveness criterion is...

			X		
missed.	barely fulfilled.	partially fulfilled.	mostly fulfilled.	fulfilled.	exceeded.

Source: DEval, own visualisation

The impact criterion is not rated. The findings on effectiveness regarding both ecological and socio-economic effects are confirmed in the data. Evidence suggests that, without the support of German DC, the situation on the ecological level in and around the PAs would be much worse. In this respect, the evaluation credits the support for PAs with a passive impact in terms of stabilising biodiversity. It also appears that the aspect of connectivity between PAs has not yet been implemented in the projects. While it is considered, no impact has been identified beyond stated intentions and pilot projects. In terms of socio-economic effects, although short-term income increases for local communities have been achieved at the outcome level, long-term livelihood security and poverty reduction have not been achieved in most cases.

The lack of monitoring data at the outcome level makes it difficult to determine the broader impacts, or in some cases, renders it impossible. Positive and negative unintended effects continue to occur, including tensions between population groups, unforeseen dependencies and, in some cases, human rights violations by PA staff. The projects aim to address these unintended effects through complaints mechanisms. However, these mechanisms are not comprehensively implemented, and those affected often have no means to officially report issues.

4.3 Coherence

The coherence criterion rates both internal and external coordination and alignment of the support for PAs. Internal coherence refers to the coherence within German DC, while external coherence refers to coordination between German DC and other stakeholders, such as partner country institutions or other donors.

4.3.1 Evaluation questions and assessment criteria

The coherence of the BMZ's support for PAs was assessed based on the following evaluation question:

EQ 4: To what extent is the support for PAs coherent within German DC?

- **EQ 4.1:** To what extent is the support for PAs within German DC designed and implemented in a complementary and cooperative way?
- **EQ 4.2:** To what extent does the BMZ's support for PAs complement and assist the efforts of the involved (DC) partners and local communities?
- **EQ 4.3:** To what extent is the BMZ's support for PAs designed and implemented in a complementary and cooperative way with regard to other donors and agencies?

The assessment criteria for the evaluation question are listed in Table 4. Information gathered from the project documents and interviews was used to answer the questions. The complete evaluation matrix, including the assessment criteria and indicators, can be found in annex 8.2.

Table 4 Assessment criteria: Coherence

Assessment criterion (AC)	Content
AC 4.1a	The strategies and projects of German DC support for PAs complement each other logically.
AC 4.1b	The operational implementation of projects from German implementing organisations, including participatory elements, is carried out with systematic coordination.
AC 4.1c	The support for PAs is coherent with other activities and objectives of the country portfolios.
AC 4.2a	The planning and implementation of the support for PAs are regularly coordinated with partners and documented accordingly.
AC 4.2b	The support for PAs builds plausibly on existing approaches and structures in the partner countries.
AC 4.3	The planning and implementation of the BMZ's support for PAs are aligned with other donors and agencies.

Source: DEval, own visualisation

4.3.2 Results and rating

Internal coherence: Strategic integration of FC and TC and operational coordination of implementing organisations

At the strategic level and in project planning, the country case studies reveal a fundamentally strong coordination between FC and TC. In some cases, projects build on each other, while in other cases, the exchange is limited to the organisation itself or to coordination within either TC or FC, as seen in Madagascar, Namibia, and Indonesia. The division of tasks within DC is maintained and, in most of the countries studied, supplemented by a regional division. This can be intentional and coordinated, yet there are indications that this is not the

case in some projects (I12, I15, I24, I122). In certain countries, for example, there are differences of opinion within German DC regarding both its content and the distribution of roles between FC and TC (I98, I92, I28).

Global and regional projects[51] from the biodiversity sector are also incorporated into suitable bilateral projects, such as in the Southern African Development Community (SADC) (D776, I53, D1101, D315, D1316, I16).[52] In Brazil, Cameroon and Vietnam, some staff members are involved in multiple projects financed through different channels, thus ensuring the coherence of the projects (D436, D328, I17). In some cases, tasks are carried out by the other implementing organisation or their consultants. To maintain continuity, for example, TC experts were deployed in a FC project in Cameroon (D356, D365) and the infrastructure was maintained (D282).

In most of the countries studied, operational coordination and regular exchanges take place between the implementing organisations. Overlaps are mostly avoided, and projects either build on one another or involve joint activities. In Cameroon, for example, GIZ acts as the knowledge manager for the entire DC programme (D328). Examples of formalised coordination processes include joint reporting in Brazil (D484, D485) and joint annual planning in Cameroon (I44). Also in Cameroon, a joint working group was established on the initiative of the BMZ to create a formal framework for the coordination of GIZ, KfW, and the implementing NGOs and consultants, aiming to improve coordination (I92, I91, I82).

In four out of nine countries, however, there are overlaps between the interventions (D1374, D776, D1174, I25). In these cases, projects are not jointly managed during implementation, partly due to the lack of coordination of common objectives or the exclusion of some levels in communication. As a result, in particular the local level of the communities is often excluded (D786, D1589, I90, D1592, I5, I25, I110, D1174, D1594, I92). Although most projects are integrated into DC programmes, coordination at the operational level is rare, and the contribution of individual projects to the programme remains unclear.

Barriers to internal coherence partly stem from the processes within the implementing organisations. The different processes, timelines and responsibilities within the German implementing organisations led to delays in project implementation and uncertainties on the partner side in six out of nine countries. The division of labour in German DC sometimes causes confusion among the population. Socio-economic activities contribute to a positive reputation for the implementing organisations, while the PA management, associated with usage restrictions, has a less favourable image (I67, I79, I43). This limits the interventions' ability to put strategic synergies into practice.

In some countries, there were tensions during the study period regarding what was perceived as the best way to carry out activities, both within the implementing organisations and between the implementing partners. In Namibia, Ecuador, Cameroon, and Tanzania, for example, there was competition instead of coherence when GIZ and the FC implementing consultants carried out similar activities in the same region (I98, I115, I35, I43, I8, I126, I85). In the Lore Lindu PA region of Indonesia, on the other hand, the evaluation team found that both implementing organisations carried out nearly identical interventions (training and support for orchid cultivation) for the same target group (I149).

The joint evaluation of the implementing organisations regarding the cooperation between FC and TC also finds the same results. On the one hand, it confirms that cooperation between FC and TC is an important element of German DC and is highly valued by implementing organisation's staff. On the other hand, it notes that the cooperation is mostly informal and event-specific, with differing processes in particular causing difficulty. The synergy potential has, according to the evaluation, not yet been fully exploited, and there is competition for resources and visibility. Finally, the joint evaluation concludes that the differences between FC and TC are often unclear to the partners (GIZ and KfW, 2023).

51 Global and regional projects are not the focus of the evaluation but were mentioned in the data.

52 The SADC region is home to some of the largest cross-border PA complexes, which are also supported by German DC, such as the Kavango-Zambezi Transfrontier Conservation Area in Angola, Botswana, Namibia, Zambia and Zimbabwe.

Internal coherence: Integration into the BMZ's country portfolio

In two-thirds of the countries studied, the support for PAs is aligned with projects from other sectors. The PA portfolio is particularly connected to the sectors of agriculture/rural development, climate protection and good governance. Moreover, many projects in five of the nine country case studies are aligned with the BMZ's strategies. This means that the projects are assigned to one of the priority areas identified in the country or sector strategy (see Section 1.2.2) and contribute to the envisioned successes. As a positive example, a project in Brazil is incorporated into the BMZ sector concepts "Biological diversity" and "Cooperation with Indigenous peoples" and is part of the "Tropical forest" priority area identified in the country strategy.

Intersectoral cooperation is limited by a lack of resources in the implementing organisations and the BMZ (I94, I167, I98, I140, I126)**.** For example, divisions are inadequately staffed, or "Head of Cooperation" positions are vacant. In Indonesia, the implementing organisations fill this strategic gap with their own approaches (I140). There are some implementation issues regarding complementarity within the respective country portfolios. For example, a meeting was scheduled in Indonesia to adjust the programme and country strategy, but it did not take place. In Madagascar, there was also no cross-portfolio coordination due to the lack of necessary strategic tools. Ecuador and Namibia do not have an up-to-date country strategy. Furthermore, some documents only mention which other fields of action are addressed in the partner country, without going into further detail about the cooperation (I124, I126, I69, I94, D344).

External coherence: Coordination with the partner country

The projects are regularly coordinated with the partner governments and institutions. Broad coordination of the topics takes place during government negotiations and consultations (see also AC 1b). On an operational level, it usually occurs in the steering committees of the projects. In Brazil, the DRC, Madagascar, and Namibia, joint annual planning takes place. In five of the countries studied, the responsible partner organisations are also involved in setting the indicators and selecting the supported PAs. In the majority of partner countries, the responsible institutions have the final say on decisions, such as the allocation of funds from grants. For example, in the Amazon Fund, the Brazilian Development Bank decides which projects receive funding based on transparent criteria (I175). In Indonesia, Ecuador, Tanzania, and Namibia, the long-standing engagement of German DC is paying off, and strong relationships have been built with partners, primarily at the nation-state level.

Coordination with partners at different administrative levels and within the complex structures of the ministries is more challenging. Responsibilities in the partner countries often remain unclear, as many stakeholders are involved in the support for PAs. Examples of this include Namibia, Brazil, Vietnam, the DRC, Tanzania, and Indonesia. In Indonesia, it is also evident that while cooperation at central and local levels is well regarded, it is criticised at regional level for being insufficient. In the case of one PA, for example, the regional administrative unit (responsible for forest patrols, among other things) had not been systematically informed – even in long-term projects.

Coordination with partners is influenced by political changes in the partner country, such as shifting priorities of national and/or local/regional governments. This has been observed in Brazil, Tanzania, Indonesia, Namibia, Cameroon, and Madagascar. In one case in the DRC, a national park network was split back into its original individual PAs without the knowledge of the implementing organisations (D784, D786). This shows that the flow of information between the implementing organisations and the management of the supported PAs is insufficient in some cases. In these instances, the implementing NGOs or consultants play a central role as intermediaries between the target group and project managers.

Sometimes, however, the division of labour within German DC and lengthy administrative processes can affect the perception of German DC by the partner country. For instance, the separation of FC and TC is often not clear to stakeholders. In one partner country, stakeholders communicated their needs to the wrong implementing organisation, which was unable to address them. This puts a strain on the partnership

(I166). Moreover, coordination suffers from frequent staff changes and new points of contact at the partner organisations (Namibia, Cameroon, Indonesia, Ecuador, and Brazil).

For the involvement of the local communities, see Section 4.1.2 and Chapter 5.

External coherence: Building on existing structures

In almost all of the countries studied, German DC incorporates existing strategies and structures of the partner countries. In most cases, these include funds, incentive instruments or financial instruments, such as PES or results-based payments. Certain conservation approaches, like CBNRM in Namibia, have also been taken up, which allow for community-based use (D1101, D1103). Six out of nine partner countries also provide staff and facilities and/or contribute financially[53]. In addition, DC is adapted to the country's level of development. For example, FC in Indonesia now applies credit terms that are more aligned with the market and correspond to the country's status as a G20 member (D1599, I133). In one case, discrepancies between planning and the local reality were noted, and errors from previous projects were repeated (I75). German efforts are also limited by budget cuts at partner institutions and a lack of initiative from some partner governments, which, for example, are unwilling to share responsibility (see Section 4.5 on sustainability).

External coherence: Coordination with other donors

In the biodiversity sector, Germany is either the only donor or else one of the main contributors in seven out of nine countries. When other donors are active within the country, there are sometimes regular coordination meetings or even joint donor action. In some cases, other donors use the same approaches as German DC or operate in the same regions, while in other instances, different strategies are adopted.[54] In certain cases, the donors complement each other geographically to create corridors or as part of a landscape approach (D380, D1237, D1359, D1408, D1103). Coordination of donor contributions often takes place through donor groups like GNU (Germany – Norway – United Kingdom) or with other European Union (EU) donors within the Team Europe framework. In co-financed projects, a steering committee often exists with donor representatives. However, the majority of project documents across the nine countries studied only mention the activities of other donors without addressing synergies or coordination in detail. The coordination between the German federal ministries generally works well, but their collective external representation could be improved, for example through an increased involvement of other ministries in BMZ government negotiations (I5, I146, I129, I140). Some DC stakeholders on the donor side do not see the need for detailed coordination and, in some cases, even compete with each other (I134, I35, I75, D614, I132, I50). Furthermore, the lack of interest from partner governments in donor coordination poses a challenge.

A notable example of external coherence with other donors is the DC with Brazil. The coherence between the BMZ and BMUV is characterised by a strategic regional division (I108). The political situation during the study period was challenging, and DC responded to the changing circumstances after Jair Bolsonaro took office in 2019, initiating a shift in Brazilian environmental policy. The Brazilian partner ministries and subordinate authorities were affected by staffing and budget cuts. Moreover, legislative proposals were implemented that were diametrically opposed to biodiversity protection. This posed significant challenges for the DC work, and dialogue opportunities were sometimes unilaterally terminated by the partner government. The steering committee of the Amazon Fund, a flagship project in Brazil's environmental protection efforts, was dissolved. The two main donors, Norway and Germany, remained in close contact, negotiated together with the partner country, and closely coordinated their approach. Norway, in consultation with Germany, decided to halt further contributions to the fund. Even before the crisis, there was, for instance, a shared results matrix. A resumption of funding was made conditional by the donor community and took place in 2023, following the election of Lula da Silva. This example demonstrates that joint donor action can be successful in complex and contentious situations (D12, D1359, D484, D1387, D428, D433).

53 The contributions from partner countries are set out in the implementation agreements between the implementing organisations and the agencies in those countries. They represent a mandatory part of the agreements and were therefore not included in the rating.

54 Multilateral donors and projects were not part of the evaluation, but were mentioned as cooperation partners in some of the interviews and documents.

4.3.3 Summary and rating

AC 4.1a is mostly fulfilled. Overall, the projects supporting PAs are complementary and well-coordinated. Global and regional projects are also included in the coordination process. The division of tasks between FC and TC is generally implemented and, in some of the countries studied, supplemented by a regional division. In some cases, however, coordination is limited to the organisation itself or only takes place at the project level rather than at the programme level, leading to overlaps between interventions. Additionally, differing process flows hinder the simultaneous implementation of projects.

AC 4.1b is partially fulfilled. For the most part, the implementing organisations coordinate regularly and well. Many projects conduct joint activities. Nevertheless, overlaps still occur, and some stakeholders are not involved in the coordination processes. The differing responsibilities of the implementing organisations also lead to delays and confusion among the partners and target groups. In a few cases, tensions arise within the implementing organisations and with their implementing consultants as a result of competitive dynamics. This means not all anticipated synergies can be achieved.

AC 4.1c is partially fulfilled. The integration of support for PAs into the BMZ country portfolio takes place in most of the countries studied. This primarily results in synergies with the sectors of agriculture/rural development, climate protection and good governance. However, cross-sectoral collaboration is limited by a lack of staffing resources in the implementing organisations and the BMZ.

AC 4.2a is mostly fulfilled. The coordination of projects with partner organisations is generally in place. A strong relationship has been built over many years with the governments and other responsible authorities or partner organisations. Joint annual planning often takes place, and some partner governments are also involved in the selection of PA funded by DC. Political changes and complex administrative processes on both sides negatively affect the coordination with the partner country.

AC 4.2b is mostly fulfilled. In almost all the countries studied, German DC builds on existing approaches of the partner countries. These mainly include financing mechanisms, funds and protection concepts. The partner governments also make their own contributions in the form of premises, personnel and, in a few cases, financial resources. However, budget cuts and the lack of ownership shown by the partner governments pose challenges.

AC 4.3a is mostly fulfilled. Germany is one of the largest donors in the field of biodiversity support. Close coordination primarily takes place within the EU circle or the GNU donor group. Some countries also have donor groups specifically focused on biodiversity. However, there are differing concepts and priorities among the international donor community regarding the support for PAs. This makes it difficult to coordinate collaboratively when donor perspectives on project implementation differ. Coordination with the BMUV works well for the most part, but the German government does not yet have a unified external presence.

Overall, the coherence criterion is rated as mostly fulfilled when all assessment criteria are aggregated.

Figure 15 Aggregated rating of coherence

The effectiveness criterion is ...

			X		
missed.	barely fulfilled.	partially fulfilled.	mostly fulfilled.	fulfilled.	exceeded.

Source: DEval, own visualisation

4.4 Efficiency

From an efficiency perspective, this evaluation considers the extent to which the results of the support for PAs were achieved in a cost-effective manner, as well as whether the inputs for the support for PAs were appropriate. As outlined in Section 3.3, however, only limited conclusions can be drawn regarding these questions based on the available evidence. The following section summarises general observations on operational management, project durations, and administrative processes.

4.4.1 Evaluation questions and assessment criteria

The efficiency of the BMZ's support for PAs was assessed based on the following evaluation question:

EQ 5: To what extent are the inputs of the support for PAs in balance with the outcomes achieved?

- **EQ 5.1:** To what extent could the outcomes of the support for PAs have been achieved in other ways at a lower cost?

The assessment criteria for the evaluation questions are listed in Table 5. Information gathered from project documents and interviews was used to answer the questions. The complete evaluation matrix, including the assessment criteria and indicators, can be found in annex 8.2. Given the limited availability of data, the observations on the efficiency assessment criteria are considered collectively rather than individually in the following section.

Table 5 Assessment criteria: Efficiency

AC 5a	Outcomes are achieved within the time frame specified in the programme documents.
AC 5b	Complex processes, such as those to ensure participation, are specifically implemented where the (greatest) need has been identified.
AC 5.1a	The means chosen are the most cost-effective to achieve the desired effects.

Source: DEval, own visualisation

4.4.2 Results

Many of the investigated projects experienced delays, some of which were caused by external factors. Restrictions related to the COVID-19 pandemic caused delays in the implementation phase of many projects. While online formats were temporarily adopted, they were not a viable option for all target groups. There were also setbacks in cooperation as a result of changes of government in the partner countries (see AC 1b.1, AC 4.2a and 4.3a).

Internal factors also lead to delays. These include slow administrative processes during project implementation, particularly complex and time-consuming procurement and approval procedures. This affects both the processes in partner countries (such as tenders, tax exemptions and personnel procedures) and those of the implementing organisations (complex tenders, high administrative burden, etc.). Delays in infrastructure projects strain the relationship between PA management and the local communities (I115). The length of procurement and approval procedures leads to an increased administrative burden in some cases, which in turn creates additional costs. To avoid these challenges, some projects rely on NGOs for implementation and focus more on the local rather than the national level in the partner country.

There are also inefficiencies in some projects concerning the provision of infrastructure and equipment. One issue is the insufficient maintenance of infrastructure. In Namibia, only around half of the park management vehicles are operational due to a lack of proper maintenance (D1501). This and other examples point to governance and coordination issues (D380).

Overall, the spendings for the support for PAs are considered appropriate by the relevant stakeholders and are monitored by the implementing organisations. There are indications of approaches that could enable more cost-effective implementation. This includes greater involvement of the private sector, for example, through public-private partnerships in the tourism sector (I98, I100, I25, I8, I93, I102). Furthermore, results-based payments are a way to ensure compliance with agreements. Better financial management and increased transparency regarding the use of funds would be other appropriate measures, particularly in terms of project budget planning, the lack of cost-benefit analyses, the high pressure to disburse funds and the lack of transparency among the funded NGOs (I82, D582, D1174, I98). Technological innovations, such as in monitoring, and greater autonomy for the implementing organisations could also contribute to greater efficiency. Synergies could be better harnessed to save resources.

Especially in Indonesia, which differs from the other partner countries studied due to its size and geographical layout comprising many small islands, a focused thematic or regional approach has proven better than a broad regional spread (I133, I145, I146). Geographical proximity between projects is seen by the interviewees as a factor that increases efficiency. The qualitative analysis also suggests that a focused thematic approach, such as on land-use planning, can contribute to increased efficiency.

There are indications that working with external experts and consultants can present challenges at various levels. This includes the clear delineation of the role of FC implementation consultants in relation to TC staff, as well as the perception of consultants by local partners: some partner organisations noted that international consultants working on behalf of DC replaced local workers, which does not lead to the long-term development of local expertise and competences (I19, I25, I74, D611). Moreover, the processes involved in hiring international consultants proved to be resource-intensive at times. There was a conflict with the partner government regarding the tax exemption for international consultants, which caused significant delays in the start of implementation (I126). In another case, the contracted service provider filed for bankruptcy during the project implementation and could no longer deliver the services (D1237, I126, I116). The re-tendering of the services to new consultants consumed many resources, and the delay posed reputational risks (D1237). In contrast, the work with development workers is rated positively in the qualitative content analysis, as they are integrated into the institutional DC system while also directly reaching the target groups through their close ties to local institutions (D315). Overall, the qualitative content analysis indicates that in both Germany and the partner countries, more personnel are needed to implement the projects. In the partner countries, this is often due to the low priority given to biodiversity, as explained in the following chapter on sustainability. Personnel resources are also limited at the BMZ and within the implementing organisations (see AC 4.1c).

4.4.3 Summary

The efficiency criterion is not rated. The projects supporting PAs were affected by delays during the study period, partly due to external factors such as the COVID-19 pandemic and partly due to internal processes. Lengthy tendering procedures and bureaucratic administration played a significant role in this. Long-term projects in the biodiversity sector are generally advantageous, as the desired effects take time to materialise (see AC 6a). The methods used and the funds expended are deemed appropriate by DC actors, especially considering the global importance of biodiversity and the fact that the damage caused by its loss may be irreversible (see Box 5).

Box 5 Additional context: Economic valuation of biodiversity

Biodiversity is a global public good. The entire global population benefits from its protection and suffers from its decline. Nevertheless, it is difficult to quantify its value materially or financially, and to internalise the costs arising from its damage, such as those caused by economic activities that contribute to its deterioration. An economic valuation can be carried out directly, for instance through the price of a hunted animal, or indirectly, for example through the indirect benefits of a functioning ecosystem.

The monetary valuation of biodiversity primarily relies on three methods: 1) asking people how much they value biodiversity or how much they would pay for damage caused (stated preference); 2) observing how much money is spent on using biodiversity, such as for tourism (revealed preference), and 3) estimating the value of biodiversity based on the market price of the products it provides, such as timber (Hanley and Perrings, 2019). This valuation is then used for incentive systems to protect biodiversity.

An approach that is also used in the support for PAs is the definition of specific ecosystem services. These services, such as plant pollination or climate regulation, are seen as the foundation for a healthy life. The economic value of biodiversity is then estimated on this basis, for example by applying the CO_2 price to the total amount of CO_2 stored in ecosystems worldwide for the climate regulation aspect. The BMZ estimates the value of global biodiversity in its new CAS at around 170 to 190 trillion US dollars per year, based on the Ecosystem Services Valuation Database (BMZ, 2024a; Kurth et al., 2020).

There are, however, other calculations: the World Bank uses a model that simulates the loss of ecosystem services. It estimates a potential economic loss of around 2.7 trillion US dollars per year by 2030 (Johnson et al., 2021). In turn, the World Economic Forum estimates that more than half of the global gross domestic product depends on the use of nature (Herweijer et al., 2020). In DC, this approach is used by remunerating the population for protecting the ecosystem when business make use of ecosystem services (PES). This approach is already established in Vietnam and contributes to the sustainable financing of biodiversity protection. The Vietnamese government manages the revenue and uses part of it to finance the PA. Another portion of the revenue is directly paid to the population in the project area (Samii et al., 2014). When designing PES programmes, it is crucial to ensure that compensation payments do not negatively affect income distribution. For people with a high dependence on natural resources, the opportunity costs of participating in PES may be too high (Snilsveit et al., 2019). Successful PES systems also depend on demand and businesses‘ willingness to pay.

On the one hand, the economic valuation of biodiversity can contribute to raising awareness and promoting more sustainable resource use in both production and consumption. It allows companies to factor biodiversity into their products. PES-based business models could potentially emerge, contributing to biodiversity protection through their success. For example, PA could market carbon credits. On the other hand, the economic valuation of biodiversity also carries risks. The figures mentioned are only estimates, and it is possible that the true value is much higher. Furthermore, even with a “price” attached, biodiversity is irreplaceable, and the damage caused by its loss may be irreversible. The components of ecosystems are interdependent, and the value of biodiversity exceeds the sum of its parts.

4.5 Sustainability

With regard to the sustainability criterion, the question arises as to whether the achieved effects will be lasting. This was investigated by assessing the capacity of the involved institutions, organisations and local communities to preserve the effects.

4.5.1 Evaluation questions and assessment criteria

The sustainability of the BMZ's support for PAs was assessed based on the following evaluation question:

EQ 6: To what extent are the effects of the support for PAs permanent?

The assessment criteria for the evaluation question are listed in Table 6. Information gathered from the project documents and interviews was used to answer the question. The complete evaluation matrix, including the assessment criteria and indicators, can be found in annex 8.2.

Table 6 Assessment criteria: Sustainability

Assessment criterion (AC)	Content
AC 6a	Partner countries have the necessary level of ownership and structures (institutional and legal frameworks) in place to ensure the effective and lasting management of their ecosystems.
AC 6b	The participating institutions and organisations have the necessary human and financial resources in the long term to ensure sustainable management of their PAs.
AC 6c	The population actively engages in the conservation of biodiversity in general and their PAs in particular.

Source: DEval, own visualisation

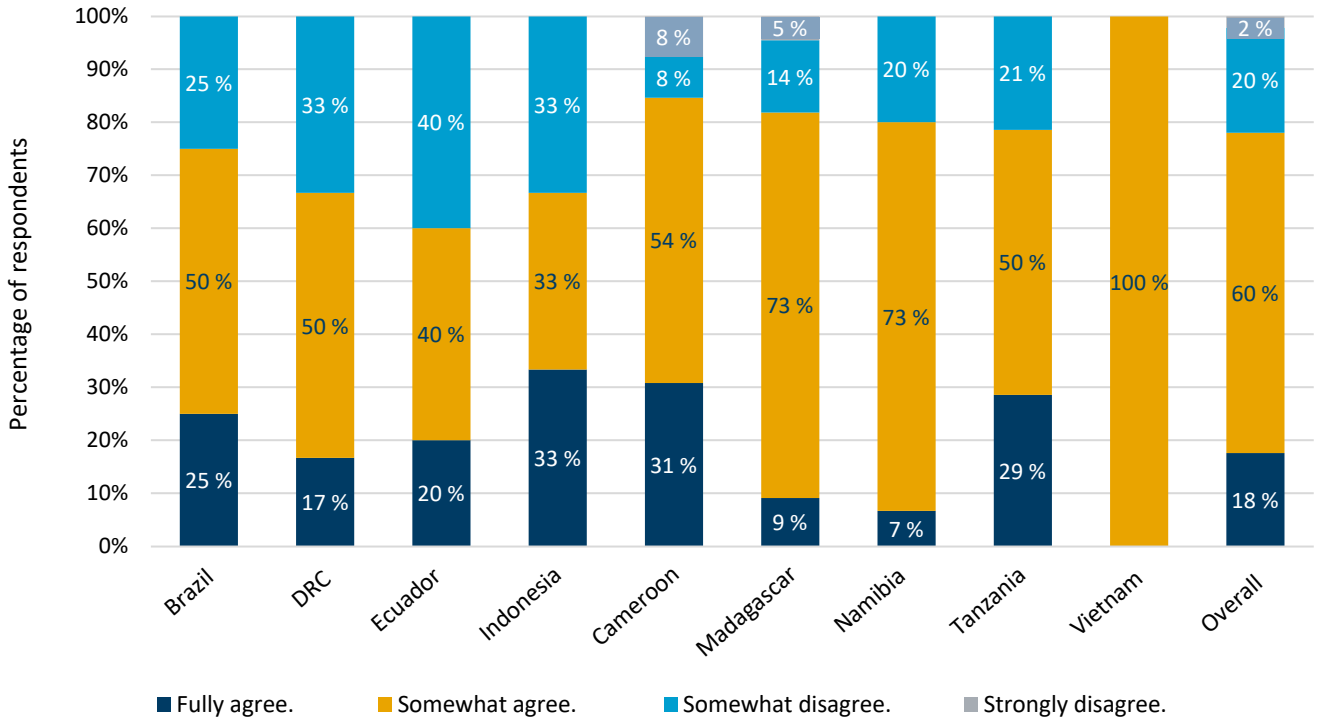
4.5.2 Results and rating

Regarding the sustainability of the effects, survey participants believed that the ecological and socio-economic effects are likely to be lasting. Around 81% of respondents fully or somewhat agreed with this finding for the ecological effects, while 78% did so for the socio-economic effects (see Figure 16). Nevertheless, these assessments are highly subjective and could not be verified with data from the project documents. The survey also revealed that sustainability depends on external factors beyond the control of DC. The respondents also stated that sustained engagement is required to consolidate the achievements. They saw the greatest need for improvement in strengthening cross-sectoral approaches, as well as in the financial and personnel resources of partner institutions and their technical capacities.[55] These framework conditions were examined in more detail with qualitative data and illustrated using the following three assessment criteria.

55 For further information, see the online annex.

Figure 16 **Sustainability of the socio-economic effects of the support for PAs**

Responses from the survey participants regarding their agreement with the statement: "The BMZ support for PAs has contributed to ensuring that the socio-economic effects on poverty reduction through the creation of sustainable income sources and local development in these protected areas or surrounding regions are likely to be lasting."



Source: DEval, own visualisation (n = 91)

Institutional and legal framework conditions and ownership shown by the partner countries

Political ownership and the attention given to the PAs are low in most of the countries studied. Biodiversity is not a priority for many governments. However, there is also evidence of increased to high levels of ownership. The sustainability of PAs is primarily supported by three approaches: 1) promoting cooperation among the participating individuals and institutions, 2) building capacity for the long-term management of PAs, and 3) expanding parts of the projects to other regions or incorporating them into legislation. A good example of the legal foundation and implementation of nature conservation efforts can be seen in Namibia, where biodiversity conservation is enshrined in the constitution, and a comprehensive national framework for community-based natural resource management exists and is being applied (D1596).

Nevertheless, the institutions responsible for PAs are generally weak in the countries studied, and national policies often contradict efforts for biodiversity protection, particularly following changes in government. National laws are not aligned with each other. The example of Brazil highlights how achievements in biodiversity protection can be undone by conflicting political priorities. Under the Bolsonaro

administration, illegal land grabbing and deforestation in the Amazon were encouraged to some extent. Additionally, the government advocated for allowing agriculture and mining in Indigenous areas (D1374, D1408, D1436, I175, I112) (see AC 4.3a). Corruption and nepotism are seen as a risk to the long-term existence of PAs in some contexts, according to project documents (D371, D296, D315). The project durations are too short (I165, I68, I5, I25, I49, I115, D1105, I61, I34, I74, I97, I1, I146, I51) (see Box 6). Some projects are developing or already have exit strategies. Among other things, the projects focus on strengthening cooperation with civil society to continue the change processes initiated.

Box 6 Explanation: Project durations in German DC

The duration of German DC projects generally ranges from four to six years. This is stipulated by the BMZ and reflects the political cycle of legislative periods. Nevertheless, implementing organisations aim to achieve long-term goals through successive phases. In some countries, such as Namibia and Indonesia, DC has been active in the environmental sector for decades. However, each subsequent phase must be newly applied for with the BMZ and contractually agreed upon with the partner government. As a result, despite efforts to ensure continuity, there is no guarantee that the measures will be continued, and there may be interruptions in the timeline. This creates a lack of planning security for PAs.

The BMZ is aware of this problem and is providing long-term funding for individual PAs through various funds. The Legacy Landscapes Fund (LLF)[56], for example, is currently an instrument that, together with other donors, supports 14 PAs worldwide for at least 15 to 30 years (BMZ, 2024c). In the future, the LLF is expected to support up to 30 PAs. This is a step in the right direction, but global financial resources for biodiversity protection must continue to grow. According to Target 19 of the GBF, the parties to the CBD are committed to mobilising at least USD 200 billion per year from 2030 on for the implementation of biodiversity targets. Furthermore, at least USD 20 billion per year should be allocated to developing countries for biodiversity conservation by 2025, and at least USD 30 billion per year by 2030 (UNEP, 2022).

Resource endowment of the participating partner organisations

While some project activities can continue to be funded without DC support, there is still a significant need for financing that cannot be covered by the partner countries. In nearly all of the countries studied, there have been budget cuts and funding gaps in the environmental sector. Respondents in the interviews cited reasons such as national economic or fiscal crises, the COVID-19 pandemic, local security issues, a low priority for environmental ministries compared to other national ministries, and generally conservative fiscal policies in the partner countries. This has led to a lack of personnel and resources for functional PA management. The capacities of the institutions are often insufficient, and DC plays a key role in strengthening them. In some instances, knowledge transfer has been successful despite frequent personnel changes in the PA administrations.

The lack of funding can be attributed to a number of factors, including a lack of ownership shown by the political decision-makers (see previous assessment criterion 6a), **and a lack of lucrative business models based on biodiversity** (I146, D567, D576). The income generated by PAs, mainly through tourism, is either insufficient or diverted to other business sectors rather than being reinvested, and the authorities lack budgetary autonomy (D1236, D1237, I126, I27, I69, I8, I47, I57, I38, I11, I103). Nevertheless, partner governments and PA authorities continue to rely on tourism as a source of income.

The projects and partner countries are working to secure funding for PAs and procure additional resources by collaborating with NGOs, decentralised organisations and the private sector. A promising model involves the use of funds

56 The LLF is not part of the evaluated portfolio as it is not a bilateral project.

and foundations that support biodiversity protection. One such example is the Madagascan conservation foundation FAPBM, which (partially) finances the country's PAs through its capital returns (D609, D608, D1182). However, the German Federal Audit Office has raised concerns about the transparency of these funds, so further funding should be carefully assessed (I10, I159).[57] Other countries in the sample have also adopted this approach; for instance, Indonesia has established its own environmental fund and is seeking donor funding. In addition to funds, there are other financing ideas such as PES or a biodiversity-based basic income for the population (D567, D576, D776, D791, D781, I78, I102) (see Box 5). Similar to the efficiency aspect, focusing resources is considered advantageous for sustainability (I68, D1174). While sustainable financing for PAs is considered in the projects and there are exit strategies in some cases, these are given lower priority compared to other activities.[58] A more targeted effort to developing a financing strategy is required.

Overall, the dependence of PAs on international donors remains very high. Some sources suggest that the protected status of PAs could not be maintained without German support (D1237, D380, D391, D363, D371, D356, I44, I98, I82, I16, I100, I31, I43, I167, I82, I20, I70, D784). At the same time, some interviewees emphasised the responsibility of the Global North for the global public good of biodiversity (I77, I91, I100, I103, I50). As previously outlined, under Article 20 of the CBD, Germany has pledged to continue supporting countries in the Global South in their efforts to conserve biodiversity. In this context, the ongoing co-financing of PAs in the Global South is not necessarily a sign of a lack of sustainability in German DC. However, the partner governments should have sufficient resources and capacities to manage the national PA systems independently in the long term. Nevertheless, the responsible institutions only fulfil this requirement in part (D1586, I90, I50, D786, D1103, I73, I70, I38, D576, D591, I145).

The evaluation shows that German DC places too little emphasis on designing projects with resilience in mind. The COVID-19 pandemic led to a slump in income in a large part of the PAs, as the sources of income were not diverse enough (see Section 4.2.2). The negative effects of the pandemic have now subsided, but lessons still need to be learned.

The climate crisis is a pressing issue in many regions of the Global South, exacerbating water and land-use conflicts and threatening ecosystems. This requires action at a global level. DC must take steps to better respond to such crises and build resilience into its projects to ensure their effects can be sustained.

Public awareness and commitment to biodiversity

The evaluation found evidence of increased public awareness of biodiversity protection. People are actively involved in patrols and other activities, and local communities even initiate their own patrols in a few cases. Nevertheless, they remain dependent on the projects that fund these activities. In certain cases, local communities also build tourist infrastructure using their own resources (I149, D1237). The capacities developed by the population during the implementation phase are maintained beyond the completion of the projects. These include utilisation concepts for NTFPs, which can provide communities with a continuous source of income.

Participation of the local communities in PA management plays a key role in raising awareness. Involvement in decision-making processes increases acceptance and identification with PAs, which in turn reduces conflicts (see Chapter 5). Moreover, those involved act as role models, motivating others to get involved once the benefits of PAs are clear (I152, I132, I130, I145), although this is a long-term process.

There is, however, also evidence to suggest that the population lacks awareness of biodiversity. To address this, the projects implement environmental education initiatives. However, the sustainable use of resources by the population can only be ensured if the necessary framework conditions are in place. In an ideal scenario, active public engagement could create

57 The German Federal Audit Office criticises what they see as the lack of transparency in the foundations initiated by the BMZ. They would require substantial funding, yet the BMZ has only limited control over their spendings. The German Federal Audit Office therefore urged the BMZ to justify the necessity and cost-effectiveness of funding these foundations in advance (Federal Audit Office, 2021).

58 The BMUV supports the UNDP initiative BIOFIN, which develops financing plans for the implementation of the national biodiversity strategies and action plans of partner countries. BIOFIN is not part of the subject of investigation, but supports the country studies in Brazil, Ecuador, Indonesia, Madagascar, Namibia, Tanzania and Vietnam.

political pressure from below, urging governments to enhance biodiversity protection (D1594). The data on this assessment criterion is less comprehensive compared to other aspects of sustainability. Two projects that assess public attitudes towards PAs are particularly noteworthy (D1586, D1237).

4.5.3 Summary and rating

AC 6a is partially fulfilled. The lack of prioritisation of biodiversity conservation by governments presents a significant barrier to sustainability. Nevertheless, this is not the case in all of the countries studied, as some are exemplary in embedding biodiversity within their national legal systems. German DC can also contribute to improving the capacities and cooperation of stakeholders. It is also evident, however, that political changes can jeopardise any successes in biodiversity protection, for example through conflicting laws aimed at economic development.

AC 6b is partially fulfilled. Barriers to a sustainable PA system include insufficient funding, lack of personnel, inadequate equipment, and often, from the perspective of the interviewees, a lack of willingness from partner governments to address these issues. Especially in fragile contexts or countries with very weak governance, independent management of PAs is not possible without DC support. Some projects attempt to sustain their work through close cooperation with civil society in the partner countries. In all of the countries studied, PAs remain dependent on DC support. The climate crisis will further exacerbate this dependency. However, the countries of the Global North have committed under the CBD to support the Global South in biodiversity protection. In this regard, the concept of sustainability, as it is traditionally understood in DC, is not applicable to the global public good of biodiversity. Since the financial dependence of PAs on DC was not considered negatively under this assessment criterion, the evaluation team rated the sustainability criterion as being partially fulfilled, though this rating was close. Nevertheless, both the CBD bodies and the scientific and civil society communities consistently point out that the countries of the Global North are failing to adequately fulfil their obligations. Current efforts are still insufficient to close the global funding gap of USD 700 billion per year (see Box 6, UNEP, 2022).[59]

AC 6c is partially fulfilled. The acceptance of the population is essential for the continued existence of PAs. During the evaluation period, progress was made in terms of raising awareness about biodiversity. Furthermore, the capacities acquired, in particular, remain intact. Nevertheless, ranger employment, for instance, is directly dependent on the projects. There are indications that community-based management of PAs can improve sustainability. A positive example of this is Namibia's CBNRM policy, which has been transferring responsibility for PAs to local users for over ten years (D1103). However, CBNRM also has its weaknesses (see Box 7).

Overall, the sustainability criterion is rated as partially fulfilled when all assessment criteria are aggregated.

Figure 17 Aggregated rating of sustainability

The sustainability criterion is...

		X			
missed.	barely fulfilled.	partially fulfilled.	mostly fulfilled.	fulfilled.	exceeded.

Source: DEval, own visualisation

59 The GBF addresses biodiversity financing as both a short-term target and a long-term goal. Target 19 outlines the financing goals for implementing national biodiversity strategies and action plans. The international community is expected to provide at least USD 200 billion annually for biodiversity from 2030 on. Of this, at least USD 20 billion per year should be allocated to developing countries by 2025, and at least USD 30 billion per year by 2030. Goal D states that, by 2050, the contracting parties are to gradually close the global biodiversity financing gap of USD 700 billion per year (UNEP, 2022).

5.

FOCUS: PARTICIPATION, INCLUSION, AND GENDER EQUALITY

This chapter focuses on the role of participation, inclusion, and gender equality in German support for PAs. It begins by outlining the HRBA in DC, followed by an analysis of patterns in participatory practices based on five forms of participation. The following section discusses key challenges in this context. The chapter concludes by assessing how German support for PAs affects women and Indigenous groups, whose specific vulnerabilities merit closer examination.

5.1 Participation – patterns and challenges

In 2003, UN specialised agencies[60] formulated a unified understanding of the HRBA in DC, establishing participation and inclusion as one of its three core principles (UNSDG, 2003). Additionally, the HRBA is built on the principles of non-discrimination and equal opportunities, as well as transparency and accountability. The BMZ has aligned itself with this approach and its guiding principles (BMZ, 2011, 2013, 2023b), which should manifest at a strategic level as a "systematic integration of human rights obligations, standards, interpretations, and principles" (BMZ, 2011, p. 7) (see Polak et al., 2021). One of the HRBA's key aims in DC is to empower rights-holders to be able to assert their human rights. At the same time, duty-bearers – primarily states and their institutions – are expected to fulfil their obligations and uphold human rights. DC is obliged to develop strategies to build these capacities. Within the HRBA, rights-holders are viewed as key stakeholders in their own development rather than passive recipients of goods and services, making their participation in decisions that affect them essential (OHCHR, 2006).[61] Participation is therefore both a means and an end (UNSDG, 2003). The human rights relevant to support for PAs include the right to an adequate standard of living, the right to a clean and healthy environment, the right to food, and the collective right to autonomy, particularly for Indigenous peoples (see Section 1.2.3).

As a guiding principle of DC, the HRBA establishes a fundamental framework for ensuring the participation and inclusion of local communities in the support for PAs. It therefore also forms the basis of this evaluation. At the CBD level, Aichi Targets 14 and 18 operationalise this commitment, requiring the consideration and participation of Indigenous and local communities (IP&LCs) in CBD implementation. These targets must also be viewed in light of the do-no-harm principle and the rights of IP&LCs to full and effective participation in all matters affecting them, as set out in the UN Declaration on the Rights of Indigenous Peoples and, since 2021, the ILO Convention 169. Nevertheless, these international declarations leave it to national implementation to determine how participation is structured and the extent to which it contributes to achieving the objectives of the support for PAs.

Qualitative analysis, interviews and survey findings indicate that awareness of participation in the support for PAs has increased significantly, particularly since 2020[62]. Most projects incorporate participatory practices. However, participation is interpreted and integrated into project design in different ways. As a result, projects vary considerably in terms of 1) which stakeholders are involved, 2) the stage at which they are included, and 3) the nature and extent of their participation. These differences influence the degree to which local communities are able to contribute to decision-making on PAs.

60 UN specialised agencies are distinct from the UN's main organs (General Assembly, Security Council, Secretariat/Secretary-General, Economic and Social Council (ECOSOC), and the International Court of Justice). These agencies operate independently but are coordinated by the Economic and Social Council. Each one focuses on a specific area of global development with examples including the ILO, the Food and Agriculture Organization (FAO), UNESCO and parts of the World Bank Group, such as the International Bank for Reconstruction and Development (IBRD). These agencies, main organs and other entities are often collectively referred to as "UN institutions." However, the HRBA was initially adopted as a guiding framework only by the UN specialised agencies.

61 Illustrative example: Rural food insecurity is a global issue. Direct food provision to the population is a needs-based approach, primarily used (and necessarily so) in urgent humanitarian crises. Under the HRBA, however, the starting point is different. The Right to Food campaign in Malawi, for instance, was – as the name suggests – grounded in the right to food (Article 11 of the UN Covenant on Economic, Social and Cultural Rights and Article 13 of the Malawian Constitution). It sought to strengthen the capacities of duty-bearers – namely, the Malawian government and parliament – so they could identify the causes of food shortages and develop appropriate laws and policies. At the same time, the project raised awareness among rural communities about their right to food and how they could claim it from the state, for example, by participating in legislative consultation processes (OHCHR, 2006).

62 In 2020, reports of human rights violations in protected areas in the DRC prompted increased attention to the crosscutting issues of human rights and participation.

Across all the countries studied, the projects aim to enhance and extend the participation of rights-holders beyond the project cycle, with a particular focus on Ecuador, Madagascar, Cameroon, and Indonesia. In Namibia, Tanzania, and Cameroon, interviewees called for further reinforcement of PA co-management. They highlighted a gap between the intended participation and its actual implementation, especially in relation to the inclusion of vulnerable groups, particularly young people, women and Indigenous peoples (see Section 5.2).

The evaluation team examined whether participation could help mitigate the tensions arising from the dual objectives of support for PAs. To this end, the design and role of participation were analysed in relation to the corresponding assessment criteria (AC 1b.2, 1c, 2.3.b, 3.2.b, 5b and 6c); however, the extent to which participation can mitigate these tensions could not be conclusively determined.

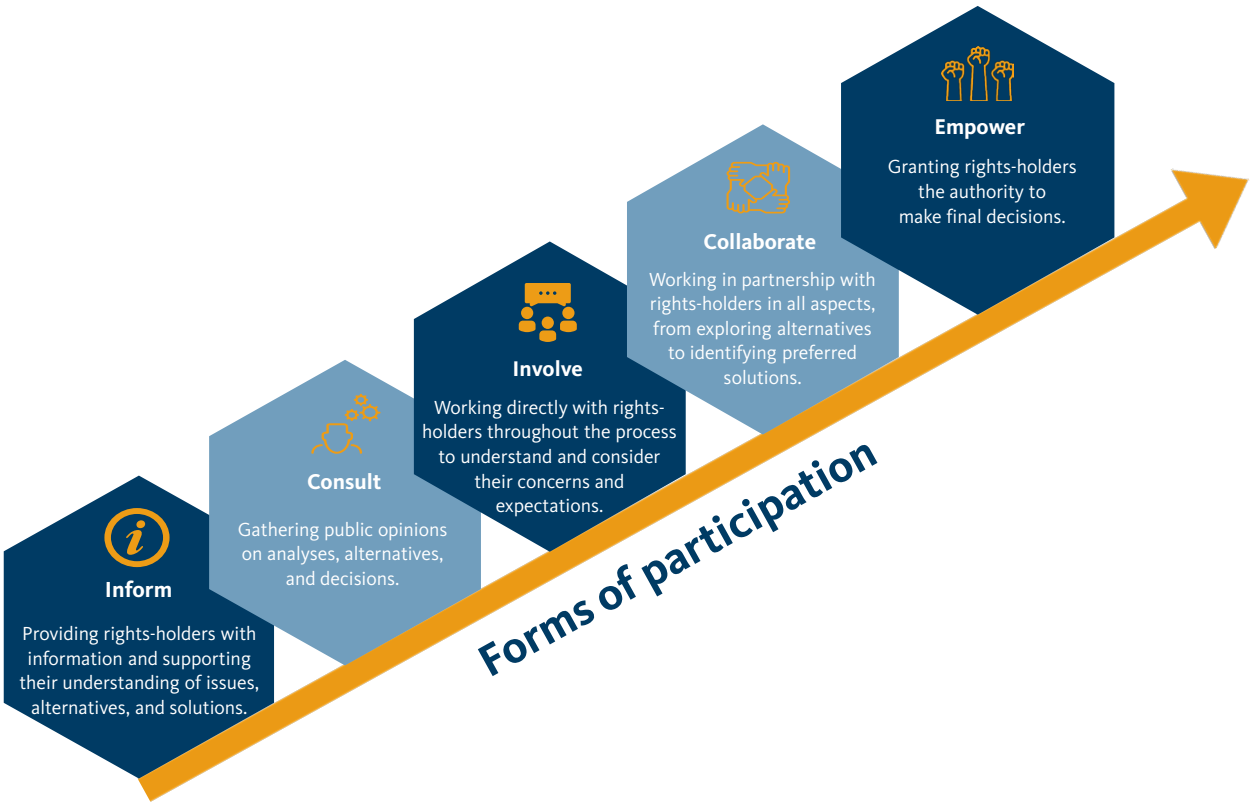
While most projects supporting PAs take participation into account in their design (see AC 1c), there are considerable differences in how participation is understood. These primarily relate to which rights-holders are engaged and the degree of influence they have in decision-making (see Section 4.1 on relevance and subsequent sections). A noteworthy example comes from a project in Cameroon, where the local community, including women and Indigenous peoples, defined the restoration objectives for the PAs themselves. To facilitate this process, the project introduced a board game to create a collaborative and non-hierarchical space for discussion (see Section 4.1.2 and Box 7 for further examples).

The data collected was used to identify overarching patterns and challenges, which are explored in the following sections.

5.1.1 Patterns in the implementation of participatory practices

The International Association for Public Participation (IAPP) has identified five forms of participation (IAPP, 2018). From an HRBA perspective, the overarching goal is to support affected and particularly vulnerable groups so that they not only engage in all phases of a project but are also empowered to decide which activities take place within their sphere of influence. Depending on the degree of influence of those affected, five additional forms of participation can be distinguished: rights-holders may be informed, consulted, or actively participate in projects. This latter category can be broken down further into involvement, collaboration, and empowerment. Each of these categories and their meanings are illustrated in Figure 18. The "inform" and "consult" categories are more aligned with a needs-based approach than an HRBA (WaterAid, 2020). The evaluation team applied the IAPP classification of participation forms to assess participation in the support for PAs.

Figure 18 IAPP forms of participation



Source: DEval, own visualisation based on IAPP (2018)

Rights-holder participation can take place at different hierarchical levels, ranging from national and subnational institutions to local communities. While national institutions, such as the finance or environment ministries of partner countries, are involved in the support for PAs through government negotiations before projects begin, there is no guarantee that local and particularly vulnerable rights-holders are included in projects supporting PAs. Since the different forms of participation refer to rights-holders in general (see Figure 19), this evaluation takes a closer look at which stakeholders can participate at the community level.

Distinguishing local rights-holders by stakeholder groups reveals a heterogeneous picture (see Table 7). The projects involve both individuals representing local groups and stakeholder groups such as committees and NGOs. The specific stakeholders or stakeholder groups involved differ widely between countries and projects. Moreover, some projects state that they engage with the local population but do not provide further details. The involvement of different stakeholder groups presents both advantages and challenges, which are outlined below.

Table 7 Stakeholders participating in the projects[63]

Village facilitators appointed by the implementing organisation	Traditional authorities[64]	Village assemblies or representative committees	NGOs	Regular meetings with rights-holders (non-specific)
	Cameroon	Cameroon	Cameroon	Cameroon
	Ecuador	Ecuador[65]		
Indonesia	Indonesia		Indonesia	Indonesia
		Madagascar		Madagascar
	Namibia	Namibia	Namibia	
		DRC	DRC	
	Brazil	Brazil	Brazil	
		Vietnam		Vietnam
		Tanzania		Tanzania

Source: DEval, own visualisation

The identification of legitimate representatives of rights-holders requires significant resources, time, and local expertise. Social structures and ethnic conflict lines are often not easily visible to implementing organisations from the outside, making the identification of legitimate representatives in Vietnam, Cameroon, Namibia, the DRC, and Ecuador particularly challenging. In Cameroon, for instance, parallel structures exist with state representatives on one side and traditional authorities such as the Lamidou on the other. While NGOs have the institutional capacity to be involved in participation processes, local knowledge and expertise are still needed to assess their legitimacy as representatives. The interests of an ecologically focused NGO, for example, may differ from the economic interests of local communities. Furthermore, conflicts can exist both between and within local communities, further complicating the identification of representatives who are widely regarded as legitimate. In Indonesia, in particular, project documents and interviews indicate a shortage of personnel for implementing participatory processes.

Deciding which stakeholders to involve in projects can affect power structures within communities, potentially leading to unintended negative social effects. In Indonesia, for example, the designation of village facilitators by the implementing organisation caused resentment within some communities. In Ecuador, Cameroon, Namibia, and the DRC, collaboration with traditional authorities created tensions regarding their role and legitimacy as representatives. Representation bodies and individual representatives do not necessarily speak for the entire community and its members, but may also advocate for personal or specific interests (D527).

Participatory processes aimed at reducing tensions between environmental and socio-economic goals primarily take place during project implementation. Local communities are usually engaged at the start or during the implementation phase, but less frequently in the planning phase. It remains unclear to what extent findings from preparatory assessments are consistently incorporated into project implementation (Polak et al., 2022).

63 This table outlines which formats are used in which countries; however, a double listing does not necessarily mean that multiple formats are applied within the same project.

64 Examples include *Lamidou* (Cameroon), *Presidentes*, *Consultatores*, Jefes de Areas (all Ecuador) and other elected village representatives.

65 No active *Comités de Gestion* could be identified in Ecuador at the time of the case study. There are indications that these committees have been restricted in their function due to political changes in the country. However, the extent of these restrictions could not be determined from the available data.

During implementation, some projects involve local communities in activities such as wildlife patrols, representing a form of task-sharing between PA management and local communities. Apart from a few exceptions, however, there is little participation during the evaluation phase or in planning for subsequent project phases, despite its importance for identifying evolving needs and aligning follow-up phases accordingly.

The findings indicate that projects primarily inform and consult local communities. Nevertheless, there are also examples of good practice where projects collaborate with local communities or allow them to take direct decisions on PA management. A project in Ecuador hired a consultant to develop a participatory PA management framework. This involved analysing the supported PAs, running training sessions, and selecting three PAs for pilot projects. Ultimately, a national guideline was developed to mainstream participation in the partner country (D52, D911). Some projects also track indicators on community participation or involve local populations in monitoring efforts (D143, D82, I25, I69, D647, D595, D485). Participation is measured using tools such as management effectiveness evaluations (similar to METT) and by tracking the proportion of the local community employed as park staff. A prime example of extensive local involvement is the community-based co-management model (see Box 7).

Box 7 Additional context: Community-based co-management

In certain PAs in Ecuador, Madagascar, Cameroon, Namibia, Indonesia, Brazil, the DRC, and Vietnam, (pilot) projects focus on community-based co-management. This approach involves the joint management of PAs by local communities, their representative organisations, and the relevant government PA authorities (such as the Ministry of Environment, Ministry of Tourism, or regional agencies), along with other stakeholders such as NGOs where applicable. This includes activities such as jointly developing management and land-use plans, establishing PA committees with decision-making authority, setting up community forums, or hiring local staff for PA management (D911, I5, I27, I6, I87, D611, D1199, D1182, D613, D1174, I40, D642, D638, I123, I145, I140, I132, I50, I90, D521, D1587, D554, D527, I17, I65, D365, D296, D301, I32, I34, I36, D1249, D1374, D9, I110, I117, D1358, D1359).

Namibia has been pursuing this approach since 2013, and it is anchored in national policy (MET, 2013). Given the comparatively long-term implementation of CBNRM, Namibia provides valuable insights into the success factors and challenges of this model. The institutionalisation of CBNRM has led to PA administrations accepting the participation of local communities and taking their interests into account. In some projects, PA management has even been largely transferred to local communities, allowing them to benefit directly from PA revenues – particularly those generated by tourism (D950). There are also several cases where CBNRM has particularly facilitated the inclusion of marginalised groups and strengthened the participation of women (I73, I85, D642, D1103).

While progress has been made, the implementation of CBNRM in Namibia continues to face challenges. These include questions regarding the accountability and legitimacy of traditional authorities in decision-making bodies, conflicts between different local communities working together in co-management (D635, I73), and the emergence of elite structures resulting from the delegation of responsibilities to select individuals (I105). There are also indications that the role of CBNRM committees has weakened in recent years – partly due to the COVID-19 pandemic and partly due to declining political interest (D1162, D639, I105, I119).

In some projects, the focus lies on raising awareness among local communities on the need for conservation and the benefits of biodiversity. In cases like these, participation primarily focuses on raising community awareness of environmental protection and encouraging traditional authorities to involve more people in their communication with PA administrations. This approach can be seen as information-sharing or advocacy rather than genuine participation in decision-making.

The approaches used to involve rights-holders in projects vary significantly by country and project. Rights-holders and local stakeholders receive training through workshops and seminars and are included in officially established committees and advisory bodies. Beyond this, a range of dialogues and exchange processes take place, particularly during the development of plans, laws, and policies. This also shows that rights-holders are primarily informed and consulted rather than actively participating in decision-making (I21, I107, I139).

Figure 19 Observed participation of rights-holders in the support for PAs

Source: DEval, own visualisation

Overall, the countries studied display a diverse range of participatory practices in the support for PAs. Decisions on which practices to apply are generally made on a case-by-case basis and are not explicitly justified by the projects. In most projects, the HRBA is not fully implemented, with a more needs-based approach being adopted instead. The needs of rights-holders are generally well analysed through consultation (see Section 4.1.2) and addressed within the projects. However, those affected remain target groups or beneficiaries rather than decision-makers in most cases. As a result, the role of participation in mitigating tensions between ecological and socio-economic objectives cannot be conclusively determined. Nevertheless, participatory practices remain a key element in implementing the HRBA, as their application is a fundamental goal of DC. To support the practical implementation of the HRBA, a unified approach and shared understanding among all stakeholders are crucial, taking challenges and influencing factors into account accordingly.

5.1.2 Challenges in applying participatory practices

Qualitative data analysis shows that the willingness of partner governments to grant decision-making rights and the population's willingness to engage are the key factors in the implementation of participatory processes. In five of the nine country case studies, it became evident that partner governments are reluctant to implement participatory processes. Co-management is not possible in these contexts, and a fortress conservation[66] model remains in place, enforcing a strict separation between people and nature (I126). A second crucial factor is the population's perception of PAs, which directly influences their willingness to participate. Evidence from six countries indicates that local communities derive no economic benefit from PAs and therefore see no incentive to engage in their management (I166, I114, I146, D593, D353, I64, I101, I16, I161, I87, I78, I26). This is partly due to negative past experiences with participatory processes, where concerns such as human-wildlife conflicts were raised but were not addressed. Nevertheless, since community involvement can increase acceptance of PAs, this factor is particularly important. Participation can also contribute to embedding biodiversity conservation more sustainably in society, as described in Section 4.5.2 under AC 6c.

Participatory processes are intended to enable rights-holders to clearly articulate their interests. However, these interests may deviate from the goals of the projects. Given the tensions surrounding support for PAs, a framework is needed to determine how projects should handle the results of participatory processes – particularly when ecological goals do not align with the interests of rights-holders. The question also arises as to how these goals can still be implemented and how decisions are communicated. The same applies to complaints regarding unintended negative effects submitted through complaints mechanisms.

The extent to which participatory processes can be implemented in projects is partly influenced by governance structures in the respective countries. In Cameroon and Tanzania, for example, the government does not prioritise local community participation, nor is there a strong awareness of its importance. Some projects address this issue through awareness-raising interventions with partner governments and institutions (I100, I98, D344, I116). In Ecuador and Brazil, there are also indications that governments actively undermine public participation (I54, D1359, D1387). In Indonesia, Brazil[67] and Vietnam, partner governments are particularly critical of the involvement of civil society organisations (I133, D1595, D776, D1359, D1387). The COVID-19 pandemic also contributed to lower implementation rates for participatory measures (D1182) or delays in processes (D1161, D576) in an effort to meet ecological and socio-economic objectives.

The lack of allocated funding for implementing participatory processes weakens these efforts in Madagascar, Namibia, Cameroon, Indonesia, Ecuador, and the DRC. When resources are scarce, projects focus on nature conservation and either deprioritise participation or eliminate participatory processes from the project planning (I72, I119, D642, D649, I72, D608, I61, I152, I151, I149, I49, I90).

66 The term "fortress conservation" refers to the colonial-era belief that humans and nature cannot coexist within PAs. As a result, when PAs were designated and their protection status was established, resident populations – particularly IP&LCs – were displaced and excluded from the use of resources. Biodiversity conservation was prioritised over their individual and collective rights, without consideration that the ecological value of these landscapes is the product of centuries of sustainable management by IP&LCs (Brockington, 2015). At the start of the 21st century, the IUCN formally initiated a paradigm shift in PA policy and adopted an action plan (the Durban Accord and Action Plan) to strengthen IP&LC rights. In practice, however, fortress conservation principles continue to shape policies in some countries (Tauli-Corpuz, 2016; IPRI, 2021; Boyd and Keene, 2021; Calí Tzay, 2022).

67 This primarily took place under the government of Jair Bolsonaro (see Section 4.1.2).

5.2 Gender equity and inclusion of vulnerable groups – patterns and challenges

The international community has adopted various agreements to support vulnerable groups in exercising their human rights. These agreements highlight the specific experiences of discrimination faced by these groups and the associated challenges that must be recognised and addressed. Examples include the Convention on the Rights of Persons with Disabilities and various treaties protecting the rights of women and Indigenous peoples. In this context, the HRBA promotes interventions to protect vulnerable groups.

The designation of PAs is often accompanied by restrictions on use rights, which can have particularly negative consequences for Indigenous communities. Restrictions on resource use may prevent Indigenous communities from practising their traditional way of life, including land management and religious rituals – especially in PAs subject to very strict protection. As noted in Section 1.1, this can lead to tensions between communities and PA authorities. In the Loliondo Game Controlled Area in northern Tanzania, for example, which is adjacent to the BMZ-supported Serengeti National Park, tensions between the local Maasai population and state authorities have repeatedly flared since 2022. Tanzanian authorities have been accused of displacing rights-holders and using violence against the Maasai (D1237; Calí Tzay, 2022; UNHCR, 2022).

Women can also be particularly affected by stricter regulations on resource use in PAs. In many cases, women gather and harvest food such as honey and orchids within or near PAs and sell these products to support their families and communities (D1101, D296, I149, D1181, D1603, D578). When tensions arise between the two main objectives of the support for PAs, women and their income are most acutely affected. This is especially true in countries with traditional gender roles, where women have fewer alternative income opportunities – for example, because gender stereotypes prevent them from being hired as rangers.

In alignment with the 2030 Agenda, a significant proportion of projects recognise the particular vulnerability of Indigenous groups and women. SDG 5 (Gender Equality) is frequently taken into account in project planning. This is also reflected in the OECD markers assigned to projects during the planning phase. The PA portfolio on which this evaluation is based includes 147 projects with the OECD biodiversity marker BTR2. Of these, 75 percent also hold the OECD gender equality marker GG1.[68]

There is evidence to suggest that women are primarily given special consideration in projects with a strong socio-economic component. Similarly, there appears to be a positive correlation between the extent of participatory practices applied in a project and its alignment with gender-specific needs. When a project takes an approach like this, it is based on detailed vulnerability and needs assessments.

The inclusion of women, Indigenous groups and young people is hindered in some communities by gender stereotypes and social norms. These norms influence the extent to which these groups are recognised as legitimate representatives of their communities – for example, whether they are allowed to participate in village assemblies or engage in PA management. In Namibia, Cameroon, Indonesia, Brazil and Vietnam, projects aim to enhance their participation. Gendered role expectations also affect the extent to which women can pursue economic activities in the long term after participating in training on income-generating interventions (D444, D1359, D578, D580, D1603, I103, I99, I72).

Findings from the qualitative content analysis and interviews highlight that interventions aimed at including women and other vulnerable groups must be paired with measures for awareness-raising. Interviewees emphasised that these measures need to be long-term to foster acceptance of broader participation by these groups.

68 The following markers are assigned: GG-0: Gender equality is not an objective, GG-1: Gender equality is a secondary objective, GG-2: Gender equality is a primary objective. This analysis refers to the portfolio of bilateral state support for PAs identified for this evaluation (see Section 3.2.1). The markers were derived from data provided by the BMZ, the implementing organisations and the publicly accessible transparency portal. However, not all projects have corresponding data available. The markers used for the calculations reflect the status at the time of data collection. Discrepancies may arise, for example, due to marker adjustments in subsequent project phases, as the BMZ transparency portal is continuously updated. See also online annex.

In some good practice examples, projects successfully engaged traditional authorities in supporting the role of women (D315). This positively affected women's participation in PA management. In terms of the do-no-harm principle, this approach has proven suitable, as it preserves existing social structures while still advancing gender equality (D1316, D485, D428).

In the countries studied, unintended negative effects have been observed that primarily or exclusively affect women or Indigenous groups. In a project in the DRC, for example, a village well was funded to improve the community's water supply. Traditionally, women were responsible for collecting water from a distant source – giving them a crucial role in their community. The construction of the well questioned this role and removed an important space for women to engage in intimate conversations. This ultimately prompted the women of the community to seal off the well (I90).[69] In another project, various local communities were to be included in PA management through participatory processes. However, the largest group refused to cooperate with a smaller, marginalised group. To proceed with participation efforts regardless, only the majority group was included, which led to a further marginalisation of the minority (I23). Interviewees also noted that increased tourism is contributing to the erosion of traditional ways of life among Indigenous groups.

In some cases, unintended positive effects occur that exclusively affect women. These effects are always linked to increased financial independence for women (see Section 4.2.2).

69 Caruso et al. (2022) refer not only to the effects mentioned here, but also to the opposite effects of new water sources. The team from the DEval evaluation "Access to (Green) Energy in Rural Africa" has also found evidence that women can gain greater decision-making power as a result of the time saved. When women have to travel shorter distances to fetch water, they can use the extra time in other ways and improve their overall well-being in the process. In a focus group discussion in Benin, for example, female participants expressed their satisfaction with a solar-powered irrigation pump, as it meant they no longer had to carry water to the fields to prepare meals for harvest workers. These examples underscore the need for context-sensitive needs assessments and the inclusion of all vulnerable groups in project planning.

6.

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions and corresponding recommendations for German DC stakeholders within the support for protected areas. The conclusions are based on the findings outlined in Chapter 4, which are structured according to the OECD DAC evaluation criteria and rated using predefined assessment criteria. The following section provides a tabular summary of the final ratings. This is followed by overarching conclusions drawn from the previous chapters. Corresponding recommendations are then presented and further refined through specific implementation notes.

6.1 Summarised ratings

The support for protected areas mostly fulfils the evaluation criteria for coherence and effectiveness, but only partially fulfils the criteria for relevance and sustainability. Impact and efficiency were not rated (see Section 3.3), but the patterns, practices and challenges identified in these areas have been incorporated into the conclusions and recommendations. The conclusions are structured into five overarching sections, each summarising key findings related to the various evaluation criteria. Recommendations are aligned with these sections, with additional implementation notes offering various ways to shape interventions while allowing flexibility for alternative approaches.

6.2 Conclusions, recommendations, and implementation notes

This evaluation shows that support for protected areas faces challenges across the globe. While biodiversity conservation is an international priority, aligning conservation and use interests often proves difficult in practice. Country-specific factors also play a role, such as geographic location, climate conditions, ecosystem types, economic context, political and social systems, government changes, and population structure. The support for protected areas illustrates the interdependence of the SDGs and underscores the importance of a comprehensive DC approach.

Protected areas must be supported in the long term

The support for protected areas primarily stabilises biodiversity within protected areas but does not improve it in the long term, as the utilisation pressure in these areas could not yet be sustainably reduced. Nevertheless, this support helps to maintain existing protected areas that would otherwise deteriorate significantly without DC support. Furthermore, if DC were to withdraw from protected areas, partner countries would not be able to compensate for this loss, leading to severe consequences for biodiversity within protected areas. Ensuring the sustainable conservation of protected areas requires continued long-term and consistent support for partner countries, as stipulated in Article 20 of the CBD.

At the same time, the negative consequences of economic activity and trade on biodiversity in the Global South must be minimised to fulfil the broader societal responsibility for this global public good (see Footnote 2). This requires a heightened global awareness of the importance of biodiversity conservation and its role in addressing the triple planetary crisis.

Recommendation 1

In light of the global threat to biodiversity posed by environmental destruction and climate change, long-term support for protected areas is crucial for the conservation of natural resources in the long run. The BMZ should therefore uphold its support for protected areas, maintaining at least the existing level. The BMZ should also sustain its international advocacy efforts to support the financing of protected areas.

Socio-economic interventions must be strengthened

The support for protected areas pursues both ecological and socio-economic goals, though ecological goals are usually prioritised. Nevertheless, the evaluation concludes that while achieving ecological goals is essential, it is not sufficient for biodiversity conservation. Socio-economic factors should be integrated more systematically into German DC projects, since reducing utilisation pressure on protected areas is essential for ensuring their long-term biodiversity conservation.

Achieving this goal calls for measures at the (supra-)regional level to limit the commercial overexploitation of natural resources. At the same time, local communities' socio-economic dependence on economic activities that do not align with nature conservation goals must be reduced. Projects with a primarily socio-economic focus, on the other hand, must also take ecological consequences and their potential risks to biodiversity into account. Since certain sectors, including tourism, are highly vulnerable to crises, the economic resilience of local communities must be strengthened by diversifying economic activities and sources of income to prevent reliance on a single revenue stream. This gives local communities greater opportunities to secure their livelihoods sustainably in the long term, without excessively overusing the natural resources of a protected area or endangering its biodiversity.

Projects should prioritise the use of established and innovative approaches to balancing conservation and use interests. This could involve the sustainable use of natural resources within protected areas, such as the responsible harvesting of non-timber forest products, or initiatives to strengthen the socio-economic situation of local communities, such as payments for ecosystem services.

Recommendation 2

The BMZ should work to further emphasise the importance of socio-economic activities that reduce unsustainable utilisation pressure and it should anchor these more systematically into its strategic planning across all sectors. This will help to safeguard biodiversity in protected areas and ensure the sustainability of the support for protected areas.

Implementation note 2.1:

The BMZ could systematically integrate the role of socio-economic activities in the support for protected areas into future updates of its strategy papers, such as the CAS and country strategies. The CAS "Conserving nature and natural resources, protecting life on Earth" (Erhalt unserer natürlichen Lebensgrundlagen) already addresses the interactions and tensions between biodiversity conservation and fundamental socio-economic needs. The CAS also recognises the importance of a cross-sectoral approach, making it a strong starting point for mainstreaming biodiversity. It could therefore be operationalised in line with the findings of this evaluation. This would involve allocating the necessary resources and defining clear, measurable ecological and socio-economic goals, thereby enhancing the visibility of socio-economic activities.

Implementation note 2.2:

The BMZ could assess the extent to which links exist between the support for protected areas and the CAS "Sustainable economic development, training and employment" (Nachhaltige Wirtschaftsentwicklung, Ausbildung und Beschäftigung, particularly in field of action 3) and explore ways to better incorporate synergies – for example at the level of DC programmes. In this context, the BMZ could, where appropriate, examine the potential for greater involvement of private sector stakeholders, thereby promoting the mainstreaming of biodiversity in other sectors. The goal should be to ensure that both strategies work together to provide a coherent framework for aligning socio-economic and ecological goals.

Implementation note 2.3:

As a first step, the BMZ could review incoming module and programme proposals which are either directly or indirectly related to protected areas in order to assess their consideration of ecological and socio-economic goals. This approach could help the BMZ ensure that projects are aligned with strategic frameworks.

Recommendation 3

The implementing organisations should expand the socio-economic dimensions of the support for protected areas. In doing so, they should engage the relevant stakeholders and identify the key factors that contribute to the economic and unsustainable pressure on protected areas in each country context. Appropriate socio-economic interventions should then be implemented to mitigate this pressure.

Implementation note 3.1:
The implementing organisations could strengthen the economic and regulatory framework for accessing supra-regional markets for sustainable products by offering advisory services and initiating national dialogues beyond the responsible institution. This could also help identify links to other DC interventions focused on sustainable economic growth and job creation.

Implementation note 3.2:
The implementing organisations could align DC programmes and modules to both expand the capacities of local communities across different economic sectors and create the conditions necessary to fully exploit value chains using participatory approaches on the ground. This includes socially responsible financing and lending, as well as support for local communities in areas such as marketing and business development, provided by experts with experience in this context. A key factor in enhancing the economic resilience of local communities is the availability of diversified and sustainable income sources.

Implementation note 3.3:
In addition to the value chain approach commonly employed by implementing organisations, innovative solutions could be used to improve the socio-economic conditions and livelihoods of local communities, ensuring that particularly vulnerable groups benefit from DC interventions. Possible approaches include agroecological circular systems, payments for ecosystem services, compensation payments, or basic income schemes for local communities (de Lange et al., 2023). These options could be trialled through pilot projects or rigorous impact evaluation and, if successful, scaled up and expanded. Long-term interventions and the involvement of relevant stakeholders would support the successful implementation of these approaches.

Pooling of resources

The evaluation identified better pooling of DC and partner resources, along with a more focused approach (either regionally or at the protected area level), as additional success factors for long-term biodiversity conservation. This can be supported through donor coordination and the application of a landscape approach (see Footnote 44). The available evidence suggests that pooling resources and activities from the partner country and other donors to achieve systemic improvements in a single protected area enhances synergies for achieving goals, whereas spreading activities across multiple protected areas does not generate the same synergies (focus). A coordinated dialogue between donors and the partner government can also enhance connectivity between protected areas. By working together, protected areas supported by different donors can be better integrated within the landscape approach, for example, by establishing biological corridors that facilitate wildlife migration between protected areas and thereby improve biodiversity.

Recommendation 4

The implementing organisations should expand existing cooperation mechanisms with partner governments and other donors when planning and implementing projects supporting protected areas, for example to enhance the connectivity of the supported protected areas.

Implementation note 4.1:
As part of such cooperations, stakeholders could systematically identify and leverage opportunities for focus and task-sharing. At the same time, they could explore options for sharing data and expertise (see also recommendation 5).

Implementation note 4.2:
The implementing organisations could, for example, make greater use of established formats, such as GNU/GNJ or Team Europe from the forestry sector, to facilitate exchanges on biodiversity. Experience has also shown that jointly developing and tracking a results matrix is a valid approach.

Implementation note 4.3:
The implementing organisations could ensure that their staff have enough time for structured exchanges both internally and with international partners. This could enhance the quality of cooperation between implementing organisations, as confirmed by a corporate strategic evaluation of the implementing organisations (GIZ and KfW, 2023).

Improving data availability and utilisation across levels of effect

The monitoring of effects at the outcome level of interventions supporting protected areas remains inadequate. As a result, evaluations struggle to accurately determine the contribution of interventions at the impact level. Hardly any spatially disaggregated monitoring data is available at the protected area level for both ecological and socio-economic effects, and nationwide data is not sufficiently meaningful for assessing the broader impact of the support for protected areas. Furthermore, there is no consensus on the definition and allocation of indicators at the outcome and impact levels in the projects, with the same indicators often being assigned to both. This makes it difficult to compare and determine the effects at both levels, and hinders an evidence-based approach to designing, structuring, and realistically assessing the goals of DC interventions supporting protected areas.

Improved data availability and utilisation in this area could also help to develop alternative income-generating approaches, such as biodiversity certificates or payments for ecosystem services (see recommendation 3). This would allow for more precise examinations of ecosystem services, including species diversity, carbon sequestration and water quality. It would also make it possible to quantify local community contributions to environmental protection and ensure fair remuneration.

Regardless of whether they are assigned to the outcome or impact level when measuring the level of effect, measuring biodiversity indicators presents a methodological challenge (see Section 4.2.2). The resources and capacities required for data collection are either insufficiently planned within the projects or not accounted for at all at the DC programme level.

Recommendation 5

To improve its results-oriented steering of interventions, the BMZ should work with the implementing organisations to define indicators at DC programme level for measuring the outcomes of the support for protected areas. In addition, a consensus should be established on the indicators to be used for determining the contribution to higher-level impacts.

The BMZ should collaborate with the implementing organisations to significantly improve the availability and utilisation of data for assessing the effects of the support for protected areas at both the outcome and the impact level.

Implementation note 5.1:

To ensure resources are used efficiently, the BMZ and the implementing organisations could systematically draw on the data on protected areas already collected by partner countries, such as through National Biodiversity Action Plans and CBD reporting, in dialogue with partner governments and other donors. They could also approach other bilateral stakeholders to exchange data. The first step would be to assess which binding agreements would need to be established with partners to access and share this data.

Implementation note 5.2:

Data quality is key to enabling greater reliance on partner countries' data for monitoring and evaluation. If gaps are identified, implementing organisations could expand their existing capacity-building efforts to improve the collection of monitoring data in partner countries.

Implementation note 5.3:

Currently, joint monitoring by GIZ and KfW is rare (GIZ and KfW, 2023), which is also evident in the cooperation between implementing organisations on monitoring within the support for protected areas. KfW and GIZ could engage in regular regional exchanges on monitoring, methodologies, data availability and data quality. This would allow them to make joint use of the data they collect. They could also collaborate to further develop technical solutions, such as expanding the use of geodata to improve monitoring efficiency. FC, for example, has developed a geodata tool that enables various biodiversity analyses. A handbook on using open-source geodata was also created in this context (MAPME, 2021), which could serve as a basis for collaborations like these. There is also a GIZ working group dedicated to addressing these topics. Bringing these efforts together could help jointly overcome challenges related to the application of these methods.

Enhancing the participation of local communities

The importance of local community participation is anchored in the HRBA. However, a lack of evidence prevents a definitive assessment of its role in mitigating tensions between ecological and socio-economic objectives in the support for protected areas. In practice, a needs-based approach is generally favoured over a human rights-based one, as rights-holders are primarily informed or consulted rather than being actively involved in making decisions.

A variety of participatory practices are used, with substantial differences in terms of the extent and timing of involvement and the selection of participants. While a context-specific selection of practices is consistent with the HRBA, the decision on whether and which participatory practices are applied in the projects is not sufficiently criteria-based. The context-specific challenges in implementing participatory practices, such as issues related to the representative authority of participating stakeholders, are not adequately addressed. This results in unintended negative effects, such as the formation of elites or the marginalisation of vulnerable groups.

Recommendation 6

The BMZ and implementing organisations should make greater use of an HRBA in relation to the support for protected areas. To this end, the implementing organisations should on the one hand advance the active participation of rights-holders in protected area management. On the other hand, the BMZ should demand and review the implementation of participatory approaches more rigorously and close possible gaps in the operationalisation of the HRBA.

Implementation note 6.1:

The BMZ and the implementing organisations could jointly explore which participatory practices are particularly effective in different contexts and analyse the underlying reasons. Based on this, they could develop criteria to enable the implementing organisations to transparently justify and explain whether and which participatory practices were selected for the projects and to what extent the projects contribute to embedding participation in protected area management. As part of the project design, the implementing organisations already conduct various analyses, such as human rights and conflict analyses. These could also assess the potential for participatory practices in the planned projects, as well as the context-specific challenges associated with their implementation. The rationale for selecting participatory practices could be integrated into the module proposals, with the BMZ reviewing these justifications for plausibility.

Implementation note 6.2:

The BMZ and implementing organisations could build on existing processes to improve the implementation of the HRBA and the use of participatory practices. Steps have been taken in this direction since the publication of the BMZ's updated human rights concept (BMZ, 2023b). For example, the BMZ has already initiated a dialogue on complaints mechanisms in DC, which could serve as a model forum for developing criteria for participatory practices. The implementing organisations could build on the handbook on protected area management approaches published by GIZ in 2021, which presents participatory processes in different areas of protected area management (Auhagen et al., 2021). This handbook could be expanded to include KfW's processes to create a unified toolbox for the support for protected areas within German DC. This collection should be regularly updated based on exchanges between the implementing organisations.

Implementation note 6.3:

The BMZ and the implementing organisations could expand staff training on human rights relevant to the context of their projects, the HRBA and participatory practices, for example as part of their onboarding processes or overseas preparation. These sessions should focus on how to apply the HRBA more systematically in project planning and how staff can handle (context-specific) challenges when implementing participatory practices throughout all project phases.

Implementation note 6.4:

The implementing organisations should allocate sufficient human and financial resources in their planning to encourage participation in protected area management and/or the projects.

Box 8 Reference to recommendations from other evaluations

Some of the issues discussed in this chapter are structural in nature and are therefore also addressed in other DEval evaluations. Examples include the following:

Socio-economic interventions must be strengthened (recommendations 2 and 3)

Increasing the involvement of private sector stakeholders can strengthen the socio-economic component of the support for protected areas (Implementation note 2.2). Given the complexity of the contexts and the particular importance of biodiversity conservation, it is important that private and development policy stakeholders pursue common goals in this regard. In this context, we refer to recommendation 5 from the DEval *Evaluation Synthesis – Private Sector Engagement* (Habbel et al., 2021).

Furthermore, the long-term success of value chains is essential for the effectiveness of projects supporting protected areas that focus on alternative income sources (Implementation notes 3.1 to 3.3). The DEval Evaluation *Agricultural Value Chains* (Kaplan et al., 2016) explores both the potential and challenges in this area. Given its significant potential for positive effects and the risk of negative environmental effects, value chain support should systematically take ecological considerations into account (recommendation 4). At the same time, the evaluation emphasises the need for complementary activities to support particularly marginalised groups who may not benefit from this approach (recommendation 1).

Improving data availability and utilisation across levels of effect (recommendation 5)

The results orientation and evaluability of German DC's contributions – particularly the importance of monitoring data – has been brought up in multiple DEval evaluations. Examples include recommendation 4 from the *Evaluation of the Cooperation Model of Reform Partnerships*, recommendation 2 from the *Evaluation Synthesis – Private Sector Engagement*, and recommendation 6 from the *Joint Ministerial Evaluation of Germany's Civil Engagement in Iraq*. Many of these aspects are also summarised in the *Meta-evaluation Sustainability in German Development Cooperation* and the *Evaluation on Results Orientation and Evaluability of Development Cooperation Programmes*, the implementation of which would also enhance the ability to evaluate the support for protected areas (Amine et al., 2021; Noltze et al., 2018). Two recommendations from the latter evaluation are particularly relevant: recommendation 2 addresses the need for a more meaningful target system across different levels of effect, as well as a clear representation of how the modules are intended to interact and the definition of corresponding indicators. Recommendation 5 calls for an improved data basis through appropriate monitoring from the planning phase onward.

Enhancing the participation of local communities (recommendation 6)

The *Evaluations on Human Rights in German Development Policy* I and II (Polak et al., 2021, 2022) recommend further strengthening the integration of the HRBA, including through quality assurance systems. This cross-sectional approach should also encompass the participation of local communities. Moreover, recommendation 3 (HR I & II), which addresses a DC-wide complaints system, presents a further point of connection. The Evaluation on *Impact, Diffusion and Scaling-Up of a Comprehensive Land-Use Planning Approach in the Philippines* also offers relevant insights, including the conclusion that participation should be treated as a fundamental component of an intervention, adequately resourced and implemented consistently (Leppert et al., 2018).

Figure 20 Rating the support for protected areas according to OECD DAC criteria

	Study aspect	Rating: missed → exceeded
Relevance	Alignment with the international legal framework	partially fulfilled
	Alignment with the objectives of the partner countries	mostly fulfilled
	Needs and capacities of partner organisations and rights-holders	mostly fulfilled
	Participatory processes in the project cycle	partially fulfilled
Effectiveness	Management in specific PAs	mostly fulfilled
	Support for the PA system	mostly fulfilled
	Self-imposed ecological goals	partially fulfilled
	Interventions to create alternative income sources	mostly fulfilled
	Use of alternative approaches by the population	mostly fulfilled
	Tension mitigation	mostly fulfilled
	Role of participation in tension mitigation	Exploratory question
Impact	Integrity and biodiversity of ecosystems	No rating
	Size and connectivity of PAs	No rating
	Securing livelihoods	No rating
	Minimisation of unintended negative effects	No rating
	Establishment of complaints mechanisms	No rating
Coherence	Internal coherence: Strategic integration of FC and TC	mostly fulfilled
	Internal coherence: Operational coordination of the implementing organisation	partially fulfilled
	Internal coherence: Integration into the country portfolio	partially fulfilled
	External coherence: Coordination with the partner country	mostly fulfilled
	External coherence: Building on existing structures	mostly fulfilled
	External coherence: Coordination with other donors	mostly fulfilled
Efficiency	Achievement of objectives during the project	No rating
	Demand-driven use of resource-intensive processes	No rating
	Use of the most cost-effective means to achieve objectives	No rating
Sustainability	Institutional framework conditions and ownership of the partner countries	partially fulfilled
	Resource endowment of the participating partner organisations	partially fulfilled
	Public awareness and commitment	partially fulfilled

Source: DEval, own visualisation

7.

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8.

ANNEX

8.1 Rating scales in DEval evaluations

DEval evaluations are structured around evaluation questions and follow the OECD DAC evaluation criteria (see Chapter 2). The rating of the evaluation subject is based on verifiable assessment criteria and predefined evaluative assessments that must be met for development interventions to be considered appropriate and successful from the evaluation team's perspective. Assessment criteria are derived, for example, from the theory of change and subsequently operationalised. Evaluations follow a six-tier rating scale, which is applied to the collected data.

Table 8 The six-point rating scale for DEval evaluations

Categories	Explanation
Exceeded	The intervention clearly exceeds the benchmark for the applied evaluation criterion. Findings demonstrate a result well above the benchmark.
Fulfilled	The intervention meets the benchmark for the applied evaluation criterion. Findings demonstrate that the benchmark is met
Mostly fulfilled	The intervention largely meets the benchmark for the applied evaluation criterion. Findings which demonstrate that the benchmark is met predominate.
Partially fulfilled	The intervention partially meets the benchmark for the applied evaluation criterion. The numbers of findings demonstrating that the benchmark is met, and those demonstrating it is not, are (more or less) equal.
Barely fulfilled	The intervention barely meets the benchmark for the applied evaluation criterion. Findings which demonstrate that the benchmark is not met predominate.
Missed	The intervention does not meet the benchmark for the applied evaluation criterion. Findings demonstrate that the benchmark is not met.

8.2 Evaluation matrix

Evaluation questions	Assessment criteria	Indicators	Data sources	Methods
EQ 1: To what extent is the BMZ's support for PAs aligned with the international reference framework for biodiversity conservation and the needs and capacities of local communities and involved partners? (Relevance)	AC 1a: The strategic orientation and operational implementation are based on the international reference framework for support for PAs (CBD and associated strategies and goals, 2030 Agenda, UN Covenant on Civil and Political Rights, UNDRIP and UNDROP).	All strategies listed in AC 1a (CBD with its associated strategies and goals, Agenda 2030, the UN Social and Civil Covenants, UNDRIP, and UNDROP) are referenced in the projects and taken into account in the project design.	Project documents, interviews[70]	Qualitative content analysis
	AC 1b.1: The strategic orientation is based on the objectives of the partner countries.	Reference is made to the goals of the partner country.	Project documents, interviews	Qualitative content analysis
	AC 1b.2: The needs and capacities of the affected local communities, participating organisations and institutions have been analysed and are given appropriate consideration in the projects.	Needs and capacities were analysed in advance and included in the project planning.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
	AC 1c: The participatory processes involve relevant stakeholders, including rights-holders, throughout the entire programme cycle and are perceived as fair and transparent by the rights-holders.	Rights-holders participate in project planning, implementation and evaluation. Rights-holders perceive the participatory processes as fair and transparent.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
EQ 2: To what extent does the BMZ's support for PAs achieve the intended goals? (Effectiveness)	The answer to the question is based on the responses to the sub-questions and their respective assessment criteria.			

70 A list of the interviews and survey participants by stakeholder group can be found in the online annex.

Evaluation questions	Assessment criteria	Indicators	Data sources	Methods
EQ 2.1: To what extent are the ecological goals of the BMZ's support for PAs achieved, or have the necessary conditions for achieving them been created?	AC 2.1a: The effective and sustainable management of each PA is ensured by adequate staffing, the necessary capacities and financial resources.	The OIs for PA management are fulfilled (e.g. patrols per month, METT). Qualitative data estimates that the resource endowment is sufficient.	Project documents, interviews, OIs	Qualitative content analysis, quantitative analysis of the OIs
	AC 2.1b: PA systems are supported by relevant public processes, structures, and resources.	The OIs for the national/regional PA system are fulfilled. Qualitative data estimates that the resource endowment is sufficient.	Project documents, interviews, online survey, OIs	Qualitative content analysis, quantitative analysis of the online survey, quantitative analysis of the OIs
	AC 2.1c: The projects achieve their self-imposed ecological goals.	The OIs for ecological objectives are fulfilled (e.g. area under protection, animal population). Qualitative data estimates that the ecological goals have been achieved.	Project documents, interviews, OIs	Qualitative content analysis, quantitative analysis of the OIs
EQ 2.2: To what extent are the set socio-economic goals of the BMZ's support for PAs achieved?	AC 2.2a: The projects include appropriate components for sustainable income-generating measures for the local communities in and around PAs.	The OIs for activities involving local communities are fulfilled (e.g. number of people trained, number of cooperatives). Qualitative data confirms the existence of such interventions.	Project documents, interviews, OIs	Qualitative content analysis, quantitative analysis of the OIs
	AC 2.2b: The local community increasingly adopts approaches for sustainable income generation.	The OIs for income increase are fulfilled (e.g., household income). Qualitative data confirms this.	Project documents, interviews, OIs	Qualitative content analysis, quantitative analysis of the OIs
EQ 2.3: If there are tensions between the goals of support for PAs and other DC goals, is German DC successful in mitigating these tensions?	AC 2.3a: DC succeeds in mitigating existing tensions (for example, replacing harmful utilisation practices with sustainable sources of income).	The OIs for mitigating the tensions are fulfilled. Tensions and conflicts between ecological and economic goals are identified, addressed, and mitigated.	Project documents, interviews, online survey, OIs	Qualitative content analysis, quantitative analysis of the online survey, quantitative analysis of the OIs
	AC 2.3b: Participatory processes play a role in identifying tensions between the desired goals and in coordinating and implementing suitable (preventive) measures.	Exploratory question	Project documents, interviews, online survey, OIs	Qualitative content analysis, quantitative analysis of the online survey, quantitative analysis of the OIs

Evaluation questions	Assessment criteria	Indicators	Data sources	Methods
EQ 3: To what extent does the BMZ's support for PAs contribute to protecting ecosystems and promoting local development? (Impact)	The answer to the question is based on the responses to the sub-questions and their respective assessment criteria.			
EQ 3.1: What intended developmental effects can be identified and attributed to German DC?	AC 3.1a.1: Ecosystems have improved in terms of integrity and biodiversity.	Biodiversity has increased.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
	AC 3.1a.2: The area and connectivity of PAs have increased (worldwide).	Area and connectivity have increased. Aichi Target 11 was achieved.	Project documents, interviews, secondary literature	Qualitative content analysis
	AC 3.1b: The local community can support their livelihoods through alternative (ecologically sustainable) economic activities.	The community can secure their livelihood.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
EQ 3.2: Can unintended (positive and negative) developmental effects be identified?	AC 3.2a: Unintended negative developmental effects are minimised.	Risks of negative developmental effects are analysed and mitigated, while existing negative effects are identified.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
	AC 3.2b: Feedback submitted through complaints mechanisms is processed, and decisions are communicated to the communities.	The project includes a complaints mechanism accessible for the target group.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
EQ 4: To what extent is the support for PAs coherent within German DC? (Coherence)	The answer to the question is based on the responses to the sub-questions and their respective assessment criteria.			

Evaluation questions	Assessment criteria	Indicators	Data sources	Methods
EQ 4.1: To what extent is the support for PAs within German DC designed and implemented in a complementary and cooperative way?	AC 4.1a: The strategies and projects of German DC support for PAs complement each other logically.	Strategies and projects complement and build on each other. Redundancies are avoided. A division of tasks is strategically intended, effective and well-coordinated.	Project documents, interviews	Qualitative content analysis
	AC 4.1b: The operational implementation of projects from German implementing organisations, including participatory elements, is carried out with systematic coordination.	Implementing organisations coordinate regularly during the implementation process. Activities complement or build on each another.	Project documents, interviews	Qualitative content analysis
	AC 4.1c: The support for PAs is coherent with other activities and objectives of the country portfolios.	Projects establish strategic links with sectors beyond the biodiversity sector. Projects are coherently integrated into the country strategy.	Project documents, interviews	Qualitative content analysis
EQ 4.2: To what extent does the BMZ's support for PAs complement and assist the efforts of the involved (DC) partners and local communities?	AC 4.2a: The planning and implementation of the support for PAs are regularly coordinated with partners and documented accordingly.	German DC institutions engage in strategic and operational coordination with the partner country. A good working relationship is in place.	Project documents, interviews	Qualitative content analysis
	AC 4.2b: The support for PAs builds plausibly on existing approaches and structures in the partner countries.	Existing approaches and structures in the partner country's biodiversity sector are incorporated into the projects.	Project documents, interviews	Qualitative content analysis
EQ 4.3: To what extent is the BMZ's support for PAs designed and implemented in a complementary and cooperative way with regard to other donors and agencies?	AC 4.3: The planning and implementation of the BMZ's support for PAs are aligned with other donors and agencies.	German DC institutions engage in strategic and operational coordination with other donors (multilateral, bilateral, other federal ministries) Overlaps are avoided.	Project documents, interviews	Qualitative content analysis

Evaluation questions	Assessment criteria	Indicators	Data sources	Methods
EQ 5: To what extent are the inputs of the support for PAs in balance with the outcomes achieved? (Efficiency)	AC 5a: Outcomes are achieved within the time frame specified in the programme documents.	Most of the outcomes/goals were achieved as planned. Delays were due to external factors that cannot be influenced by DC (e.g. the COVID-19 pandemic).	Project documents, interviews	Qualitative content analysis
	AC 5b: Complex processes, such as those to ensure participation, are specifically implemented where the (greatest) need has been identified.	The need for complex processes is analysed and they are used where they are most needed.	Project documents, interviews	Qualitative content analysis
EQ 5.1: To what extent could the outcomes of the support for PAs have been achieved in other ways at a lower cost?	AC 5.1a: The means chosen are the most cost-effective to achieve the desired effects.	Exploratory question	Project documents, interviews	Qualitative content analysis
EQ 6: To what extent are the effects of the support for PAs permanent? (Sustainability)	AC 6a: Partner countries have the necessary level of ownership and structures (institutional and legal frameworks) in place to ensure the effective and lasting management of their ecosystems.	Institutional and legal framework conditions have been created and secured for the long term. Processes continue beyond the end of German DC. The partner country demonstrates political ownership of biodiversity protection.	Project documents, interviews	Qualitative content analysis
	AC 6b: The participating institutions and organisations have the necessary human and financial resources in the long term to ensure sustainable management of their PAs.	German DC has helped ensure that PA management institutions can meet their identified resource needs in the long term.	Project documents, interviews, online survey	Qualitative content analysis, quantitative analysis of the online survey
	AC 6c: The population actively engages in the conservation of biodiversity in general and their PAs in particular.	The population recognises the value of biodiversity and actively supports its conservation.	Project documents, interviews	Qualitative content analysis

8.3 Evaluation schedule

Time frame	Tasks/phases
10/2021 – 02/2022	Planning phase
17/02/2022	Reference group meeting on the concept note
03/2022 – 09/2022	Conceptual adjustment and inception phase
10/08/2022	Reference group meeting on the inception report
09/2022 – 08/2023	Data collection phase
09/2023 – 03/2024	Analysis and synthesis phase
18/12/2023	Reference group meeting on the preliminary results
03/2024 – 07/2024	Reporting, including reference group meetings on conclusions and the draft report, followed by revisions
10/2024	Publication

8.4 Evaluation team and contributors

Core team	Role	CRediT statement[71]
Anna Sting	Evaluator and Team Lead	data curation, formal analysis, validation, investigation, methodology, project administration, supervision, visualisation, writing – original draft, writing – review & editing
Dr Kim Lücking	Senior Evaluator and Team Lead	conceptualisation, data curation, investigation, methodology, project administration, supervision, visualisation, writing – original draft, writing – review & editing
Carolin Wicke	Evaluator	data curation, formal analysis, investigation, methodology, project administration, supervision, visualisation, writing – original draft, writing – review & editing
Alina Dausendschön	Evaluator	conceptualisation, data curation, formal analysis, investigation, methodology, project administration, visualisation
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71 The CRediT statement (Contributor Roles Taxonomy, *https://credit.niso.org/*) outlines the roles of the authors of this evaluation report. The CRediT taxonomy differentiates between 14 roles to highlight each author's specific contribution.

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Raymond Vogelsang	Working student (01/2023–09/2023)	
Rebekka Schmarewski	Working student (until 09/2022)	

Contributors	Role
Dirk Hoffmann	Internal peer reviewer
Prof Dr agr. Jan Börner	External peer reviewer
Daniel Egli	External consultant quantitative methods
Dirk Euler	External consultant quantitative methods
Henri Sitorus	External consultant Indonesia
Christian Nna	External consultant Cameroon
Adoté Didier Akue	External consultant Cameroon
Julien Brice M. Fotio	External consultant Cameroon
Thora Amend	External consultant Ecuador

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