Protected area governance and management

A resource book for practitioners in development cooperation

›› ACKNOWLEDGEMENTS

›› TABLE OF CONTENTS

4. EXPERIENCES WITH SELECTED TOOLS IN GERMAN TECHNICAL COOPERATION PROJECTS

5. PROJECT CASE STUDIES

6. SOURCES OF FURTHER INFORMATION

›› LIST OF ACRONYMS AND ABBREVIATIONS

ABS	Access and Benefit-Sharing
API	Application Programming Interface
ASEAN	Association of Southeast Asian Nations
BCP	Biocultural Community Protocol
BFD	Bangladesh Forest Department
BMZ	German Federal Ministry for Economic Cooperation and Development
CBD	Convention on Biological Diversity
CCAD	Central American Commission for Environment and Development
CEPA	Communication, Education & Public Awareness
CFA	Conservation Finance Alliance
CIP	Conservation Investment Plan
CMP	Conservation Measures Partnership
CTF	Conservation Trust Fund
DOPA	Digital Observatory of Protected Areas
EC	European Commission
EE	Earth Explorer
EOH	Enhancing our Heritage
ES	Ecosystem Services
FAO	Food and Agriculture Organisation of the United Nations
FIBA	Fondation Internationale du Banc d'Arguin
FFI	Fauna and Flora International
FPIC	Free, Prior and Informed Consent
GAPA	Governance Assessment of Protected Areas
GEF	Global Environment Facility
GFW	Global Forest Watch
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für internationale Zusammenarbeit GmbH
GPS	Global Positioning System
HNN	Hin Nam No
IBA	Important Bird Area
ICCA	Indigenous Peoples' and Community Conserved Territories and Areas
IIED	International Institute for Environment and Development
ILO	International Labour Organisation
IPLC	Indigenous Peoples and Local Communities
IUCN	International Union for Conservation of Nature
IPA	Important Plant Area
KBA	Key Biodiversity Area
MARISCO	Adaptive Management of Risk and Vulnerability at Conservation Sites

NGO	Non-Governmental Organisation
NASA	National Aeronautics and Space Administration
NOAA	US National Oceanic and Atmospheric Administration
NPA	National Protected Area
ODK	Open Data Kit
OECM	Other effective area-based conservation measures
OS	Open Standards
PA	Protected Area
PA-BAT	Protected Areas Benefits Assessment Tool
PAME	Protected Area Management Effectiveness
PC	Personal Computer
PES	Payment for Ecosystem Services
PoWPA	Programme of Work on Protected Areas (under the CBD)
RAPPAM	Rapid Appraisal and Prioritization of Protected Area Management
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SAPA	Social Assessment of Protected Areas
SERNANP	Servicio Nacional de Áreas Naturales Protegidas por el Estado
SINANPE	Sistema Nacional de Áreas Naturales Protegidas por el Estado
SMART	Spatial Monitoring and Reporting Tool
SNRD	GIZ Sector Network on Rural Development and Natural Resources
SRS	Satellite Remote Sensing
TNC	The Nature Conservancy
TWG	Technical Working Group
UN	United Nations
UNDP	United Nations Development Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP-WCMC	United Nations Environment Program-World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCPA	IUCN World Commission on Protected Areas
WCS	Wildlife Conservation Society
WH	World Heritage
WDPA	World Database of Protected Areas
WWF	World Wide Fund for Nature

›› PREFACE

Protected areas are one of the most important instruments of worldwide conservation efforts. Vital for healthy and functioning ecosystems, protected area systems determine the fate of many endangered species along with the genetic diversity and ecological processes they sustain. Moreover, preserved natural habitats provide all living beings on earth with essential life-sustaining benefits and ecosystem services such as air, water and food and thus also play a key role in supporting human livelihoods. Against the backdrop of climate change, continued ecosystem degradation and ongoing biodiversity loss worldwide, well-designed, connected and effectively managed protected areas are essential in maintaining the adaptive capacity and health of ecosystems. As increasingly recognised in the light of the COVID-19 pandemic, they are also key to human health.

In the past few decades, the world has experienced a surge in the formal establishment of protected areas, their surface area to date covering about 15% of land area and 8% of the ocean. Most protected areas are governed and managed by national or sub-national government agencies. During recent years, however, the range of actors involved in protected area governance and management has broadened through increasing numbers of co-management arrangements, indigenous peoples' and community conserved areas and protected areas initiated by private actors. This sign of growing ownership is encouraging and gives hope for more acceptance and sustainability of protected areas. Nevertheless, a great deal remains to be done both to enhance good and equitable governance and management effectiveness of protected areas worldwide and to expand and increase efforts in other key biodiversity areas and in areas that are important for ecosystem services that are not legally protected.

Guided by the Strategic Plan for Biodiversity 2011 – 2020 of the Convention on Biological Diversity (CBD), Germany has been supporting these developments through its cooperation with partner countries and will continue to provide this support following the adoption of a post-2020 Global Biodiversity Framework. Commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ), GIZ is currently implementing about 50 projects in developing countries and emerging economies to support protected area governance and management designed to conserve ecosystems such as forests, oceans and coasts.

With increasingly diverse objectives and framework conditions for protected area governance and management worldwide, practitioners in development cooperation are confronted with growing complexity and the associated demand for a broad range of advisory services with regards to both policy, legal and institutional frameworks and to governance and management challenges on the ground.

The present publication was written as a resource book for professionals who support capacity development in the field of protected area governance and management. It is designed to help its readers navigate the wealth of existing knowledge products and to give inspiration by presenting examples and project experience. At its core, it provides an overview of a variety of planning, management, financing, monitoring and assessment tools and of instruments and guidance to enhance the recognition and participation of rightsholders and stakeholders. The selection of tools is intended to be sufficiently comprehensive to cover the broad range of different governance and management issues at stake in protected area systems and sites while at the same time limiting the total number of tools presented. The list includes well-established tools for which documented experience is available as well as offering some newer tools that address emerging challenges. In view of the fact that this is a dynamically developing field with existing tools being adapted and new tools being developed, this resource book seeks to provide general guidance based on professional judgement at the present point in time without in any way claiming to be authoritative or exhaustive.

We hope this resource book will prove useful for established professionals and newcomers alike and wish you every success in using and applying the tools and resources presented here.

Vera Scholz
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›› OVERVIEW

1 INTRODUCTION
BACKGROUND, BASICS AND GIZ APPROACH

2 THE TOOLS IN A NUTSHELL
SNAPSHOT INTRODUCTION TO THE TOOLS AND DIRECT LINKS TO TOOL DESCRIPTIONS

3 THE TOOLS
DETAILED INFORMATION, DIVIDED INTO 7 BROAD THEMATIC AREAS AND 19 SUBTHEMES

POLICY AND LEGAL FRAMEWORK	
SPATIAL PLANNING FOR PROTECTED AREAS AND PRO-TECTED AREA SYSTEMS	Site Priorisation Methods and Approaches
	Protected Area System Planning, Integrated Gap Analysis, Zoning
MANAGEMENT PLANNING	General
	Specific Planning Tools
PROTECTED AREA FINANCING	General
	Assessing, Monitoring and Diagnosing Financing Status
	Financing Mechanism
	Specific Financing Instruments
	Business Planning
CAPACITY DEVELOPMENT	
ASSESSMENT, MONITORING AND EVALUATION	PA Management Effectiveness Assessment
	Global PA Performance Standards
	Biodiversity Monitoring and Surveillance Tools
	Costs, Benefits and Social Impacts
	Ecosystem Services Assessment and Evaluation
GOVERNANCE	General
	Collaborative Management/Shared Governance
	Indigenous Peoples' and Community Conserved Territories and Areas (ICCas)
	Conflict resolution

4 EXPERIENCES WITH SELECTED TOOLS IN GERMAN TECHNICAL COOPERATION PROJECTS
FOCUSSING ON GOVERNANCE ASSESSMENT, SMART & METT

5 PROJECT CASE STUDIES
FOCUSSING ON FPIC, CO-MANAGEMENT, TRANSBOUNDARY PA GOVERNANCE, ECOSYSTEM SERVICES ASSESSMENT AND PA POLICY DEVELOPMENT

6 SOURCES FOR FURTHER INFORMATION
KNOWLEDGE PLATFORMS, TRAININGS AND CURRICULA RELEVANT FOR PROTECTED AREAS

›› HOW TO USE THIS RESOURCE BOOK?

The resource book offers several entry points from which you can access the information provided and navigate to the section you are interested in: basic introductory knowledge, background information on advisory approaches in German technical cooperation, a thematically structured overview of the tools presented, detailed tool descriptions, experience and lessons learned. Links lead you from one section to other relevant chapters within the document.

The **table of contents** provides an overview of all six chapters, including a full list of the tools. If you already know which tool you are interested in, you can navigate from here directly to the detailed tool description in Chapter 3.

Chapter 1 presents the basic concepts of protected area governance and management and core elements of successful support through technical cooperation.

Chapter 2 – the tools in a nutshell - helps you navigate between tools for your specific purpose by offering snapshot introductions and links to the tools described in more detail in Chapter 3. It provides an overview of all the tools selected for this resource book, clustered in seven broad thematic areas: policy and legal framework, spatial planning, management planning, financing, capacity development, assessment/monitoring/evaluation and governance.

Chapter 3 contains detailed descriptions of 56 tools that support governance and management of protected areas. Tools can be online databases, guidelines and manuals, interactive online platforms, software tools, methodologies, good practice standards, sourcebooks, etc. Each description contains basic information about the tool, assesses its strengths and weaknesses and provides links to case studies, reviews and further reading.

Chapter 4 provides examples of application experience from German technical cooperation for three tools.

Chapter 5 presents six case studies from German technical cooperation with reference to instruments described in Chapter 3.

Chapter 6 contains additional toolkits, knowledge platforms and sources for further reading as well as an overview of training courses, training materials and curricula relevant to governance and management of protected areas.

Symbols

🔗	Signifies a link to an external website.
▶	Signifies an internal link to a relevant section within the document.
⚐	Leads you to the main website for the relevant tool.
▨	Sections of particular relevance to marine environments are highlighted in blue shading.

Web links
The publication provides a large number of external web links. If a link appears to be dysfunctional, please try a different browser or use a search engine to find an updated URL for the required element.

PDF navigation pane
The inbuilt pdf-page navigation pane allows you to easily jump forwards and backwards between chapters and sub-chapters while at the same time reviewing the document.

1 /

INTRODUCTION

1.1   PROTECTED AREAS – BASIS FOR SUSTAINABLE DEVELOPMENT

From Yosemite's taiga forests to the Serengeti's savanna grasslands to the unique marine ecosystems of the Galapagos Islands: protected areas harbour some of the most spectacular and diverse landscapes and seascapes on earth and are a cornerstone of in situ biodiversity conservation. Different kinds of protected areas maintain important habitats and provide refuge for threatened biodiversity, be it endemic plants, pollinating insects or keystone species such as lions, jaguars, gorillas, otters and whale sharks. They also fulfil vital functions for human wellbeing, both for communities that directly depend on them and for urban agglomerations that benefit from intact water catchment areas, for instance. Healthy, diverse ecosystems provide clean air, safe drinking water, food, fertile soils, climate regulation and an array of recreational and tourism opportunities. Terrestrial and marine protected areas also store and sequester substantial amounts of carbon and play an important role in global climate change mitigation and adaptation. Moreover, as many such areas remain understudied, they form important hubs for scientific research and also provide a variety of employment opportunities. Reflecting local cultural heritage and spiritual values of the communities living in and near them, protected areas serve as places of inspiration, regeneration, knowledge and education and as such are fundamental to conserving both biological and cultural diversity.

Protected areas are commonly understood to be clearly defined spaces dedicated to the conservation of nature where human presence and the use of resources are thus restricted or clearly regulated based on sustainability criteria. Against the backdrop of worldwide growth in consumption and rising resource pressure, it is as crucial as ever to conserve diverse and fragile ecosystems and to work together to achieve effective, equitable and rights-based management. Protected area governance and management need to consider the fragile balance between conservation goals and the rights and livelihoods of local communities and indigenous peoples depending on their resources. Benefits arising from the use of these spaces and the natural resources within them need to be fairly shared.

The Convention on Biological Diversity (CBD) has long since recognised the importance of governance for effective and equitable conservation and thus promoted an understanding of protected areas as a basis for sustainable development, especially with regards to enhancing governance diversity and quality, decision-making processes, stakeholder involvement and participation of indigenous peoples and local communities.[1]

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1   Subsidiary Body on Scientific, Technical and Technological Advice to the Convention on Biological Diversity (2018): Protected and conserved areas governance in the Convention on Biological Diversity: a review of key concepts, experiences, and source of guidance. CBD/SBSTTA/22/INF/8.

>> 1.1 Protected areas – basis for sustainable development

DIVERSITY OF PROTECTED AREA OBJECTIVES ACROSS TIME[2]

Over the past few decades, focal objectives for protected areas have become increasingly diverse, contributing to rising management complexity. Whereas the preservation of iconic landscapes and wildlife species motivated the first protected area designations towards the end of the 19th century, rationale and objectives have multiplied since the 1950s and include the following main goals:

- ◆ tourism development
- ◆ biodiversity conservation
- ◆ community welfare and social objectives
- ◆ provision of ecosystem services.

2   Watson, J.E.M. et.al. (2014). The performance and potential of protected areas. In: Nature, vol. 515.

1.2   PROTECTED AREAS – APPROACHES, TERMS AND DEFINITIONS

According to the **definition** provided by the International Union for Conservation of Nature (IUCN), a protected area is 'a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values' and includes terrestrial reserves, inland waters, and coastal and marine areas. Protected areas can range from small community-based reserves for fishery management to multiple-use estuarine river systems under the regime of a multi-stakeholder board to high-altitude mountain ranges administered as a national park by a central government agency. They therefore come in many shapes and sizes and are governed and managed by a variety of actors for a variety of purposes, many of them holding different designations on national, regional and international levels. To bring some order to this complexity, IUCN has developed a system (the IUCN matrix) combining **protected area categories**, based on **primary management objectives**, with protected area **governance types**:

Figure 1: The IUCN protected area matrix of management categories and governance types[3]
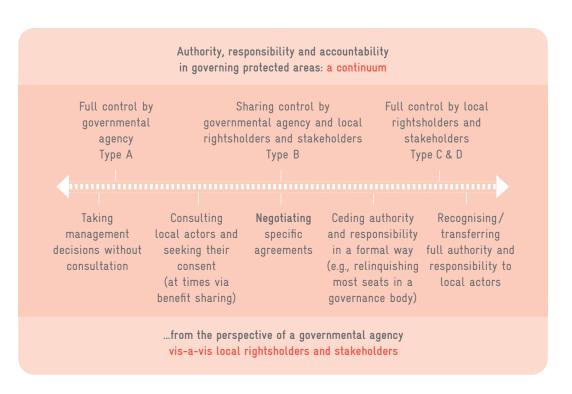
GOVERNANCE TYPE / MANAGEMENT CATEGORY	A. GOVERNANCE BY GOVERNMENT			B. SHARED GOVERNANCE			C. PRIVATE GOVERNANCE			D. GOVERNANCE BY INDIGENOUS PEOPLES AND LOCAL COMMUNITIES	
	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g. to an NGO)	Transboundary governance	Collaborative governance (various forms of pluralist influence)	Joint governance (pluralist governing body)	Conserved areas established and run by individual landowners	...by non-profit organisations (e.g. NGOs, universities)	...by for-profit organisations (e.g., corporate landowners)	Indigenous peoples' conserved areas and territories – established and run by indigenous peoples	Community conserved areas and territories – established and run by local communities
Ia Strict Nature Reserve											
Ib Wilderness Area											
II National Park											
III Natural Monument											
IV Habitat/ Species Management											
V Protected Landscape/ Seascape											
VI Protected Area with Sustainable Use of Natural Resources											

3 Ibid., p. 45

›› 1.2 Protected areas – approaches, terms and definitions

PROTECTED AREA MANAGEMENT CATEGORIES	PROTECTED AREA GOVERNANCE TYPES
◆ Category Ia: Strict Nature Reserve ◆ Category Ib: Wilderness Area ◆ Category II: National Park ◆ Category III: Natural Monument or Feature ◆ Category IV: Habitat/Species Management Area ◆ Category V: Protected Landscape/Seascape ◆ Category VI: Protected area with sustainable use of natural resources	◆ Type A: governance by government (at various levels and possibly combining various agencies) ◆ Type B: governance by various rightsholders and stakeholders together (shared governance) ◆ Type C: governance by private individuals and organizations (usually the landholders) ◆ Type D: governance by indigenous peoples and/or local communities (often referred to as ICCAs)
MANAGEMENT is about the means and actions to achieve given objectives.	GOVERNANCE is about who decides about what is to be done, and how those decisions are taken.

However, the degree to which rightsholders and stakeholders are involved in the governance and management of a protected area is often not as clear-cut as the IUCN governance types and sub-types would suggest, and in many cases it also changes over time. A useful concept to reflect different degrees of sharing authority, responsibility and accountability and possibilities for further evolvement is the 'governance continuum'.

Figure 2:
The governance
continuum[4]

Authority, responsibility and accountability
in governing protected areas: a continuum

Full control by
governmental
agency
Type A

Sharing control by
governmental agency and local
rightsholders and stakeholders
Type B

Full control by local
rightsholders and
stakeholders
Type C & D

Taking
management
decisions without
consultation

Consulting
local actors and
seeking their
consent
(at times via
benefit sharing)

Negotiating
specific
agreements

Ceding authority
and responsibility
in a formal way
(e.g., relinquishing
most seats in a
governance body)

Recognising/
transferring
full authority and
responsibility to
local actors

...from the perspective of a governmental agency
vis-a-vis local rightsholders and stakeholders

4　Ibid., p. 45

›› 1.2 Protected areas – approaches, terms and definitions

A TERM WITH MANY MEANINGS: CO-MANAGEMENT OF PROTECTED AREAS

Co-management or collaborative management is a widely used term in the context of protected areas employed by a variety of actors for different concepts of stakeholder participation. There is no generally applicable definition of the term. It can refer to the roles of state and non-state actors in **decision-making processes** (e.g. on zoning, rules of use) and/or in the **implementation of measures** (e.g. monitoring and surveillance) and/or in the **sharing of rights and benefits**.

The stakeholders in a co-management arrangement often include the entity that is primarily in charge along with local communities, but can also involve NGOs, local or regional administrations, research institutes and private organisations, among others. In the context of **projects** that promote a co-management approach, it is therefore **fundamental for all the actors involved to agree on a common understanding of the co-management concept to be developed** and to reflect on different forms of participation, for example using governance assessments.

Furthermore, there are different **international area designations** that may coincide with nationally designated protected areas or parts of protected areas around the world:

INTERNATIONAL AND REGIONAL DESIGNATIONS

Internationally designated areas (IDAs) are natural areas recognised by a global or regional designation mechanism, such as the following:

- **UNESCO Natural World Heritage Site**: an area designated for being of outstanding value to humanity due to its cultural and natural heritage as well as historical and scientific features.
- **UNESCO Biosphere Reserve**: an area established under the Man and the Biosphere Programme to promote and demonstrate a balanced relationship between humans and the biosphere, promoting solutions to reconcile conservation with sustainable use of resources.
- **Ramsar Site**: a wetland site deemed to be of international importance under the Ramsar Convention established in 1971 by UNESCO.
- **UNESCO Global Geopark**: single, unified geographical areas where sites and landscapes of international geological significance are managed using a holistic concept of protection, education and sustainable development.
- **ASEAN Heritage Parks**: protected areas of high conservation importance, preserving in total a complete spectrum of representative ecosystems of the ASEAN region.
- **Natura 2000**: a network of sites selected to ensure the long-term survival of Europe's most valuable and threatened species and habitats designated under the European Habitats and Birds Directives.

›› 1.2 Protected areas – approaches, terms and definitions

There are currently 213 UNESCO Natural World Heritage sites, 701 UNESCO Biosphere Reserves, 2,300 Ramsar sites, 140 UNESCO Global Geoparks and 49 ASEAN Heritage Parks. Some protected areas carry **multiple international area designations (MIDAs)**, creating both opportunities and challenges due to the variety of standards implied by each category.

In addition to formally designated areas, it is important to underline the role of spaces that are not part of the official protected area system of a given country but in which conservation efforts still effectively take place, known as **other effective area-based conservation measures (OECMs):**

OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES (OECMS)

Not all areas in which effective long-term conservation happens are defined or legally recognised as protected areas. The CBD defines the conservation designation 'Other area-based conservation measure' (OECM) as a **'geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values'.**[5] OECMs may be areas where primary voluntary conservation efforts are either not recognised by a national government or where stakeholders refuse to be categorised as a protected area (for example, for reasons relating to self-determination). Considering that the majority of key biodiversity areas worldwide are not adequately covered by protected areas[6], OECMs can play an important role in increasing the coverage of ecologically representative areas for biodiversity and ecosystem functions and services; it can also enhance connectivity between protected and conserved areas and can support the recovery of threatened species.

In recent decades, there has been a substantial paradigm shift[7,8] in the governance and management of protected areas away from uninhabited and preserved beacons of wilderness, set apart from local people

5   Conference of the Parties to the Convention on Biological Diversity (2018): Decision 14/8 Protected areas and other effective area-based conservation measures. CBD/COP/DEC/14/8.

6   Secretariat of the Convention on Biological Diversity (2020): Global Biodiversity Outlook 5, Montreal.

7   Phillips, A. (2003): Turning ideas on their head. The new paradigm for protected areas. The George Wright Forum, vol. 20, no. 2.

8   Stevens, S. (2014): Indigenous peoples, national parks, and protected areas: a new paradigm linking conservation, culture, and rights. University of Arizona.

›› 1.2 Protected areas – approaches, terms and definitions

for the exclusive enjoyment of visitors, towards a modern, holistic understanding of protected areas that involves various rightsholders and stakeholders, integrates conservation, culture and indigenous and community rights and draws on site history and traditional knowledge when formulating long-term management objectives.

▶ **The IUCN Green List exemplifies the contemporary understanding of protected area governance and management.** Developed between 2012 and 2016, it sets a new global standard of best practice underlining the necessity of equitably governed and effectively managed protected areas through biodiversity conservation and the provision of interconnected social, economic, cultural and spiritual values. Using clearly defined criteria grouped into four key components (Good Governance, Sound Design and Planning, Effective Management and Successful Conservation Outcomes), the IUCN Green List encourages protected area management to consistently measure and enhance achievements.

1.3   SUPPORTING PROTECTED AREA GOVERNANCE AND MANAGEMENT THROUGH TECHNICAL COOPERATION

›› ADVISORY APPROACHES

The overarching goal of technical cooperation projects advising on protected area governance and management is to strengthen the partners' overall operational capacity (through capacity development measures) while also resolving specific problems, e.g. in management and financing. This should enable stakeholders to successfully design, govern and manage protected area systems or individual areas, resolve any conflicts that arise with other sectoral policies and conduct policy-related negotiations. So how can cooperation projects maximise their chances of success?

Establish a clear and plausible strategic focus: Projects set up to advise on protected area management usually find themselves supporting change processes affecting personnel and both organisational and policy development. The initial request is usually for technical advice. However, during subsequent talks to clarify the project's mandate, it often becomes clear that additional forms of advice are needed in order to achieve sustainable impacts. In many cases, especially in countries that have not yet established strong governance frameworks and management systems for their protected areas, it may be necessary first of all to create institutions and networks and to design and moderate effective policy- and decision-making processes and evaluation systems. Given the increasingly complex nature of the tasks performed by those bodies set up to manage protected areas, there is also a growing need for organisational advice – especially when it comes to restructuring individual processes or the entire organisation. While there is not always a clear line between technical, organisational, strategic and process-related advice, it is helpful nevertheless to make a distinction in order to classify needs and measures in terms of concepts and methodologies. Ideally, advisory projects should consider the entire policy cycle and identify favourable entry-points and approaches for subsequent interventions. The multi-level approach, i.e. combining long-term policy advice at national level with regional and local implementation and demonstration projects, has proven very effective. It should be noted, however, that projects wishing to offer complementary advisory processes at different administrative levels require very good networking and information management systems.

Be clear who you are working with and what form that cooperation will take: Even relatively small projects are usually negotiated, planned, implemented and managed by a large number of actors, so it is crucial to recognise and consider different perspectives. When working with partners, one of the most important tasks is to identify the key actors involved in managing protected areas (including for instance also national level decision-makers or (groups of) actors that can have a negative impact on individual protected areas), to develop a map of those key actors and to assess potentially conflicting objectives. Cross-sectoral approaches are essential as success can depend to a large extent on decisions in other sectors.

›› 1.3 Supporting protected area governance and management through technical cooperation

In addition to government agencies, projects can work with national and international civil-society groups and organisations, especially in situations with little or no government involvement or oversight. These groups can help to put under-represented interests (e.g. indigenous groups) on the political agenda. They can also form influential networks or even manage protected areas themselves.

Create an effective steering structure: A broadly-based steering structure (e.g. with partners from the environment and agriculture sectors) can increase the effectiveness of protected area projects by addressing the causes of biodiversity loss. In such cases, however, it is vital that each partner is given a sense of ownership. Steering committees or round tables at national or subnational level (including representatives of the protected area authority, sector ministries and civil society) can act as important building blocks, creating an efficient steering structure that can negotiate and enforce generally binding objectives and rules for nature conservation and protected area management.

Focus on strategically important processes: The aim is to strengthen your partners' overall operational capacity so that they can articulate, negotiate and implement conservation policy objectives in general and protected area policy objectives in particular. Technical cooperation projects can advise on the drafting and implementation of laws, the use of specific tools and the development and piloting of innovative solutions. They can also provide environmental information, promote public awareness, support policy dialogue and generally facilitate cooperation and networking processes. Successful projects combine clearly-defined key processes with a highly responsive approach to everyday policy developments.

Establish and facilitate the use of effective learning processes and platforms: Projects set up to offer technical and policy advice will either need to develop new structures that facilitate dialogue and systematic exchange of experiences or enhance existing platforms. These can be used, for example, to help develop management plans for protected areas, for monitoring purposes or to introduce new financing instruments. In this context, local partner-country networks and GIZ's own sector networks and thematic working groups are just as important as regional or international platforms such as the IUCN's World Commission on Protected Areas. Partners should be in a position to draft forward-looking strategies and adapt innovative approaches to their national context based on the policy and management advice they receive. The lessons learned should be fed into international learning networks. One such example is the protected area portal of **Panorama Solutions**, which offers many interesting opportunities for learning and innovation.

›› 1.3 Supporting protected area governance and management through technical cooperation

Projects working with local partners on protected area governance and management need to advise on a very wide range of technical, organisational and policy issues: core management processes; training for staff at the responsible public authority and other stakeholders; communication and outreach; cross-sectoral coordination and cooperation; stakeholder and risk management; legal matters; forms and sources of financing. A key issue is fostering the participation of local communities in protected area governance and management. This can be done by involving them in decision-making, encouraging them to assume protected area management responsibilities and by ensuring that they share in the benefits. Moreover, promoting economic development in the surrounding region can be an important starting point for project support.

There are three main contexts in which advice and interventions are needed:

1. Enhancement of protected area systems;
2. Creation of new protected areas; and
3. Strengthening existing protected areas.

›› ENHANCEMENT OF PROTECTED AREA SYSTEMS (NATIONAL AND SUBNATIONAL)

The project's advisory role here is to help its partners develop a legal and institutional framework and effective strategies for an ecologically representative and well-connected protected area system or network. In most cases, an initial needs assessment will define whether the focus should be on consolidating the existing system or on expanding the system by designating and integrating additional areas.

In practice this involves: helping partners to define conservation priorities (e.g. key biodiversity areas), ecological corridors and spatial planning processes that reflect the flow of ecosystem services, the distribution of related costs and benefits and the associated climate risks; identifying an appropriate combination of management categories and governance types **(see chapter 1.2)**, including any changes to the legal framework that may be required; strengthening cooperation between institutions to minimise the drivers of biodiversity loss; developing an institutional capacity-building strategy for the national protected area agency; and improving core governance, management and financial planning and monitoring procedures.

When advising on protected area systems, the project's main goal should be to help improve the conditions that are conducive to effective, fair and sustainable governance and management, e.g. a favourable policy and legal framework, a variety of governance arrangements

and an appropriate mix of funding sources and financing instruments. Projects can also help to systematically build up their partners' planning and administration capacity, including their ability to manage any funding provided, monitor its effective use and to mobilise additional funds. In most situations, the main threat to protected areas is growing pressure on ecosystems or single species, e.g. due to demand for land and natural resources or poaching. These drivers of biodiversity loss need to be addressed. Otherwise conservation outcomes will be limited and costs will increase. To prevent this, projects may also need to advise on effective ways of expanding the scope and strategic focus of protected area governance and management beyond the system boundaries through cooperative approaches that reach out to stakeholders and institutions who are not usually involved. In many cases this will require a major shift in attitude and a departure from long-held views and interpretations of protected area planning and management. When evaluating the governance of protected area systems, it is also important to consider the governance of areas that do not belong to the formally defined protected area system but nevertheless make a significant contribution to the conservation of biodiversity and ecosystem services. For example, areas traditionally protected by local communities and/or indigenous peoples through their own governance systems can have a positive impact on the conservation status of formally protected areas and should be supported and promoted by the state where possible.

▶ **See also project example from Peru.**

›› CREATION OF NEW PROTECTED AREAS

Where projects are asked to advise on plans to create new protected areas, they should focus on establishing the most appropriate legal framework (including property rights), a broad sense of ownership that extends beyond the protected area authority and those directly involved in the proposal and a common understanding of conservation objectives and resource-use among all stakeholders. In most cases, partners will also need support with demarcation, communication and outreach.

The first step is usually to jointly identify a set of biodiversity values and to determine what management resources are available. Projects can then help their partners to develop a vision for the future design of the area (e.g. expected conservation outcomes, zones for strict protection and for permitted uses). Management and governance structures will be required, along with regulations, sanctions and defined roles and responsibilities for key rightsholders and stakeholders. Projects can also advise on participatory approaches to drafting (strategic and

›› 1.3 Supporting protected area governance and management through technical cooperation

operational) management plans, how to negotiate usage agreements with the local population and, for instance, with tourism businesses, and how to develop a financing strategy. It is particularly important to identify appropriate governance structures **(see the example from Lao PDR)**, which will often result in the need to strengthen the negotiating and management skills of local rightsholders and stakeholders. In the case of protected areas that extend beyond national borders, the procedures and legal regulations must be coherent for all participating countries.

To create a broad sense of ownership, projects can help their partners demonstrate the benefits of area-based conservation to other stakeholders and decision-makers. This can be done, for example, by conducting **ecosystem services assessments** to create a solid body of data on social and ecological interactions and interdependencies in the new protected area. The data can then be used to develop messages (ideally prepared together with and disseminated by an influential and credible person or institution) that highlight the site's multiple economic and cultural values. Participatory planning and management are another important way of generating ownership **(see 3.7.4 for a range of tools)**. In the medium and long term, inclusive management and governance approaches such as co-management can help to maintain a strong sense of local ownership.

In terms of establishing a common understanding among stakeholders, it can be useful to start by analysing the stakeholder landscape with a focus on needs, interests and potential areas of conflict. Projects can focus here on participatory approaches to developing a vision for the area, on translating the results into appropriate rules and regulations and on building the capacity of those authorities responsible for managing the protected area to resolve conflicting interests in a transparent manner. Demarcation and zoning contribute to transparency, effective management and law enforcement. Participatory zoning aims to balance conservation and development interests and can encourage public dialogue. Here, projects can advise on ways of integrating traditional and scientific knowledge and on the importance of giving due **consideration to ancestral entitlements in participatory land-use zoning** and land-allocation decisions. Robust legal protection is crucial to the future of any protected area. Care should be taken to ensure that customary rights and entitlements are properly examined and that mechanisms are put in place to resolve any conflicts. **In the case of areas inhabited by indigenous peoples or marginalised groups**, consideration must be given to their specific rights and needs as well as their broader human rights. Establishing new protected areas can sometimes have unintended negative impacts on human rights, e.g. gender justice, discrimination against people living in poverty due to restrictions on the use of natural resources and violations of the right of indigenous peoples to free, prior and informed consent (FPIC).

Projects can advise on setting up effective complaint mechanisms if they are not already in place.

If one of the project's main objectives is to set up effective and fair management and governance structures, it makes sense during this phase to identify appropriate governance models, provide capacity-building support and facilitate organisational development, e.g. by advising on techniques for identifying and improving core management processes and on job specifications, roles and functions. Bear in mind, for example, that newly created protected area management committees may be grappling with as yet uncertain mandates and may need further support.

›› STRENGTHENING EXISTING PROTECTED AREAS

Some projects are set up to strengthen existing protected areas in response to requests from partners for capacity-building support to improve their management and financial planning systems or advise on specific financing instruments.

An **assessment of the current situation** (e.g. through SWOT analysis or specific tools such as **PAME, METT, MARISCO, Governance Assessment**) can be a good starting point to determine the needs for improvement and to identify promising strategic options together with the partners. A review of core **management processes, governance structures** and **financial planning** systems can help to identify key improvement factors and capacity-building needs.

If one of the goals is to achieve a greater level of **financial sustainability**, the project will need to assess the entire financial and management context. This involves identifying any financial constraints on effective conservation work, investigating new/alternative sources of funding and testing new financial instruments. Other options can include establishing (and scaling up) financial mechanisms that ensure funding is retained at protected area level and building the partners' own capacity to raise funds from public and private sources. A key concern of development cooperation is to help create new sources of employment and income and to ensure that benefits are shared equitably with the surrounding communities.

If the project's primary goal is to improve management effectiveness to improve conservation outcomes and successfully reduce threats, then it is necessary to not only look at the management of the protected area itself, but to identify rightholders and stakeholders in the adjacent landscape and to set out appropriate approaches to cooperation and the management of conflicting interests. Possible ways to do this

›› 1.3 Supporting protected area governance and management through technical cooperation

might be to place a stronger focus on the biodiversity and ecosystem services of protected areas during spatial and development planning processes, together with effective communication and outreach strategies and efforts towards sustainable management of buffer zones. Ownership and political will can be institutionalised by integrating wider conservation objectives – and those specific to protected areas – into development planning policies and by negotiating adequate budget allocations. Protected area management systems also need to be capable of adapting and responding to new challenges as they emerge, e.g. policy changes, migratory movements and climate pressures that may lead to unsustainable forms of land use.

2

The tools in a nutshell – quick reference for
NAVIGATION

›› POLICY AND LEGAL FRAMEWORK

The resources in this category help PA agencies and advisors to understand and develop the legal and policy framework for PAs and PA systems.

▶ IUCN's environmental law gateway **ECOLEX** (IUCN 2018) provides the most comprehensive global source of information on environmental law (including PA related), and is particularly useful for agencies and advisors involved in legal reform in relation to PAs, i.e. typically at the PA system level. It is a set of online databases of treaties, legislation, court decisions and literature, which is searchable by terms (with or without full text) or an advanced mode including thematic, typological and geographical filters.

▶ While *ECOLEX* can help PA agencies and advisors navigate through a wealth of legal texts from all over the world, IUCN's **Guidelines for Protected Areas Legislation** (Lausche 2011) provide procedural and technical advice for the establishment, further development and implementation of effective national legal frameworks for PA systems. This includes sections specifically for marine and trans-boundary PAs, and a comprehensive thematic bibliography.

›› SPATIAL PLANNING FOR PROTECTED AREAS AND PROTECTED AREAS SYSTEMS

This category is focused on resources, methods and approaches which enable PA planners to assess, create and optimize the spatial layout of individual PAs, and to develop functional PA systems at the landscape or national level. It considers primarily biodiversity importance but also other factors such as governance.

› SITE PRIORITIZATION METHODS AND APPROACHES

▶ The sub-section "Areas of biodiversity importance" of UNEP-WCMC's **"Biodiversity a-z"** (UNEP-WCMC 2018) gives an overview over methods and approaches for the identification of sites of particular biodiversity importance. This is of interest to PA agencies and advisors who aim to allocate their resources for maximum biodiversity impact, or who aim to achieve maximum coverage of such areas when designing or optimising their PA systems. For each of the categories of areas important for biodiversity, descriptions, criteria, maps and other information are provided.

One such category of areas of particular biodiversity importance, and arguably the most fundamental one, are Key Biodiversity Areas, or KBAs. The method-

ology and criteria underpinning it are explained in **The Global Standard for the Identification of Key Biodiversity Areas 1.0** (IUCN 2016). This can be used to conduct KBA analyses for a given region of interest (usually the national level), in order to identify those areas that are of particular biodiversity importance there, considering a broad range of flora and fauna, and based on objective, transparent and rigorous criteria.

› PROTECTED AREA SYSTEM PLANNING, INTEGRATED GAP ANALYSIS, ZONING

The main principles for PA system planning are summarised in the IUCN WCPA guideline **National System Planning for Protected Areas** (Davey 1998). This is a useful reference in the early stages of PA system development initiatives, or for practitioners seeking a general understanding. It explains the general rationale and policy basis for PA system planning as well as criteria for effective PA systems, and provides general guidance on the PA system planning process, as well as implementation and monitoring/evaluation.

The World Database of Protected Areas presents spatial data on all PAs that are provided by individual states and compiled by UN Environment Programme-WCMC, in collaboration with IUCN. Its online interface **Protected Planet** (UNEP-WCMC 2018) allows agencies and advisors to view PA information by country, region, or for individual areas. This can be used to gain a better understanding of the existing configuration and status of PAs, and to derive ideas for further PA system development. Protected Planet can also be used to download datasets for further analysis, or to follow progress towards PA related policy goals.

The EC's Digital Observatory of Protected Areas (DOPA) with its online interface **DOPA Explorer 2.0** (EU JRC 2018) combines data from Protected Planet with data on species, ecoregions, topography/bathymetry, climate, human population, land and forest cover, infrastructure etc. It enables PA agencies and their supporting organizations to spatially analyze pressures on PAs and PA systems in support of policy and decision making, and to compare and prioritize PAs within PA systems for intervention and investment.

To gain an overview over Satellite Remote Sensing (SRS) technology, how it can be used in conservation and what resources might be needed for using SRS data **the Satellite Remote Sensing for Conservation Report** (WWF-US, 2018) is a good introductory read. It provides guidance on opportunities to use SRS for mapping and monitoring ecosystem and habitat extent and condition, species distributions, and threats to biodiversity.

The US Geological Survey's online platform **EarthExplorer** (USGS 2018) provides access to global sets of free-of-charge satellite imagery. It allows PA agencies and advisors to search, download, and order satellite images (particularly from Landsat-9 and Sentinel-2), aerial photographs, and cartographic products. These can be used in further spatial analysis for PA system development, or to gain an improved spatial understanding of PAs and their surroundings.

▶ Another useful resource when mapping and monitoring habitat extent in forest ecosystems is the online platform **Global Forest Watch.**

▶ **NatureServe Vista** (NatureServe 2018) is an extension to ArcGIS that can be used to support complex spatial assessment and planning processes – including PA system planning. The tool helps PA agencies and planners assess impacts of alternative land use scenarios for a given area on natural, cultural, and development objectives, and create options for the spatial design of single PAs, as well as PA systems on land or sea. *NatureServe Vista* combines data, expert knowledge, and stakeholder values to produce well-documented and defensible solutions.

▶ **Marxan** (Ball et al. 2009) is the most widely used decision support software for conservation planning globally. It is used to optimise the spatial configuration of marine and terrestrial PA systems or zoning within PAs, in order to ensure species and ecosystem representation in biodiversity conservation planning with minimal socio-economic cost. Additional related tools such as *Marxan with Zones* are also discussed.

▶ Similar to *Marxan*, the University of Helsinki's **Zonation** (Moilanen et al. 2005) can be used for spatial prioritisation for conservation sites, also taking into account various biodiversity-related benefits and costs related to the needs of other land uses. However, while Marxan's objective is to achieve a target spatial representation of each conservation feature while minimizing cost, Zonation's objective is to maximize the amount of conservation benefit provided by a PA configuration, given a fixed budget. The software is used by conservation planners to define optimal PA configurations, expansions and zones, identify areas for alternative land uses, biodiversity offsetting, climate change adaptation for PAs and related purposes.

▶ A system-level governance assessment based on IUCN WCPA's **Governance of Protected Areas: from Understanding to Action** (Borrini-Feyerabend et al. 2013) can be used to add a "governance layer" to a PA gap analysis. Whenever PA systems are expanded, diversified or optimised, it helps to identify areas protected or conserved de facto by various actors or approaches, which offer opportunities to enhance a PA system, if they were recognised, encouraged or supported.

›› MANAGEMENT PLANNING

The approaches, methods and tools described in this section provide general guidance on management planning for PAs, as well as on specific aspects that may be relevant only to some areas.

› GENERAL

▶ The standard, widely applicable framework for PA management planning are the **IUCN-WCPA Guidelines for Management Planning of Protected Areas**

(Thomas & Middleton 2003). These help practitioners understand basic concepts and terms, as well as prerequisites of successful management planning and the typical PA management planning cycle. The tool description also links users to more recent additional guidance on PA management planning, which builds on the general approach defined by Thomas & Middleton (2003).

During the designation of new PAs, but also during revisions of existing management regimes, PA agencies often have to assign or re-consider PA management categories and governance types to identify the most appropriate ones for a given site. These are normally defined by law and in many countries aligned with the IUCN categorisation. The **IUCN WCPA Guidelines for Applying Protected Area Management Categories** (Dudley 2013) offer guidance for assessing the options, based on an in-depth discussion of the IUCN PA definition, the purpose of the categories and governance types. MPA managers can find a version specifically for MPAs. Other uses of the categories are also discussed.

The software **Miradi** (Sitka Technology Group 2018) provides PA managers with a tool that supports implementation of the Open Standards and helps documenting the results. *Miradi* supports all steps of the Open Standards. There is also a cloud-based version (*Miradi Share*) for use in remote cooperation.

The management approach **MARISCO** (Adaptive Management of Risk and Vulnerability at Conservation Sites) is based on the Open Standards, but is specifically geared towards proactive ecosystem management in the face of uncertainty (e.g. related to climate change). It focuses more on change over time and aims at risk-robust management interventions. *MARISCO* requires more planning effort and is more complex than the Open Standards.

› SPECIFIC PLANNING TOOLS

Some PA situations necessitate management that focuses not only on conserving the current state of biodiversity, but also on restoring degraded populations, habitats, ecosystems and/or landscapes. The IUCN WCPA Guidelines **Ecological Restoration for Protected Areas** (Keenleyside et al. 2012) explain how this can be achieved. Building on common concepts and principles of ecological restoration (including good practice principles), the guidelines describe an adaptive restoration cycle. Case studies help to understand concepts and steps.

While tourism can be an important source of income to PAs and to sustainable livelihoods of local communities living nearby, irresponsible tourism development can degrade conservation status and hence provision of recreation services, as well as the values on which tourism depends. The IUCN WCPA Guidelines on **Sustainable Tourism in Protected Areas** (Eagles et al. 2002) help practitioners strike the right balance between conservation and tourism development while respecting local communities. They cover general aspects, planning (including of human resources), infrastructure development, visitor management/monitoring, and economic/financial aspects.

›› PROTECTED AREA FINANCING

This category is focused on knowledge, resources and tools which enable PA planners to assess, prepare and implement PA financing solutions. It includes tools and approaches for financial planning at the level of PA systems, as well as selected specific financing instruments for individual PAs.

› GENERAL

A review and assessment of various protected area finance mechanisms, including major obstacles and opportunities for their implementation is presented in **Sustainable Financing of Protected Areas: A Global Review of Challenges and Options** (IUCN 2006). The publication seeks to identify lessons which influence the success of different financing mechanisms, and to provide recommendations for improving the future sustainability, efficiency and effectiveness of protected area financing. The authors emphasize that PA financial sustainability is to do with more than just funding. Even though the publication was issued already in 2006, it still serves as a solid orientation in the topic for those seeking a general understanding of PA financing.

› ASSESSING, MONITORING AND DIAGNOSING FINANCING STATUS

UNDP´s **Financial Sustainability Scorecard for National Systems of Protected Areas** (2nd edition 2010) can be used to assist project teams and governments to track funding trends in PA systems. It records overall financial status and changes to the inflows and outflows of capital of the protected area system, as well as assessing different elements of the financing system. In order to identify which elements of a PA system's governance structure need to be improved to enhance PA financial sustainability, the application of additional tools (such as institution and context analysis, decision analysis, political economy assessments, etc.) is recommended.

A framework for reviewing protected area financial planning, and identifying actions to improve processes and products is introduced in **Financial Planning for National Systems of Protected Areas** (TNC 2008). The document is organised around key planning steps: a) financial analysis: funding needs and gaps, b) preselection and analysis of financial mechanisms and understanding the legislative and regulatory framework, and c) formulation of financial and business plans. It provides concrete guidance for the elaboration of a financial planning road map.

› FINANCING MECHANISMS

A comprehensive overview of options for financing biodiversity and ecosystem services can be found in **The Little Biodiversity Finance Book** (Global Canopy Programme 2012). Beyond introducing essential information on sin-

gle financing mechanisms, the document highlights the need and potential for synergies not only between financing mechanisms, but also between financing sources earmarked for development, climate change and biodiversity. The publication introduces an overarching framework that organises financial mechanisms under three main headings: revenue generation, delivery and institutional arrangements. These modules can be thought of as independent building blocks that can be arranged in a 'mix and match' approach, choosing the most suitable options from each module to create a more effective, efficient, and equitable financial system.

▶ The **Guide to Conservation Finance: Sustainable Financing for the Planet** (WWF 2009) presents an overview of different instruments and mechanisms that can be used to generate revenue for conservation. The guide informs field practitioners about which of the available financing mechanisms they could apply to achieve their conservation aims. The various mechanisms are illustrated with short case studies that demonstrate both successes and challenges. In addition, the guide provides a list of resources and Web links for further exploration of the conservation finance field.

› SPECIFIC FINANCING INSTRUMENTS

▶ Practitioners involved with the design, management, and monitoring/evaluation of Conservation Trust Funds (CTFs) will find comprehensive information and detailed guidance on key elements of CTFs in **Practice standards for Conservation Trust Funds** (CFA 2014). The featured voluntary practice standards are most relevant to organisations which either run a CTF or have the capacity and intention to do so.

▶ The design of PES schemes is a rather complex endeavour. Those seeking for practical guidance for designing and implementing PES schemes will find key principles and concepts as well as step-by-step advice in **Payments for Ecosystem Services (PES):** best practice guide (DEFRA 2013). Case studies in the annex help to understand concepts and steps.

▶ Protected area agency staff who want to develop and manage tourism concessions can find guidance, tools and case studies in UNDP´s **Tourism Concessions in Protected Areas: Guidelines for Managers** (2014). The publication introduces the concept of concession management and expected economic, conservation and social outcomes, provides guidance on establishing and improving the systems and specifically addresses the challenges of developing countries, including capacity development of concession staff.

› BUSINESS PLANNING

▶ **Developing Protected Area Conservation Investment Plans – Quick Reference Guide and Workbook** (WCS 2018) provides a practical resource for PA planners and managers to develop conservation investment plans and sustaina-

ble financing strategies. It presents guidance and tools for ensuring that the right financial and funding conditions are set in place and for communicating and marketing the PA financing needs to public decision-makers, government staff, potential donors and other stakeholders.

▶ The **Guidebook for the Development of Simplified Business Plans for Protected Areas** (FIBA 2012) is a very clear and simple guide for PA planners on the ground for developing a simplified business plan (for example in a situation of limited resources). The guidebook was originally developed for western Africa, but is applicable more widely. It introduces the rationale of business plans and contains a stepwise guide, including information on methods and a sample business plan.

›› CAPACITY DEVELOPMENT

This category focuses on tools and approaches that can be used to support capacity development of PA staff from the site to the national level. It is complemented by a separate section on PA training resources (▶ see Section 6.2).

▶ IUCN WCPA's **Global Register of Competences for Protected Area Managers** (Appleton 2016) is a framework to support a competence based approach to staffing and staff capacity development in the PA context. It defines all the possible skills, knowledge and personal qualities required by PA staff (or other practitioners with similar tasks). The register is a starting point for managers and human resource people to plan and manage PA staffing, for educators to identify and meet capacity needs, and for individuals to assess and develop their own skills.

▶ While the competence register can help to identify which competences are available or needed, the IUCN WCPA's guidelines on **Protected Area Staff Training** (Kopylova & Danilina 2011) focus on how training for PA staff can be designed and implemented effectively. This is a useful resource on PA training centres and how to run them, but also on more hands-on aspects such as creating a positive group atmosphere, setting up the space or designing training evaluations. The tool description also lists additional complementary sources ⌖ such as the Guide **Delivering Training Workshops for Wildlife Conservation** (WildTeam 2016).

› ADDITIONAL RESOURCES

⌖ The previous two resources focus on capacity building of individuals. In contrast, the Cambridge Conservation Initiative's **Capacity for Conservation** (CCI 2018), available in English and French, is an aid to self-led **organisational** development. It aims to support organisations – including PA administrations – to meet their organisational development goals, by offering guidance on organisational capacity self-assessment and development planning, as well as an overview of related tools that have been developed by various organisations.

›› ASSESSMENT, MONITORING AND EVALUATION

The resources in this category support assessment, monitoring and evaluation of a range of different aspects important for the management and governance of a PA or PA system. They range from general management effectiveness, surveillance and bio-diversity monitoring to assessing governance, social impacts and ecosystem services.

› PA MANAGEMENT EFFECTIVENESS ASSESSMENT

In order to adaptively manage individual PAs and PA systems, report, learn and allocate resources, practitioners and their supporting organizations need to know whether PA management reaches its goals and objectives. This can be achieved through sound adaptive management frameworks, in conjunction with dedicated PA management effectiveness (PAME) assessment tools.

Basic concepts of PAME are provided in the IUCN WCPA guideline **Evaluating Effectiveness – a Framework for Assessing Management of Protected Areas** (Hockings et al. 2006). It is built around assessing six central aspects of PAs, from context to conservation outcomes. More cross-cutting technical guidance and various case studies are also included.

The most widely used site level method is WWF's and the World Bank's **Management Effectiveness Tracking Tool** (Stolton et al. 2007, 2016), commonly abbreviated as METT. It is a self-assessment tool to identify strengths and weaknesses in management and to track management effectiveness of individual protected areas over time, based on a participatory appraisal of effectiveness in the main categories of PA management, and a simple scoring system. METT is a standard requirement for all PA projects supported by the GEF. There is also a global database of past PAME assessments, which contains mainly METT results. ▶ **See also Experiences and Lessons Learned in Projects of German Technical Cooperation.**

While METT is suitable for following PAME of individual sites over time, at the system level, WWF's **Rapid Appraisal and Prioritization of Protected Area Management** (Erwin 2003), commonly abbreviated as RAPPAM, helps PA agencies to get a snapshot overview of PAME across a whole system. While the assessment process is similar to METT in that it involves a participatory appraisal workshop and addresses similar management aspects, it differs from METT regarding its system level scope and potential for multivariate analysis.

While both RAPPAM and METT are applicable to terrestrial, freshwater and marine PAs and are based on a subjective appraisal by PA teams, the IUCN toolkit **How is your Marine Protected Area Doing?** (Pomeroy et al. 2004) focuses solely on marine PAs and is based on objectively verifiable indicators. As a result, applying the method requires more effort but at the same time produces more robust assessment results. Additionally, it offers a wide selection of biophysical, socio-economic and governance related indicators for marine protected areas.

The **Enhancing our Heritage Toolkit** (Hockings et al. 2008) of UNESCO, the UN Foundation and IUCN has been designed for application in natural and mixed (natural and cultural) World Heritage sites. Up to 12 PAME aspects can be assessed, according to managers' needs, partly through objectively verifiable indicators and partly through participatory appraisal. The assessment can be repeated at regular intervals, similar to METT.

› GLOBAL PA PERFORMANCE STANDARDS

The **IUCN Green List** (IUCN & WCPA 2017) provides a global benchmark for protected and conserved areas, to assess whether they are achieving successful conservation outcomes through effective and equitable governance and management. PA agencies and their advisors can either undergo/support certification of their areas based on the Green List standard, or use its criteria and indicators to analyse/improve performance, governance aspects and effectiveness of PAs and PA systems, formulate policy, or allocate PA funding and resources.

› BIODIVERSITY MONITORING AND SURVEILLANCE TOOLS

PA practitioners often need to identify and measure biodiversity indicators – be it in order to measure progress towards their conservation outcomes or in the context of wider (e.g. national) biodiversity monitoring programmes. GIZ's **Biodiversity Monitoring for Natural Resource Management – an Introductory Manual** (Werner & Gallo-Orsi 2016) provides succinct practical guidance for planning biodiversity monitoring, and addresses some of the principal questions, issues and pit-falls in biodiversity monitoring.

The compilation **Community-based Monitoring, Reporting and Verification Know-how** (WWF 2016) helps PA agencies to better understand this overall concept, but also suggests nine practical tools and approaches to community based monitoring, reporting and verification, ranging from technology for mobile data collection to participatory GIS mapping. All tools are potentially applicable in PAs.

The **Spatial Monitoring and Reporting Tool** (SMART Partnership 2015) is increasingly used for PA monitoring, and particularly for measuring, evaluating and improving the effectiveness of wildlife law enforcement patrols and conservation activities **(▶ see also Experiences and Lessons Learned in Projects of German Technical Cooperation).** *SMART* is a software to design, plan, manage, monitor, document, analyse and report on patrolling and monitoring efforts and results. It is usually used with handheld GPS devices.

› COSTS, BENEFITS AND SOCIAL IMPACTS

WWF's **Protected Areas Benefits Assessment Tool (PA-BAT)** (Stolton & Dudley 2009) guides PA agencies and advisors to systematically assess benefits

provided by PAs, based on worksheets/checklists to be filled in jointly with stakeholders. Such a participatory assessment can help strengthen stakeholder support for the PA and generate information for wider communication purposes. Thematic areas covered by the assessment method include nature conservation, food, water, culture and spirit, health and recreation, knowledge, environmental services, and materials. This assessment can also be used to generate arguments for PA designation/management.

A low cost methodology for assessing the positive and negative impacts of a PA and related conservation and development activities on the wellbeing of communities living within and around is IIED's **Social Assessment for Protected Areas** (Franks & Small 2016), commonly abbreviated as SAPA. Its aim is to enhance positive and reduce negative impacts. It relies on a multi-stakeholder assessment comprising household surveys, community workshops and stakeholder validation workshops including for planning action.

› ECOSYSTEM SERVICES ASSESSMENTS AND VALUATIONS

*Ecosystem services assessments should be 'purpose-driven'. They can be done to gain new insights, to make a strong argument, to start a discussion, to help settle a negotiation, to enhance a planning process, or to reach a decision. There are many different methods for doing an assessment. The **methods navigator** developed by the GIZ-implemented **ValuES project** helps making sense of these methods and find the appropriate one for a specific need.*

Practitioners who plan for an ecosystem services assessment in the context of protected areas can find an introduction to eight selected tools and guidance on how to choose appropriate methods in **Tools for measuring, modelling, and valuing ecosystem services. Guidance for Key Biodiversity Areas, Natural World Heritage Sites and Protected Areas** (IUCN 2018). The guidebook includes a comprehensive description and classification of the featured tools and can be helpful for the preparation of an ecosystem services assessment.

Integrated Valuation of Ecosystem Services and Trade-offs – InVEST (Natural Capital Project, 2018) provides a family of tools for mapping and assessing ecosystem services and trade-offs across spatial scales to inform land-use related decision-making. The free of charge software allows the use of simple to more complex models based on availability of data and expertise. In addition to the software, a user´s guide, an online course and documented experiences from applications all over the world are available.

› ADDITIONAL RESOURCES

While monitoring and research are vital to adaptive PA management, they can also put pressure on their ecological state and the provision and use of ecosystem services. In order to enable PA agencies to better manage and regulate such pressures (including those arising from research interests of external actors), a **Draft Code of Practice for Research and Monitoring in Protected Areas**

(Hockings et al. 2013) has been developed. This can be used as a minimum standard for research and monitoring in PAs.

›› GOVERNANCE

The documents in this category range from theoretical and practical PA governance concepts to collaborative tools and strategies for conflict resolution. They present guidance related to stakeholder analysis and participation and include resources for the work with Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs).

› GENERAL

IUCN's guideline document **Governance of Protected Areas: from Understanding to Action** (IUCN 2013) is a standard manual for practitioners. Apart from outlining the concepts around PA governance it also offers practical guidance on assessing, evaluating and improving governance for a given system or site. At system level a governance assessment helps to map which actors share or could potentially share responsibility for conserving an area. It can thus be used in efforts to review and diversify governance arrangements in a PA system. At site level a governance assessment helps to jointly reflect among rightholders and stakeholders on the quality of governance according to good governance principles, including whether a given type is a good fit in a given situation.

Accountability, participation and benefit sharing are fundamental concepts of conservation practice and can be decisive for its success. For jointly reflecting and assessing the situation at a particular site based on these and other principles of good and equitable governance the manual **Governance Assessment of Protected Areas (GAPA)** (IIED, 2018) provides hands-on guidance for convenors and facilitators of a multi-stakeholder-led process. Based on IUCN's framework of good governance principles GAPA offers concrete methods and tools for conducting an assessment. It lends itself to a stepwise approach by focusing on a subset of selected priority principles. GAPA can be used for three reasons: as a health check (to determine strengths and challenges), as a diagnostic (to understand causes of existing challenges and identify actions to improve the situation) or for monitoring purposes (to establish a baseline for measuring changes over time) of governance arrangements at a specific site.

› COLLABORATIVE MANAGEMENT / SHARED GOVERNANCE

IUCN categorizes four different forms of governance of protected areas: Along with state-run protected areas, there are those established and managed by indigenous peoples or local communities, there are privately managed protected areas as well as a variety of co-management arrangements. For the latter case, the guideline **Sharing Power – A global guide to collaborative management**

of natural resources (2013) supports practitioners in understanding, establishing and further developing collaborative governance of natural resources in a "learning by doing" approach. It includes practical guidance and tools on how to organise, negotiate and implement co-management agreements.

› INDIGENOUS PEOPLES' AND COMMUNITY CONSERVED TERRITORIES AND AREAS (ICCAS)

Most conservation tools developed to date have been designed primarily for PA managers, practitioners or government agencies. A resource-kit specifically developed for the use by local communities and civil society organisations is offered by **Building capacity and sharing knowledge for Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs)** (2018). Practitioners who work for instance with community-based organisations in forest or coastal habitats facing specific threats (i.e. global climate change, extractive industries etc.) will find a clearly structured toolkit. It offers a variety of materials and methodologies on how to address the challenges and threats ICCAs are facing, ranging from legal empowerment, strengthening claims and collective management regimes over resources/areas, traditional knowledge systems to monitoring encroachment. The presented tools revolve around five main areas (documenting presence; management planning; monitoring and evaluation; communication as well as finance and values) and include a variety of case-studies from around the world.

› RIGHTHOLDER AND STAKEHOLDER ANALYSIS AND PARTICIPATION

Rightholder and stakeholder engagement is key to PA management. The following instruments, principles and guidelines provide an overview regarding participation mechanisms throughout PA planning and management.

Establishing a bottom-up participation and consultation process is fundamental to any project/activity that may affect indigenous peoples and local communities, their land and resources. **Free, Prior and Informed Consent (FPIC)** is a means for indigenous peoples to realize their collective rights, enshrined in numerous international human rights instruments. It also is a process that goes beyond mere participation and consultations and reserves indigenous peoples the right to give or withhold consent to a project or activity. A respectful FPIC process enables them to negotiate the conditions under which the project or activities will be designed, implemented, monitored and evaluated. FPIC is an essential instrument for any PA practitioner, be it for the establishment of new or the extension of already existing PAs as well as for reviews of how a PA is governed and managed.

Many indigenous peoples and local communities have their own (unwritten) protocols to regulate stewardship of their territories and resources on which they depend. These are often rooted in customary ways of life which have sustained biocultural heritage for generations. Assisting communities in formulat-

ing such rules and protocols in forms that can be understood by other parties can be a useful step in an FPIC or other consultation process. These new forms of instruments and processes are called **Biocultural Community Protocols (BCPs).** Every BCP is distinct due to the cultural and environmental specificities that are being formulated by the communities – commonly, they include a definition of the community, its structure and decision-making processes as well as customary laws, practices and values. As such, they are an important process that helps practitioners to create transparency on local governance structures, enable dialogue and strengthen long-term partnerships with communities.

Good practice standards as well as a collection of existing methods and tools for the development and implementation of stakeholder engagement activities in PAs is offered by the WWF Danube-Carpathian Programme in its **Guidelines for stakeholder involvement in PA management** (2012). It helps practitioners to conduct feasibility checks for new PAs as well as strong tools for initial situation analysis and a detailed step-by-step guidance.

Establishing effective and equitable governance frameworks for Marine PAs requires a thorough understanding of involved institutions, stakeholders and policies. While the resource book **Stakeholder Participation Toolkit for Identification, Designation and Management of Marine Protected Areas** serves as an introduction to the topic of stakeholder participation in MPA management and an overview of the most important tools, the **Guidance on integrating human dimensions into MPA planning and management** provides options for integrating social, cultural, economic, political and governance issues into MPA planning and management processes.

General strategies for engaging people in any type of nature conservation work are provided by **Audubon Tools for Engagement.** The presented methodologies for the successful involvement of various stakeholders are applicable at all levels, from individual PAs to international policy.

› CONFLICT RESOLUTION

For PA practitioners to better comprehend origins of land conflicts and options for action in a project context, the document **Understanding, preventing and solving land conflicts** (GIZ 2017) offers practical insights. It includes case studies and aims to broaden the understanding of the complexity of causes that lead to land conflicts in order to provide for more targeted ways of addressing such situations.

3

THE TOOLS

3.1 POLICY AND LEGAL FRAMEWORK

TOOL 1	ECOLEX THE GATEWAY TO ENVIRONMENTAL LAW
	English 🔗	French 🔗	Spanish 🔗
	IUCN, UN-Environment, FAO

TYPE	PURPOSE
A set of online databases	Providing the most comprehensive possible global source of information on environmental law (including PA related) to increase knowledge of, and build capacity on, environmental law at local, national and global levels.

STRUCTURE AND FUNCTION

Set of online databases of treaties, legislation, court decisions and literature

- ❖ Simple mode: searchable by terms (with or without full text included)
- ❖ Advanced mode: complex search menu including thematic, typological and geographical filters, which can be combined with each other
- ❖ Output is list of documents (each with description, commentary and additional information) from the above categories, many of which hyper-linked to full text
- ❖ Support provided by IUCN Environmental Law Centre

TYPICAL USE

- ❖ Very wide range of applications which require access to existing legal documents, e.g. analysis, development, implementation, evaluation of legal tools to support effective PA systems

LEVEL OF APPLICATION

Usually national system and higher

SKILLS AND RESOURCES REQUIRED

- ❖ Database access free of charge
- ❖ Personal computer and internet access required
- ❖ Basic understanding of database search and data retrieval methods
- ❖ Some basic legal and contextual understanding is required to produce meaningful results from the databases

STRENGTHS	WEAKNESSES
❖ Wide range of resources covered (largest globally for environmental law) ❖ Detailed information and full text links for most items ❖ Relatively easy search function, both in simple and advanced mode ❖ Operates in three languages ❖ Availability of support from IUCN Environmental Law Centre	❖ Outputs are a mix of various classes of documents which typically require further screening ❖ No export function for outputs to general or literature database programmes

REFERENCE

IUCN, UNEP and FAO: About Ecolex. Accessed on 5 October 2018 at 🔗

TOOL 1 Continued

VERSIONS AND/OR MODIFICATIONS

Released in 2001, since then successive updating of online database

DOCUMENTED EXPERIENCE

It is likely that most of the use of this instrument in a development cooperation context has not been documented.

RELATED RESOURCES/FURTHER READING

A more detailed description of ECOLEX is included in: IUCN (2012). IUCN Knowledge Products – The basis for a partnership to support the functions and work programme of IPBES. Gland, Switzerland: IUCN. 72 pp
Accessed on 7 September 2018 at 🔗

›› 3.1 Policy and legal framework

TOOL 2	IUCN GUIDELINES FOR PROTECTED AREAS LEGISLATION
🧭	English 🔗	French 🔗	Spanish 🔗
2011	IUCN, IUCN Environmental Law Programme

TYPE	PURPOSE
Guidelines	Support and guidance to the establishment, further development and implementation of effective national legal frameworks for PA systems.

STRUCTURE AND FUNCTION

Guideline document consisting of four parts

1. Basic principles and obligations
2. Governance approaches
3. Chapter 1: Generic elements of protected areas legislation
4. Chapter 2: Special issues for marine protected areas
5. Transboundary protected areas
   - Thematic bibliography (structured by "general and cross-cutting", "governance", "marine protected areas" and "transboundary protected areas")
   - The guideline provides a systematic overview and detailed explanations of anything that should or could be regulated with regard to protected areas.
   - The document is designed in such a way that individual sections can be consulted in response to specific interest, or for reference on specific themes

TYPICAL USE

- Support to legislative review and drafting process across the spectrum of national and local needs
- Stimulation of dialogue between government authorities and stakeholders to modernize national policy and legal frameworks
- Implementation of international commitments at the level of national PA law
- Guidance on legal drafting relevant to PAs
- Information for those employed in executive agencies that oversee and implement other policies and programmes affecting or affected by protected areas legislation

ADDITIONAL POTENTIAL USES

- Source of information for those involved with or interested in the progress, review or drafting of protected areas legislation – e.g. concerned or affected communities, organizations, corporations, groups or individuals.
- Source of information for academic audiences interested in the progressive development of protected areas law, such as students, professors or researchers

LEVEL OF APPLICATION

Typically national PA systems

SKILLS AND RESOURCES REQUIRED

Depends on specific use; Generally, a basic to moderate legal understanding is required for meaningful use

STRENGTHS	WEAKNESSES
- Comprehensiveness and depth - Authority and expertise of IUCN Environmental Law Programme and other contributing IUCN bodies, such as WCPA and other IUCN Commission members - Availability in three languages - Includes comprehensive consideration of specificities for the marine realm and for transboundary situations	- Long and complex document which requires some digesting to be applied in new contexts - No step-by-step guidance on key aspects of PA legislation

TOOL 2 Continued

REFERENCE

Lausche, B. (2011). Guidelines for Protected Areas Legislation. Gland, Switzerland: IUCN. xxvi + 370 pp. Accessed on 5 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

There was an earlier version of these guidelines by the same author in 1980.

RELATED RESOURCES/FURTHER READING

Case studies on legal frameworks of national and sub-national protected areas systems, legal frameworks for special protected area types such as ICCAs or PPAs and Protected Areas Law Matrices are downloadable from: 🔗

Lausche, B., Farrier, D., Verschuuren, J., La Viña, A. G.M., Trouwborst, A. Born, C-H., Aug, L. (2013). The Legal Aspects of Connectivity Conservation. A Concept Paper, Gland, Switzerland: IUCN, xxiv + 190 pp. Accessed on 10 September 2018 at 🔗

Farrier, D., Harvey, M., Da Silva, S., Leuzinger, M. D., Verschuuren, J., Gromilova, M., Trouwborst, A., Paterson, A. R. (2013). The Legal Aspects of Connectivity Conservation – Case Studies, Gland, Switzerland: IUCN. 78 pp. Accessed on 10 September 2018 at 🔗

For PA Law Capacity Development Online Modules, see section on training resources. ▶

3.2 SPATIAL PLANNING FOR PROTECTED AREAS AND PROTECTED AREA SYSTEMS
3.2.1 | SITE PRIORITIZATION METHODS AND APPROACHES

TOOL 3	BIODIVERSITY A-Z (SECTION: AREAS)

	English 🔗
2015	UN–Environment–WCMC

TYPE	PURPOSE
Compilation of approaches, methods and tools	Overview over different types of areas of biodiversity importance and protected area categories and designations to support site prioritisation for conservation.

STRUCTURE AND FUNCTION

Alphabetically listed summaries of globally relevant systems to identify, prioritise and protect areas of importance for biodiversity. These fall into two main categories:

1. **Protected areas** are those under protected area frameworks, that have legal or other effective protection at the national level. Some have additional recognition through regional or international conventions and agreements (such as UNESCO World Heritage Sites).
2. **Biodiversity designations** (such as KBA, EBSA) are developed by governments, academics and NGOs in order to identify areas of biodiversity importance or areas where biodiversity is threatened, as a means to focus attention and resources on their conservation.

Each entry comprises the following:

❖ Map of current sites under the given type/designation
❖ Description
❖ Supported by
❖ Year of creation
❖ Geographical coverage
❖ Criteria for designation
❖ Management obligations/requirements
❖ Business relevance (since this was originally linked to a business and biodiversity initiative)

Downloadable factsheets, hyperlinks to original documentation and references where appropriate are also provided.

TYPICAL USE

❖ Overview over approaches, methods and tools for site prioritization in the context of conservation planning or PA system development
❖ Information of other actors (e.g. private sector) about the location of areas important for biodiversity
❖ Entry point for choosing methodologies for systematic conservation and PA system planning

LEVEL OF APPLICATION

Typically PA system level

SKILLS AND RESOURCES REQUIRED

Personal computer and internet access

TOOL 3 Continued

STRENGTHS	WEAKNESSES
❖ Good overview and relatively wide coverage ❖ Includes many of the important approaches and designations, such as Important Bird Areas (IBA), Important Plant Areas (IPA), Alliance of Zero Extinction (AZE) sites, biodiversity hotspots, etc. ❖ Comprehensive and consistent documentation of and links to each approach, method or tool documented ❖ Good presentation	❖ The collection is comprehensive but not complete

REFERENCE

UN-Environment-WCMC: About Biodiversity a-z. Accessed on 5 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Released in 2015. Since then successively updated – no distinct versions

DOCUMENTED EXPERIENCE

Examples of application of one of the area designation methodologies from the portal, namely Ecologically and Biologically Significant Marine Area (EBSA) include:

Hoyt, E. (2016). Getting SE Kamchatka as an EBSA and candidate IMMA from marine mammal data. PANORAMA – solutions for a healthy planet. Accessed on 10 September at 2018 🔗

Hoyt, E. (2016). Getting notice for a rare blue whale area as an EBSA on road to be an MPA. PANORAMA– solutions for a healthy planet. Accessed on 10 September 2018 at 🔗

›› 3.2.1 Site prioritization methods and approaches

TOOL 4	A GLOBAL STANDARD FOR THE IDENTIFICATION OF KEY BIODIVERSITY AREAS (KBA)
	English 🔗	French 🔗	Spanish 🔗
2016	IUCN

TYPE	PURPOSE
Guideline, assessment methodology andglobal standard.	To locate and highlight sites that make significant contributions to the global persistence of biodiversity and, thus, identify high priority areas for protection of biodiversity.

STRUCTURE AND FUNCTION

The standard is a set of 11 criteria with corresponding thresholds for KBA status, explanations and guidance for application. If at least one KBA criterion is met, a site is considered a KBA. General guidance on the spatial delineation of KBAs (i.e. where to draw their borders) and a glossary of all relevant terms is also provided.

KBA criteria:

- ❖ Threatened biodiversity
  - ◆ Threatened species
  - ◆ Threatened ecosystem types
- ❖ Geographically restricted biodiversity
  - ◆ Individual geographically restricted species
  - ◆ Co-occurring geographically restricted species
  - ◆ Geographically restricted assemblages
  - ◆ Geographically restricted ecosystem types
- ❖ Ecological integrity
- ❖ Biological processes
  - ◆ Demographic aggregations
  - ◆ Ecological refugia
  - ◆ Recruitment sources
- ❖ Irreplaceability through quantitative analysis

TYPICAL USE

Site prioritization for PA system development or individual PA siting/zoning, based on occurrence of species of high conservation importance

ADDITIONAL POTENTIAL USES

- ❖ Review of existing PA systems
- ❖ Site prioritisation for PA system support
- ❖ Species conservation action planning in a spatial context
- ❖ Site prioritization for other effective area-based conservation measures (OECMs)

LEVEL OF APPLICATION

Individual PAs (e.g. for zoning) or PA systems

SKILLS AND RESOURCES REQUIRED

- ❖ Sound information on the distribution patterns of globally (or, in the case of national adaptations) nationally important biodiversity that potentially triggers KBA criteria in the area of interest, including on relative abundance/coverage. If this is not readily available, considerable taxonomic and/or field ecological expertise
- ❖ GIS expertise for spatial delineation of KBAs
- ❖ Capacity to run expert consultation workshops to apply the criteria and to produce reports presenting and discussing the findings

TOOL 4 Continued

STRENGTHS	WEAKNESSES
❖ Transparent, reproducible and concise guideline and method with quantitative thresholds ❖ Relatively simple ❖ Direct link to IUCN Red List of Threatened Species, which provides sound information base for evaluation of species extinction risk ❖ Developed with strong expertise and authority of IUCN network, and tested through extensive user consultation during preparation and before publication ❖ Integrates earlier approaches that focused on individual taxonomic groups, such as birds (IBA) or plants (IPA)	❖ Focused on site-based conservation measures ❖ Does not provide clear guidance or a GIS tool for spatially explicit site prioritization ❖ Requires comprehensive data, particularly in relation to judging the irreplaceability of a given area for the species in question ❖ Thresholds of criteria are set for global biodiversity importance and may need adaptation ❖ Method detects importance of sites for biodiversity conservation only – not degree of being threatened or costs of conservation measures. Further analysis may be needed to derive conservation priorities from KBA results

REFERENCE

IUCN (2016). A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0. First edition. Gland, Switzerland: IUCN. 46 pp. Accessed on 12 October 2018 🔗

VERSIONS AND/OR MODIFICATIONS

Predecessor version: Langhammer, P. F., M. I. Bakarr, L. A. Bennun, T. M. Brooks, R. P. Clay, W. Darwall, N. DeSilva, G. J. Edgar, G. Eken, L. D. C. Fishpool, G. A. B. Fonseca, M. N. Foster, D. H. Knox, P. Matiku, E. A. Radford, A. S. L. Rodrigues, P. Salaman, W. Sechrest, A. W. Tordoff (2007). Identification and Gap Analysis of Key Biodiversity Areas: Targets for Comprehensive Protected Area Systems. Gland, Switzerland: IUCN. 134 pp. Accessed on 5 October 2018 🔗

REVIEWS

The following reviews discuss the 2007 version of the KBA methodology:

Bennun, L., M. Bakarr, G. Eken, D. A. Da Fonseca (2007). **Clarifying the key biodiversity areas approach.** BioScience 57: 645–645

Brooks, T. M., N. de Silva, M. V. Duya, M. Foster, D. Knox, P. Langhammer, P., W. R. Marthy, B. Tabaranza Jr. (2008). **Delineating Key Biodiversity Areas as targets for protecting areas**, Cambridge University Press. (Book Chapter).

DOCUMENTED EXPERIENCE

The following publications discuss experience with the 2007 version of the KBA methodology:

Holland, R. A., W. R. T. Darwall, K. G. Smith (2012). Conservation priorities for freshwater biodiversity: The Key Biodiversity Area approach refined and tested for continental Africa. Biological Conservation 148: 167–179. Accessed on 12 September 2018 🔗

Sodhi, N. S., G. Acciaioli, M. ERB, A. K.-J. Tan (2008). Biodiversity and human livelihoods in protected areas: case studies from the Malay Archipelago, Cambridge University Press. Accessed on 12 September 2018 🔗

Bass, D., P. Anderson, N. De Silva (2011). Applying thresholds to identify key biodiversity areas for marine turtles in Melanesia. Animal Conservation 14: 1–11. Accessed on 12 September 2018 🔗

TOOL 4 Continued

RELATED RESOURCES/FURTHER READING

Edgar, G. J., P. F. Langhammer, G. Allen, T. M. Brooks, J. Brodie, W. Crosse, N. de Silva, L. D. C. Fishpool, M. N. Foster, D. H. Knox, J. E. McCosker, R. McManus, A. J. K. Millar, R. Mugo, R. (2008). Key biodiversity areas as globally significant target sites for the conservation of marine biological diversity. Aquatic Conservation–Marine and Freshwater Ecosystems 18: 969–983. Accessed on 5 October 2018 🔗

Knight, A. T., R. J. Smith, R. M. Cowling, P. G. Desmet, D. P. Faith, S. Ferrier, C. M. Gelderblom, H. Grantham, A. T. Lombard, K. Maze, J. L. Nel, J. D. PARRISH, G. Q. K. Pence, H. P. Possingham, B. Reyers, M. Rouget, D. Roux, K. A. Wilson (2007). **Improving the key biodiversity areas approach for effective conservation planning.** BioScience 57: 256–261.

Accessed on 5 October 2018 at 🔗

The global KBA standard was extensively consulted with various end users and experts before publication. This consultation is documented at 🔗

3.2.2 | PROTECTED AREA SYSTEM PLANNING, INTEGRATED GAP ANALYSIS, ZONING

TOOL 5	NATIONAL SYSTEM PLANNING FOR PROTECTED AREAS
◉	English 🔗
1998	IUCN–WCPA, Cardiff University

TYPE	PURPOSE
Guideline including case studies	General guidance on national PA system planning.

STRUCTURE AND FUNCTION

General guideline consisting of:

❖ Explanation of general rationale and policy basis for PA system planning
❖ Discussion of characteristics of PA systems:
  ◆ representativeness, comprehensiveness and balance,
  ◆ adequacy
  ◆ coherence and complementarity
  ◆ consistency
  ◆ cost-effectiveness, efficiency and equity
❖ Scope, information needs and underlying concepts of PA system plans
❖ Requirements to implement system plans:
  ◆ community involvement and consultation
  ◆ financing
  ◆ commitment and political support
  ◆ institutions
  ◆ training
  ◆ partnerships
❖ Guidance on PA system planning process and product, as well as implementation and monitoring/ evaluation
❖ Appendices, references and useful contacts

TYPICAL USE

National PA system planning

ADDITIONAL POTENTIAL USES

❖ Sub-national or eco-regional PA system planning
❖ Review, assessment and improvement of existing PA systems

LEVEL OF APPLICATION

Typically PA system level

SKILLS AND RESOURCES REQUIRED

❖ No particular prerequisites for some uses
❖ Need for national PA system development capacity and resources for core use
❖ Implementation costs vary widely

TOOL 5 Continued

STRENGTHS	WEAKNESSES
❖ Broad, general approach with wide applicability ❖ Endorsement by IUCN WCPA ❖ A solid and (to a large extent – see limitations under weaknesses) still valid piece of basics	❖ No specific guidance included ❖ It pre-dates important developments in conservation policy and standard setting, such as distinguishing different governance types of protected areas and the requirement to diversify governance types in a PA system (e.g. laid down in CBD's Programme of Work on Protected Areas of 2004, PoWPA 🔗), the Aichi Biodiversity Target 11 of the CBD's Strategic Plan 2011–2020 🔗 including the concept of other effective area-based conservation measures (OECMs), and requirements relating to consultation of indigenous and local communities deriving from CBD decisions (e.g. PoWPA) and other international agreements and declarations (e.g. UN Declaration on the Rights of Indigenous Peoples, UNDRIP 2008 🔗)

REFERENCE

Davey, A.G. (1998). National System Planning for Protected Areas. Gland, Switzerland and Cambridge, UK: IUCN. x + 71pp. Accessed 5 October 2018 at 🔗

DOCUMENTED EXPERIENCE

❖ Two case studies included in methodological guidelines

RELATED RESOURCES/FURTHER READING

Gombos, M., Atkinson, S., Green, A., & Flower, K. (Eds.). (2013). Designing Effective Locally Managed Areas in Tropical Marine Environments: A Booklet to Help Sustain Community Benefits through Management for Fisheries, Ecosystems, and Climate Change. Jakarta, Indonesia: USAID Coral Triangle Support Partnership. 🔗 Accessed on 19 February 2019

›› **3.2.2** Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 6	PROTECTED PLANET
⌖	English 🔗
	UN–Environment–WCMC, IUCN WCPA

TYPE	PURPOSE
Online portal and database	Informing decision-making and enhancing action on PAs through provision of a comprehensive source of information on protected areas worldwide including data on their status and trends.

STRUCTURE AND FUNCTION

Protected Planet is an online interface to access the World Database on Protected Areas (WDPA), and to retrieve from there data and information about PAs in various formats.

The database is updated monthly with submissions from governments, non-governmental organizations, landowners and communities.

Supported data query and retrieval formats:

❖ PAs accessible via map view or name search (including country statistics search)
❖ Download of WDPA GIS datasets
❖ Global and regional Protected Planet Reports summarizing data and information are published every two years
❖ Access to statistics and other information on specific countries, and comparison between countries.
❖ Statistical reports

Specific data and information is also offered for thematic areas

❖ Marine PAs
❖ Indigenous and Community Conserved Areas
❖ PA management effectiveness information
❖ PARCC (Protected Areas Resilient to Climate Change in Western Africa)
❖ Connectivity conservation
❖ IUCN Green List of Protected Areas
❖ Equity and Protected Areas

TYPICAL USE

❖ Spatial overview and collection of information on PAs and PA systems
❖ Download of datasets for in-depth analysis of individual PAs or regions
❖ Visualization in the context of PA system planning and connectivity planning
❖ Access to statistics and other information on specific PAs and countries, and comparison between countries
❖ Monitoring of global progress towards PA related policy goals

LEVEL OF APPLICATION

Individual PAs, PA systems, countries or larger geographical regions (including global)

SKILLS AND RESOURCES REQUIRED

PC with internet access

Accessing and using the database requires only minimal skills and equipment. However, using some of the output formats supported (e.g. GIS datasets) is only possible with more advanced specialist skills and stronger computational power.

TOOL 6 Continued

STRENGTHS	WEAKNESSES
❖ Comprehensiveness and global coverage ❖ Semi-official character and authority of WDPA (several CBD Decisions have encouraged are encouraged Parties to the CBD to share and update relevant information on their protected areas system with the World Database on Protected Areas) ❖ Allows access to multiple resources of information on many PAs ❖ Map-view ❖ Possibility to download geographical data sets	❖ Not always complete and up to date ❖ Sometimes incorrect information is entered – e.g. on overlapping PAs ❖ Limited search function (no keyword search) ❖ Some small PAs only represented by point data

REFERENCE

Protected Planet. Cambridge, UK: UN Environment-WCMC. Accessed on 19 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Various versions of WDPA since the release in 1981, Protected Planet evolving continually since its launch in 2010.

DOCUMENTED EXPERIENCE

Being a data resource, use of Protected Planet and WDPA is usually not documented. However, there are some relevant examples:

Gap analysis of natural/mixed World Heritage sites:
Bertzky, B., Shi, Y., Hughes, A., Engels, B., Ali, M.K. and Badman, T. (2013) Terrestrial Biodiversity and the World Heritage List: Identifying broad gaps and potential candidate sites for inclusion in the natural World Heritage network. Gland, Switzerland and Cambridge, UK: IUCN and UN-Environment-WCMC. xiv + 70p. Accessed on 8 October 2018 at 🔗

Abdulla, A., Obura, D., Bertzky, B., Shi, Y. (2013). Marine Natural Heritage and the World Heritage List: Interpretation of World Heritage criteria in marine systems, analysis of biogeographic representation of sites, and a roadmap for addressing gaps. Gland, Switzerland: IUCN. xii + 52 pp. Accessed on 8 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

UN Environment-WCMC and IUCN (2016). Protected Planet Report 2016. Cambridge UK and Gland, Switzerland. Accessed on 11 September 2018 at 🔗
(Also **French, Spanish** and **Korean** Version accessible at 🔗)

UN-Environment-WCMC (2017). World Database on Protected Areas User Manual 1.5. UN-Environment-WCMC: Cambridge, UK. 72 pp. Available at 🔗

Webinar Materials in English, French and Spanish: 🔗

The following two resources also use data from the WDPA:
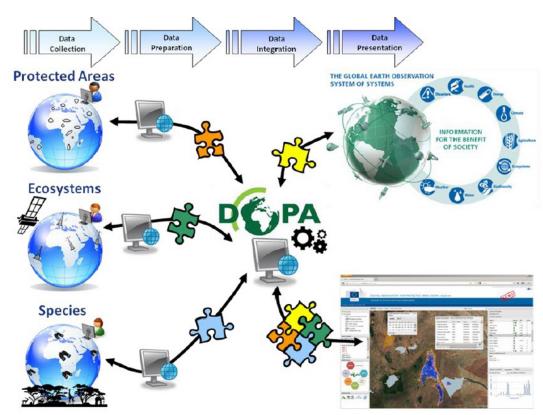
Global Forest Watch. Accessed on 12 October 2018 at 🔗
DOPA 🔗 and DOPA explorer 🔗 (see separate factsheet)

›› 3.2.2 Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 7	DIGITAL OBSERVATORY OF PROTECTED AREAS (DOPA) WITH DOPA EXPLORER 3.0
	DOPA: English 🔗	French 🔗	Spanish 🔗, DOPA Explorer 1.0 Guideline: English 🔗	French 🔗	Spanish 🔗	Portuguese 🔗
2018	European Commission Joint Research Centre

TYPE	PURPOSE
Online data and information platform	Assess, monitor, report and possibly forecast the state of, pressures on and other aspects of interest relating to PAs at multiple scales.

STRUCTURE AND FUNCTION

DOPA combines global data on PAs (from ProtectedPlanet 🔗) with data on species (IUCN Red List), terrestrial and marine ecoregions, topography/bathymetry, climate, built-up areas, human population, land and forest cover, infrastructure etc. at one geo-referenced online platform, in order to enable complex analyses of protected areas within their natural and socio-economic context.

(Source: Dubois et al. 2015)

DOPA Explorer 3.0 allows overlaying these data at the site, national and eco-regional level and to evaluate and prioritize sites for intervention based on this overlay.

Typical procedure for data retrieval and analysis using DOPA Explorer 3.0:

❖ Open DOPA explorer;
❖ Choose ecoregion, country or PA of interest;
❖ Select relevant data categories for area of interest;
❖ Browse, analyse and download information from the report generated by DOPA Explorer 3.0;
❖ Use data and information to support policy and decision making.

TOOL 7 Continued

TYPICAL USE

❖ Spatial analysis of the state of and pressures on PAs and PA systems in support of policy and decision making
❖ Comparison and prioritization of PAs within PA systems for intervention and investment, based on biodiversity values, pressures, etc.
❖ Monitoring and reporting on PAs at various levels

The main intended users of DOPA are the EC, international organizations, governments, NGOs and Academia.

ADDITIONAL POTENTIAL USES

❖ Connectivity analysis
❖ Forecasting of states of and pressures on PAs
❖ Academic research on multi-scale patterns and processes affecting PAs

LEVEL OF APPLICATION

Individual PAs and PA systems, ecoregions

SKILLS AND RESOURCES REQUIRED

❖ Standard personal computer with internet access
❖ Basic computer literacy
❖ Proficiency in English

STRENGTHS

❖ Global geographical coverage and wide thematic coverage; combination of various datasets enables effective "deep" analysis
❖ Possibility of conducting analysis at various geographical scales
❖ Easy access and use (without GIS skills) of DOPA Explorer 3.0
❖ Possibility to customize output reports
❖ Active online support desk

WEAKNESSES

❖ Information on pressures is limited to some defined types of pressures only, mainly based on infrastructure and broad proxies such as population (e.g. nothing on unsustainable natural resource use as such)
❖ Quality of analysis depends on input data quality and recentness (e.g. on biodiversity, pressures)

REFERENCE

Up to now there is only an introduction to DOPA version 1.0 and a short introduction to version 3.0.

Dubois, G., L. Bastin, J. Martinez Lopez, A. Cottam, H. Temperley, B. Bertzky, M. Graziano (2015). The Digital Observatory for Protected Areas (DOPA) Explorer 1.0. EUR 27162 EN. Luxembourg: Publications Office of the European Union. 53 pp. Accessed on 1 October 2018 at 🔗

An introduction to DOPA Explorer 3.0 from 2018 gives information about the methodology, policy targets (SDGs and Aichi targets), improvements to version 2.0, data input and key caveats. Accessed on 30 November 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Earlier Versions of DOPA Explorer: beta, 1.0 and 2.0.
The current Version DOPA Explorer 3.0 was released in November 2018.
It is likely that additional updates will be published in the future.

TOOL 7 Continued

REVIEWS

Dubois, G., L. Bastin, B. Bertzky, B. Mandrici, M. Conti, S. Saura, A. Cot-tam, L. Battistella, J. Martínez-López, M. Boni, M. Graziano (2016). Integrating multiple spatial datasets to assess protected areas: Lessons learnt from the Digital Observatory for Protected Area (DOPA). International Journal of Geo-Information 5(12): 242. Accessed on 2 October 2018 at 🔗

DOCUMENTED EXPERIENCE

Brink, A., J. Martínez-López, Z. Szantoi, P. Moreno-Atencia, A. Lupi, L. Bastin, G. Dubois (2016). Indicators for assessing habitat values, pressures and threats for protected areas – an integrated habitat and land cover change approach for the Udzungwa Mountains National Park in Tanzania. Remote Sensing 8(10): 862. Accessed on 2 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

Online information and help desk: 🔗

Information on the Indicators used in DOPA Explorer 3.0 visit 🔗

eConservation is a spatial database of conservation (and related projects) which is based on DOPA. It is currently available as beta version. URL: 🔗

›› 3.2.2 Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 8	SATELLITE REMOTE SENSING
⊿	English 🔗
2018	WWF-UK

TYPE	PURPOSE
Guideline including case studies	Getting familiar with Satellite Remote Sensing (SRS) technology, its applications in conservation and the resources needed for using SRS data.

STRUCTURE AND FUNCTION

- ❖ Introduction to SRS (key concepts, terminologies)
- ❖ Review of available SRS data, (focus open-access datasets)
- ❖ Selecting and processing SRS data
- ❖ Applications of SRS imagery in ecology and conservation
- ❖ Advanced SRS data types & analysis techniques (e.g. LiDAR)
- ❖ Limitations of SRS (data resolution, availability & accessibility)

TYPICAL USE

Gaining an overview of current SRS technology and its potential use for conservation, in particular SRS-based opportunities for mapping and monitoring ecosystem and habitat extent and condition, species distributions, and threats to biodiversity (see Chapter 5)

LEVEL OF APPLICATION

Individual PAs, PA systems, countries or larger geographical regions (including global)

SKILLS AND RESOURCES REQUIRED

To use SRS for a spatial analysis, GIS expertise and interpretation skills are mandatory.
Technical requirements to use SRS:

- ❖ Reasonably fast internet speed for downloading raw data, high pro-cessing power, and sufficient data storage for raw imagery and interme-diate and final data products.
- ❖ Hardware and software requirements typically increase with study area size, resolution and the com-plexity of analysis. Average scenes have file sizes of 500 MB to 1.62 GB.
- ❖ Processing large time series of multi-scene mosaics requires more pro-cessing power, and in some cases may require the use of cloud compu-ting services (e.g. Google Earth Engine).
- ❖ GIS Software: commercial (e.g. ArcGIS) or open-access (e.g. QGIS SAGA GIS, GRASS GIS)

STRENGTHS	WEAKNESSES
❖ Very detailed overview of SRS technology and its usage in conservation ❖ Starts with explaining basic principles e.g. those underlying remote sensing, so accessibe for every level of prior knowledge	❖ The guideline is only a starting point. If one wants to use SRS for conservation further guidance and in some cases external help is needed

REFERENCE

Pettorelli, N., Schulte to Bühne, H., Shapiro, A. C., Glover-Kapfer, P. (2018) Satellite Remote Sensing for Conservation. WWF Conservation Technology Series 1(4). WWF. Accessed on 23.11.2018 at 🔗

TOOL 8 Continued

DOCUMENTED EXPERIENCE

The Guideline includes case studies from Mozambique, Indonesia, the Arctic and the Kavango Zambezi Transfrontier Conservation Area (Angola, Botswana, Namibia, Zambia and Zimbabwe) and from different ecosystems.

RELATED RESOURCES/FURTHER READING

Melin, M., Shapiro, A. C., Glover-Kapfer. P. (2017). LIDAR for ecology and conservation. WWF Conservation Technology Series 1(3).WWF-UK, Woking, United Kingdom. Accessed on 26.11.2018 at 🔗

›› **3.2.2** Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 9	EARTHEXPLORER (EE)
📡	English 🔗
	US Geological Survey

TYPE	PURPOSE
Online data platform	Search, download, and order satellite images (particularly from Landsat-9 and Sentinel-2), aerial photographs, and cartographic products.

STRUCTURE AND FUNCTION

Searchable repository of imagery from Landsat and Sentinel missions and a variety of other data providers, MODIS land data products from the NASA Terra and Aqua missions, and ASTER level-1B data products over territories from the NASA ASTER mission.

Registered users of EE have access to more features than guest users.

Searchable based on map, coordinates or place names. Metadata about the sources listed are also provided

TYPICAL USE

❖ Acquiring maps to get a general overview of an area
❖ Sourcing base layers for GIS mapping in PA system planning, gap analysis etc.
❖ Identifying pressures from infrastructure development etc.

LEVEL OF APPLICATION

Individual PA or PA system level

SKILLS AND RESOURCES REQUIRED

❖ For details on requirements for using Satellite imagery and for guidance on its use in conservation see Satellite remote sensing for conservation. ▶
❖ Skills and resources required for acquiring maps are modest: Only moderate computer literacy and a personal computer with internet access is needed.
❖ More specialist skills (GIS, spatial conservation planning tools, processing and interpretation of satellite images) are needed to make the most of the available resources in the context of PA system planning and gap analysis.

STRENGTHS	WEAKNESSES
❖ Largest openly accessible repository of free satellite and aerial imagery worldwide ❖ Comes with extensive help documentation (see related resources)	❖ Search function is not fully self-explanatory ❖ Uneven geographical coverage of the imagery available ❖ Process for ordering free imagery complicated in some cases

REFERENCE

🔗

VERSIONS AND/OR MODIFICATIONS

Continually updated

RELATED RESOURCES/FURTHER READING

USGS (2013): Earth Explorer Help Documentation. Accessed on 1 October 2018 at 🔗

›› 3.2.2 Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 10 — GLOBAL FOREST WATCH (GFW)

User interface: Chinese 🔗 | English 🔗 | French 🔗 | Bahasa Indonesia 🔗 | Portuguese 🔗 | Spanish 🔗
Supporting materials: French, Bahasa Indonesia, Portuguese, Spanish

Global Forest Watch (partnership convened by World Resources Institute)

TYPE	PURPOSE
Interactive online platform	Monitoring forest change with the help of a variety of data sets and tools and enhancing information transfer between different actors.

STRUCTURE AND FUNCTION

The user interface of the platform is divided into four categories:

MAP: actual tool with seven categories of data layers
DASHBOARD: statistics of the data sets
BLOG: news about places to watch, data, GFW community and updates
ABOUT: background information on the partnership, impacts and history

GFW incorporates a wide range of data sets that can be overlaid and compared, including:

❖ Forest change data (global tree cover loss and gain data, near real-time FORMA alerts for the humid tropics, SAD alerts for the Brazilian Amazon, quarterly vegetation change data)
❖ Forest cover data (global tree cover data, intact forest landscapes, and pantropical carbon density)
❖ Forest fire data
❖ Forest use data (contextual information, such as concession areas for natural resource extraction or agricultural production)
❖ Conservation data (boundaries for PAs and biodiversity hotspots)
❖ Qualitative and anecdotal data (such as user-submitted)
❖ People data (community land boundaries and land tenure rights)

The data on GFW comes from various sources. Most of the data sets have been developed by governments, NGOs, research institutions or companies.

TYPICAL USE

❖ Monitor forest change, fires and illegal activities
❖ Share information about threats but also success stories
❖ Do spatial analysis and download data via open data portal 🔗
❖ Build own maps and add information
❖ Track forest change over time

ADDITIONAL POTENTIAL USES

❖ Get email alerts as forest clearings happen
❖ Upload own data sets
❖ Use the GFW data in communication as an additional source to the FAO Global Forest Resources Assessment 🔗
❖ Supply chain monitoring
❖ Land use planning and zoning
❖ Use data to create customized web-based or mobile applications

LEVEL OF APPLICATION

PA or PA system level

TOOL 10 Continued

SKILLS AND RESOURCES REQUIRED

❖ Downloading data requires a fast internet connection.
❖ To use the full suite of functions an up-to-date browser version is required.
❖ Compared to analysing data with a GIS Programme (e.g. QGIS and ArcGIS) required computer literacy skills are lower.

STRENGTHS	WEAKNESSES
❖ Easy and intuitive application ❖ Consistent approach to monitor forest change globally ❖ High transparency due to open source code and Application Programming Interface (API) 🔗 ❖ Data is downloadable and some of the datasets can be directly exported to ArcGIS ❖ Data and forest monitoring and alert systems can be used offline and in the field on a mobile device: Forest Watcher mobile app 🔗 ❖ Combines data from different databases (e.g. protected planet)	❖ The accuracy of the data sets displayed on GFW varies. Check blogs and reviews for information on how to deal with low accuracy. ❖ Results for forest change of different data sets can be contradictory. Check the method used and underlying presumptions. How did they define forest? Based on which method did they detect forest change?

REFERENCE

Global Forest Watch. 2014. World Resources Institute. Accessed on 23.10.2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

2014 launch of GFW 2.0

REVIEWS

A selection of reviews for the tree cover data set are listed below:

Bellot, F.-F., Bertram, M., Navratil, P., Siegert, F., Dotzauer, H. (2017). The high-resolution global map of 21st-century forest cover change from the University of Maryland ('Hansen Map') is hugely overestimating deforestation in Indonesia. Indonesian-German Forests and Climate Change Programme (FORCLIME), Jakarta, Indonesia. 4 pp. Accessed on 23.10.2018 at 🔗

Tropek, R., Sedláček, O., Beck, J., Keil, P., Musilová, Z., Šímová, I., Storch, D. (2014). Comment on "High-resolution global maps of 21st-century forest cover change". Science Vol. 344, Issue 6187, 981 pp. Accessed on 23.10.2018 at 🔗

DOCUMENTED EXPERIENCE

Scientific publications which used data from GFW in 2017 are available at 🔗

RELATED RESOURCES

For guidance how to visualize, analyse or download data, tutorials, trainings, webinars and FAQ visit 🔗

›› **3.2.2** Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 11	NATURESERVE VISTA
⏦	English ✐ | some documentation/manuals available in Spanish
2018	NatureServe network

TYPE	PURPOSE
Set of assessment methods and software tool (ArcGIS extension)	Supporting assessment of impacts (e.g. from planned developments) on a variety of natural, cultural, and development objectives and creation of options for sites, or entire landscapes and seascapes.

STRUCTURE AND FUNCTION

❖ Scenario-based assessment and planning tool
❖ Designed to support non-GIS and non-conservation experts to assist integration of conservation with assessment and planning activities
❖ Software is comprised of spatial analytical functions automated through a geographic information system and both spatial and non-spatial databases for managing inputs and Vista outputs
❖ Based on setting quantitative retention goals for elements of interest, assessing how well different scenarios meet those goals, and then using the tool to mitigate problems or create alternative scenarios for implementation.
❖ Supports project level implementation, ongoing monitoring, and adaptive planning and management.
❖ Two-part process: (1) expertise of element experts (biologists, ecologists, and experts in other non-biological conservation features) is utilized to populate the database with the data as well as expert knowledge, (2) assessment how well current and future scenarios will meet their goals, where conflicts are, and how to mitigate conflicts or build new alternative scenarios.
❖ Component planning analyses possible with NatureServe Vista: (1) relative value of areas for individual conservation features, (2) landscape condition modelling, (3) summarizing conservation value across multiple targets, (4) scenario maps & evaluations, (5) synthesis of the above ("site explorations")
❖ Can be linked to Marxan to produce target based site solutions
❖ Additional information on structure and function in the user manual (see reference)
❖ NatureServe Vista maintenance, development and user support are supported by an Endowment (trust fund)

TYPICAL USE

By conservation organizations or development cooperation organizations involved in conservation:

❖ Evaluation of existing government policies to identify conservation gaps
❖ Evaluation of existing plans or land holdings to identify strategic goals
❖ Evaluation of new scenarios for conservation to see how they meet goals
❖ Interchange of plans and databases developed with Vista with other implementers to facilitate their adoption

By local or regional government land use & infrastructure planning:

❖ Evaluation of current plans, existing land use, and PAs to identify gaps in meeting conservation goals
❖ Evaluation of conservation impacts of large development projects and identification of mitigation needs on-site or off-site
❖ Modification of the general plan and zoning to be more compatible with conservation goals and identification of areas of low conflict for more intensive land use
❖ Evaluation of plans provided by conservation organizations to see how they fit the community's conservation goals.

By resource user organizations, resource management agencies or industry:

❖ Evaluation of current resource management plans to identify gaps in meeting conservation goals.
❖ Identification of locations for resource use that may be free of biodiversity conflicts
❖ Identification of areas of likely conservation value but low data confidence that require field inventory

TOOL 11 Continued

ADDITIONAL POTENTIAL USES

❖ Reportedly any spatial planning challenge involving biodiversity and/or PAs

LEVEL OF APPLICATION

Individual PAs or PA systems

SKILLS AND RESOURCES REQUIRED

❖ Expertise: suitable for GIS experts as well as planners and managers with basic GIS experience with a minimum of training and support
❖ System requirements: GIS – ESRI ArcGIS with Spatial Analyst; OS – Microsoft Windows XP or newer, Access, and .Net 4; 8GB of RAM recommended
❖ Data and information requirements: spatial distribution for conservation elements (additional requirements in some cases, e.g. for scenario planning)
❖ Data preparation and output interpretation costs vary depending on scale of project.

STRENGTHS	WEAKNESSES
❖ Automates functions that would take days to weeks to figure out and then implement manually on a step-by-step basis, using GIS ❖ Inter-operationality with other systems (e.g. Marxan) ❖ Extensive documentation and reporting features ❖ Capability of scenario development and evaluation, analysis and optimization of solutions for multiple development objectives, evaluation of conflicts	❖ Database preparation and output interpretation require considerable skill and time ❖ Output quality depends on input quality, including a sound rationale for the selection of conservation features and other goals/objectives to take into account during the planning process, and sound judgement on the data quality needs to run the application ❖ Outputs need to be interpreted, discussed and adapted to be turned into on-the-ground solutions ❖ Does not show how an area/zone needs to be managed to conserve its features ❖ Additional information on limitations and weaknesses in the User Manual, pp. 495–499

REFERENCE

NatureServe (2013). NatureServe Vista. Decision-support software for land use and conservation planning: user's manual. Arlington, Virginia: NatureServe. 548 pp. Accessed on 8 October 2018 at 🔗

Factsheet: 🔗

VERSIONS AND/OR MODIFICATIONS

Several updates since first release in 2005. Current version is Version 3.3.3 (2018). Vista 4.0 is expected to be released in Summer 2019.

REVIEWS

Review from a specific planning context in the US:

Crist, P., C. Casper, R. Scherzinger (2014). Applying conservation planning tools. Case study: Pikes Peak Regional Transportation Plan. Washington, D.C.: American Planning Association. Accessed on 21 April 2015 at 🔗

DOCUMENTED EXPERIENCE

NatureServe (2010). Catalyzing Effective Land-use Planning in Southern Peru. Final Report to the Blue Moon Fund. Arlington, Virginia: NatureServe. 23 pp. Accessed on 21 April 2015 at 🔗 (relevant to integration/trade-offs between PAs and other land uses in a region)

TOOL 11 Continued

RELATED RESOURCES/FURTHER READING

User Manual, related Publications available at 🔗

›› 3.2.2 Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 12 MARXAN/MARXAN WITH ZONES/ZONAE COGITO/MARXANIO

	English
2008	University of Queensland

TYPE	PURPOSE
Set of software tools	Spatial optimization for systematic PA design.

STRUCTURE AND FUNCTION

❖ Software uses stochastic optimization routines ("simulated annealing") to generate optimised land use (including PA) configurations for given biodiversity representations

TYPICAL USE

❖ Calculation of spatial land use (including PA) configurations to meet conservation objectives for multiple conservation features (e.g. species, ecosystems), aimed at finding the best configuration of PAs and other conservation areas with the least costs (in terms of opportunity costs for other land uses, costs for threat management, etc.)
❖ Site prioritization for conservation of species/ecosystems
❖ Estimation of comprehensiveness/effectiveness of PA and land use configurations
❖ Exploration of trade-offs in PA system design and their impacts on various stakeholders

ADDITIONAL POTENTIAL USES

❖ Assessment of effectiveness of current PA system configuration in meeting national/international conservation goals
❖ CEPA
❖ Potentially many others

LEVEL OF APPLICATION

PA systems

SKILLS AND RESOURCES REQUIRED

❖ PC with Microsoft OS, at least powerful enough to run Arc9 or other GIS (better more powerful)
❖ Solid understanding of PA system planning, systematic conservation planning and the need for spatial optimization in this context
❖ Advanced GIS (e.g. ArcGIS) and general IT competence
❖ Advanced competence in data management and dataset preparation

STRENGTHS

❖ Comprehensiveness and ability to provide spatial solutions to complex conservation problems
❖ Rigour, transparency and repeatability
❖ Applicable in all ecosystems
❖ Extensive experience from application and community of practice
❖ Compatibility with other planning (particularly GIS) tools
❖ Can incorporate multiple interests into problem solution
❖ Freely available

WEAKNESSES

❖ Output quality depends on input quality, including a sound rationale agreed among stakeholders of how much of a species/ecosystem needs to be protected
❖ Outputs need to be interpreted, discussed and sometimes adapted to be turned into on-the-ground solutions (in spite of their often "nice" visual impression)
❖ Weak in dealing with demographic interconnectedness of planning units
❖ Serves as a decision support tool, but does not in itself resolve conflicts of interest regarding land use
❖ Data hungry; preparation of datasets requires time and relatively high competence
❖ Does not show how an area/zone needs to be managed to conserve its features

TOOL 12 Continued

REFERENCE

See Marxan Manual for further technical specifications: Game, E. T., H. S. Grantham (2008). Marxan User Manual: For Marxan version 1.8.10. University of Queensland, St. Lucia, Queensland, Australia, and Pacific Marine Analysis and Research Association, Vancouver, British Columbia, Canada. 🔗

The documentation for Marxan provided on the website includes technical information about how Marxan works, how to use Marxan, and how to troubleshoot when faced with common problems.

VERSIONS AND/OR MODIFICATIONS

❖ Several versions of the core tool since 1999 – current version is V2.43.
❖ Marxan with Zones is an extension of Marxan aimed to include zonation into spatial PA solutions (Version 1.0.1 2008)
❖ Zonae Cogito is a decision support system and database management software system (on zonation issues) for the family of Marxan software (release 2011)
❖ Marxanio is a web-based App that is based on Marxan

REVIEWS

Applied Environmental Decision Analysis (2010). Making sense with Marxan. Decision Point Special Marxan Issue. 16 pp. Accessed at 20 October 2018: 🔗

Possingham, H., L. Fernandes, K., Walls, M., Weatherhead, J., Ardron (2004). Using computer software to design marine reserve networks: Planners discuss their use of Marxan. MPA News 6(4). Accessed on 12 September 2018 🔗

DOCUMENTED EXPERIENCE

Marxan has been used by 6,708 users in 184 countries.

Case Studies, published examples of its use and further support are available at 🔗

RELATED RESOURCES/FURTHER READING

Course Materials available at 🔗

›› 3.2.2 Protected Area System Planning, Integrated Gap Analysis, Zoning

TOOL 13	ZONATION
⌖	English 🔗
2014	University of Helsinki (Finland), Conservation Informatics Group

TYPE	PURPOSE
Software tool	Spatial prioritization for conservation sites, including various biodiversity-related benefits and costs related to the needs of other land uses.

STRUCTURE AND FUNCTION

❖ Produces a hierarchical prioritization of the landscape based on the occurrence levels of biodiversity features in sites (cells), by iteratively removing the least valuable remaining cell while accounting for connectivity and generalized complementarity
❖ Output can be imported into GIS software to create maps or for further analysis
❖ V4.0 can process very large data sets containing up to ˜50 million grid cells with effective data
❖ Identification of areas important for retaining habitat quality and connectivity for multiple species, indirectly aiming at species' long-term persistence
❖ Computational strategy: maximal retention of weighted, range size normalized (rarity corrected) richness to produce complementarity-based priority ranking of sites for conservation
❖ Further information on structure and function in user manual

TYPICAL USE

❖ Identification of optimal reserve areas
❖ Identification of reserve area expansions
❖ Identification of areas for alternative land uses
❖ Target-based planning
❖ Multiple alternatives for how conservation value is aggregated across features and across the landscape

ADDITIONAL POTENTIAL USES

❖ Biodiversity offsetting
❖ Climate change adaptation planning for PA networks
❖ Targeting for habitat restoration/management
❖ CEPA

LEVEL OF APPLICATION

PA system

SKILLS AND RESOURCES REQUIRED

❖ Computer (Windows or Linus OS), input data.
❖ Effort for data preparation and analysis depends on scale of use.
❖ Solid understanding of PA system planning, systematic conservation planning required for meaningful use
❖ Advanced GIS and general IT competence
❖ Advanced competence in data management and dataset preparation

TOOL 13 Continued

STRENGTHS	WEAKNESSES
❖ Ability to work with large datasets ❖ Takes into account connectivity (for multiple conservation features) benefits and costs in relation to other land uses ❖ Can work with modelled species distribution data ❖ Not based simply on spatial coverage targets for conservation features, but able to work with more derived aggregation algorithms across multiple features ❖ Free of charge	❖ Output quality depends on input quality ❖ Outputs need to be interpreted, discussed and some times adapted to be turned into on-the-ground solutions (in spite of their often "nice" visual impression) ❖ Weak in dealing with demographic interconnectedness of planning units ❖ Preparation of datasets requires time and relatively high competence ❖ Does not show how an area/zone needs to be managed to conserve its features

REFERENCE

Moilanen, A., A. M. A. Franco, R. Early, R. Fox, B. Wintle, C.D. Thomas (2005). **Prioritising multiple-use landscapes for conservation: methods for large multi-species planning problems. Proceedings of the Royal Society of London B Biological Sciences 272**: 1885–1891.

VERSIONS AND/OR MODIFICATIONS

Various versions since first launch. Current version V4 (2014).

REVIEWS

Moilanen, A., B. J. Anderson, F. Eigenbrod, A. Heinemeyer, D. B. Roy, S. Gillings, P. R. Armsworth, K. J. Gaston, C.D. Thomas (2011). Balancing alternative land uses in conservation prioritization. Ecological Applications, 21: 1419–1426. Accessed on 8 October 2018 at 🔗

Moilanen, A., H. Kujala, J. Leathwick (2009). **The Zonation framework and software for conservation prioritization.** In: Moilanen, A., K. A. Wilson H. P. Possingham (eds). Spatial Conservation Prioritisation: Quantitative Methods and Computational Tools. Oxford, UK: Oxford University Press. pp 196–210.

DOCUMENTED EXPERIENCE

Kremen, C., A. Cameron, A. Moilanen, S. Phillips, C. D. Thomas et al. (2008). **Aligning conservation priorities across taxa in Madagascar, a biodiversity hotspot, with high-resolution planning tools. Science 320**: 222–226.

Leathwick, J.R., A. Moilanen, M. Francis, J. Elith, P. Taylor, K. Julian, T. Hastie (2008). **Novel methods for the design and evaluation of marine protected areas in offshore waters. Conservation Letters 1**: 91–102. (example from New Zealand, but generally relevant to MPA planning)

RELATED RESOURCES/FURTHER READING

Manuals, presentations and example setups available at 🔗

3.3 MANAGEMENT PLANNING

3.3.1 | GENERAL

TOOL 14	**IUCN WCPA GUIDELINES FOR MANAGEMENT PLANNING OF PROTECTED AREAS**
🧭	Arabic 🔗	Chinese 🔗	English 🔗	French 🔗	Georgian 🔗	Japanese 🔗
2003	IUCN WCPA

TYPE	PURPOSE
Guideline	General guidance on PA management planning.

STRUCTURE AND FUNCTION

Consists of explanations on background, prerequisites for PA management planning, guidance on 13 planning steps and participation, and a discussion of management planning for particular international designations of PAs, as well as abbreviated planning approaches.

Management planning steps:

1. Pre-planning
2. Data collection, background research and initial field work
3. Evaluation of information
4. Identification of constraints, opportunities and threats
5. Development of management vision and objectives
6. Identification of management options (including zoning)
7. Drafting of plan
8. Public consultation, including public exhibition of draft plan
9. Revision of draft management plan
10. Approval
11. Implementation
12. Monitoring and review
13. Decision to review and update plan

TYPICAL USE

Participatory management planning – typically implemented through more specific methods and tools

ADDITIONAL POTENTIAL USES

❖ Participatory planning of area based conservation measures outside PAs
❖ Updating of PA management plans
❖ Review and assessment of existing PA management frameworks and plans at the system level

LEVEL OF APPLICATION

Individual PAs or PA systems

SKILLS AND RESOURCES REQUIRED

None. General PA management planning capacity and mandate needed for putting guidelines into practice Costs for implementation vary depending on scale of project. For typical implementation, the capacity to conduct participatory planning workshops and to produce complex documents with visual content is necessary.

TOOL 14 Continued

STRENGTHS	WEAKNESSES
❖ Broad, general, widely accepted and widely applicable approach ❖ Compatible with or underlying most more specific PA management planning approaches, methods and tools ❖ Emphasis on participatory approach	❖ Lack of specific guidance on management planning ❖ Relatively weak on operational and financial planning

REFERENCE

Thomas, L., J. Middleton (2003). Guidelines for Management Planning of Protected Areas. Gland, Switzerland and Cambridge, UK: IUCN. ix + 79pp. Accessed on 21 April 2015 at 🔗

REVIEWS

Spoelder, P., M. Lockwood, S. Cowell, P. Gregerson, A. Henchman (2015) Planning. In: Worboys, G. L., M. Lockwood, A. Kothari, S. Feary, I. Pulsford (Eds.): **Protected Area Governance and Management**. pp. 381–412. Canberra: ANU Press.

DOCUMENTED EXPERIENCE

The IUCN WCPA PA management planning guidelines underpin most PA management processes for PAs, at least to some extent, including in the development cooperation context. However, they are so general that they are often not cited specifically in relation to site-level processes. There are some examples which refer to the guidelines, however, for instance:

Hossain Chowdhury, M. S. (Ed.) (2014). **Forest Conservation in Protected Areas of Bangladesh. Policy and Community Development Perspectives. World Forests No. 20**. Cham, Heidelberg, New York, Dordrecht, London: Springer. 258 pp.

RELATED RESOURCES/FURTHER READING

Rizk, C., Semelin, J., Karibuhoye, C. (2011). Methodological Guidebook for Development of Management Plans for Marine Protected Areas in West Africa. FIBA, Fondation internationale du Banc d'Arguin. 79 pp. 🔗

Also Available in French 🔗 and Portuguese 🔗.

For further resources see reviews.

Idle, E.T., Bines, T.J.H. (2005) Management planning for protected areas: a guide for practitioners and their bosses. Eurosite Project. Accessed on 22 February 2019. 🔗

Amer, W., Ashong, S., Tiomoko, D. (2015): Management Manual for UNESCO Biosphere Reserves in Africa. A practical guide for managers. German Commission for UNESCO. Accessed on 22 February 2019. 🔗

›› 3.3.1 General

TOOL 15	IUCN GUIDELINES FOR APPLYING PROTECTED AREA MANAGEMENT CATEGORIES
⌖	Version 2008: Arabic 🔗 | Czech 🔗 | English 🔗 | French 🔗 | Japanese 🔗 | Korean 🔗 | Romanian 🔗 | Spanish 🔗 | Version 2013: Chinese (hardcopy only)
2013	IUCN WCPA

TYPE	PURPOSE
Guideline and methodology	Categorization of PAs according to IUCN system based on management objective and governance type.

STRUCTURE AND FUNCTION

Guidelines document consisting of eight chapters, appendix and references; key content includes:

❖ Explanation of IUCN PA definition
❖ Definition and explanation of the seven IUCN PA categories including primary and other objectives, distinguishing features, role in the landscape/seascape, differential diagnosis, issues for consideration
❖ Definition of PA governance types and discussion of their relationship with each other and with PA management categories ("governance matrix")
❖ Guidance on applying and using the categories
❖ Short discussion of some international PA designations (Ramsar sites, World Heritage sites) and their relationship to the category system

TYPICAL USE

❖ PA and PA system planning and policy, particularly (re-)assignment of IUCN PA categories to new or existing PAs
❖ Climate change adaptation planning

ADDITIONAL POTENTIAL USES

❖ Monitoring and evaluation
❖ Reporting, e.g. on implementation of international PA related commitments, or at the national level
❖ CEPA
❖ Allocation of PA related funding
❖ Various additional specialized uses are discussed in Chapter 6 of the document

LEVEL OF APPLICATION

PAs and PA systems

SKILLS AND RESOURCES REQUIRED

❖ Information about management objectives of PAs to be categorized
❖ Knowledge and understanding of the values, management and governance of the PA (system) in question

STRENGTHS	WEAKNESSES
❖ Wide applicability ❖ Long-standing, widely accepted approach to PA categorization ❖ Focus on management objective – no judgement of relative importance of categories allows for comprehensive, well-balanced PA systems ❖ Clear guidance on category assignment and use ❖ Can be combined with independent categorization based on governance type	❖ Terminological confusion is possible where national categories have the same names but are defined differently than according to the IUCN rules

TOOL 15 Continued

REFERENCE

Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types: Best Practice Protected Area Guidelines Series No. 21: Gland, Switzerland: IUCN. Xx pp. Accessed on 8 October 2018 at 🖉

VERSIONS AND/OR MODIFICATIONS

Earlier versions approved 1978, 1994. Published in 2008 and re-published in 2013 with additional documentation.

REVIEWS

A review of the history and effectiveness of the IUCN PA categories is included in Chapters 1 and 8 of the Guidelines.

DOCUMENTED EXPERIENCE

The IUCN PA categories have been applied in many countries with the support of development cooperation organizations, but few examples that focus specifically on the categorization aspect are available.

Some examples – including from a development cooperation context – are mentioned throughout the guidelines document.

Govan, H., Jupiter, S. (2013). Can the IUCN 2008 protected areas management categories support pacific island approaches to conservation? PARKS Vol 19.1. Accessed at 10 September on 🖉

RELATED RESOURCES/FURTHER READING

Day J., N. Dudley , M. Hockings, G. Holmes, D. Laffoley, S. Stolton, S. Wells (2012). Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas. Gland, Switzerland: IUCN. 36pp. Accessed on 8 October 2018 at 🖉

›› 3.3.1 General

TOOL 16	**THE CONSERVATION MEASURES PARTNERSHIP. OPEN STANDARDS FOR THE PRACTICE OF CONSERVATION (CMP OS)**
⌖	Version 3.0 (2013): Albanian 🔗	English 🔗 French 🔗	Indonesian 🔗	Persian 🔗	Portuguese 🔗	Russian 🔗	Spanish 🔗 Version 2.0 (2007): English 🔗	French 🔗	Mongolian 🔗	Portuguese 🔗	Ukrainian 🔗	Spanish 🔗
2013	Conservation Measures Partnership

TYPE	PURPOSE
Methodology	Adaptive, results based management of conservation projects (including but not limited to PA projects) and programmes.

STRUCTURE AND FUNCTION

The Open Standards (OS) are based on a version of the project cycle with specific guidance and visualization of five major steps and several sub-steps under each of these:

1. Conceptualize the project vision and context: define planning purpose and project team, scope, vision and conservation targets (features) of project, identify critical threats, analyse the conservation situation
2. Plan actions and monitoring: develop goals, strategies, assumptions and objectives, monitoring and operational plan
3. Implement actions and monitoring: develop work plan and timeline, develop and refine budget, implement plans
4. Analyse data, use the results, and adapt: prepare data for analysis, analyse results, adapt strategic plan
5. Capture and share learning: document and share learning, create a learning environment

❖ Guidance on general principles for implementation of OS: stakeholder involvement and participatory implementation, development and cultivation of partnerships, emphasis on learning as part of project cycle, documentation of decisions, adaptive management including adjustment of plans
❖ CMP OS allow management planning for biodiversity-based human well-being targets, based on published extension 🔗
❖ Climate Smart Open Standards are available as a prototype extension of the methodology 🔗, to be published in final form in 2019
❖ The manual of a version of the OS for ecosystem-based adaptation to climate change is under preparation by GIZ
❖ Implementation typically in the form of participatory planning workshop series and involving the Miradi software. Miradi files can largely replace project (including PA management) plans if this programme is used
❖ Implementation, learning and teaching of the CMP OS is supported by a global network of practitioners, coaches and trainers (Conservation Coaches Network: 🔗)

TYPICAL USE

Design, planning, adaptive management and implementation, monitoring of and learning from conservation projects/programmes and protected areas

ADDITIONAL POTENTIAL USES

❖ Projects aimed at the conservation of non-biological or cultural heritage conservation and management
❖ Programme design and management
❖ Evaluation and accountability, conservation audits
❖ Design, planning, adaptive management and implementation, monitoring of and learning from projects on ecosystem-based adaptation to climate change

TOOL 16 Continued

LEVEL OF APPLICATION

Typically individual PAs or project sites. Application to thematic projects/programmes and PA systems possible.

SKILLS AND RESOURCES REQUIRED

- ❖ Basic training in Open Standards.
- ❖ At least solid knowledge of the area of interest, including biodiversity and human wellbeing values, stakeholders, threats with their drivers and root causes
- ❖ Prerequisites for project implementation vary depending on nature and scope of project.
- ❖ For most applications at the planning stage, the capacity to conduct participatory planning workshops is needed

STRENGTHS	WEAKNESSES
❖ Broad support and thorough long-term collaborative development of OS ❖ Clear framework for results based strategic project (including PA) design ❖ Orientated towards monitoring, learning and adaptive management ❖ Allows for identifying, evaluating and addressing assumptions in strategies considered during planning ❖ Clear links for derivation of operational and financial planning from strategic planning ❖ Useful visualisations to support planning process ❖ Interoperability with Miradi software ❖ Existing network of practitioners/coaches ❖ Well-documented and accessible experience ❖ Capability of planning and management for biodiversity dependent human well-being targets ❖ Suitability for participatory project design, planning, management, monitoring and learning	❖ Designed to start planning from scratch – can be difficult to apply to constrained settings, where significant decisions have already been taken ❖ Experience with Steps 4–5 of the cycle, and effectiveness of approach at these stages not as clearly documented as for Steps 1–3 (baseline analysis, project design and initial planning, implementation)

REFERENCE

The Conservation Measures Partnership (2013). Open Standards for the Practice of Conservation. Version 3.0 / April 2013. CMP. 51 pp. Accessed on 8 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Several updates since first publication in 2004. Current version is Version 3 (2013). Version 4.0 is expected to be published in May 2019.

REVIEWS

Ernoul, L. N. Beck, D. Cohez, C. Perennou, M. Thibault, L. Willm, & B. Poulin (2014). **Trends in management plans and guides: 25 years of experience from Southern France.** Journal of Environmental Planning and Management 58(6): 1096–1112.

Margoluis, R., Stem, C., Swaminathan, V., Brown, M., Johnson, A., & Placci, G., et al. (2013). Results chains: A tool for conservation action design, management, and evaluation. Ecology and Society, 18(3), 22. Accessed on 8 September 2018 at 🔗

Schwartz, M. W., K. Deiner, T. Forrester, P. Grof-Tisza, M. J. Muir, M. J. Santos, L. E. Souza, M. L. Wilkerson, M. Zylberberg (2012). **Perspectives on the open standards for the practice of conservation. Biological Conservation 155**: 169–177.

Spoelder, P., M. Lockwood, S. Cowell, P. Gregerson, A. Henchman (2015) Planning. In: Worboys, G. L., M. Lockwood, A. Kothari, S. Feary, I. Pulsford (Eds.): **Protected Area Governance and Management.** pp. 381–412. Canberra: ANU Press.

TOOL 16 Continued

DOCUMENTED EXPERIENCE

Numerous examples of the application of the CMP OS to PAs around the World are available through a project database under Miradi Share 🔗

Schumacher, P., T. Garstecki, B. Mislimshoeva, J. Morrison, B. Ibele, C. Lesk, S. Dzhumabaeva, U. Bulbulshoev, S. Martin (2018). Using the Open Standards–Based Framework for Planning and Implementing Ecosystem–Based Adaptation Projects in the High Mountainous Regions of Central Asia. In: Alves, F. et al. (eds.), Theory and Practice of Climate Adaptation, Climate Change Management. Springer Nature. Pp. 23–48. Accessed on 11 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

Salafsky, N., D. Salzer, A. J. Stattersfield, C. Hilton-Taylor, R. Neugarten, S. H. M. Butchart, B. Collen, N. Cox, L. L. Master, S. O'Connor, D. Wilkie (2008). A Standard Lexicon for Biodiversity Conservation: Unified Classifi-cations of Threats and Actions. Conservation Biology, 22: 897–911. Accessed on 24 September 2018 at 🔗

›› 3.3.1 General

TOOL 17 — MIRADI

⌖	**Version 2008: English** 🔗 French, Spanish, Hebrew, Hungarian, Indonesian, Italian, Mongolian, Malagasy, Portuguese, Ukrainian, Chinese, German (beta)
2018	Conservation Measures Partnership (CMP) and Sitka Technology Group

TYPE	PURPOSE
Software tool	Design and adaptive management of conservation projects (including, but not limited to PA projects) based on the Conservation Measures Partnership's Open Standards for the Practice of Conservation.

STRUCTURE AND FUNCTION

❖ Java based software tool
❖ See programme tutorial for detailed information on structure and function of the tool (downloadable at 🔗)

TYPICAL USE

Design, planning, adaptive management and implementation, monitoring of and learning from conservation projects/programmes and protected areas based on the CMP Open Standards for the Practice of Conservation

ADDITIONAL POTENTIAL USES

❖ Projects aimed at the conservation of non-biological or cultural heritage conservation and management
❖ Programme design and management
❖ Evaluation and accountability, conservation audits
❖ Design, planning, adaptive management and implementation, monitoring of and learning from projects on ecosystem-based adaptation to climate change

LEVEL OF APPLICATION

Typically individual PAs or project sites. Application to thematic projects/programmes and PA systems possible.

SKILLS AND RESOURCES REQUIRED

❖ Knowledge and capacity requirements: understanding of site including biodiversity and threats, at least basic understanding of CMP Open Standards for the Practice of Conservation
❖ System requirements: Computer with standard OS (Windows, MacOS X or Linux) and Java
❖ Only basic computer skills needed to learn and use Miradi
❖ Additional application prerequisites vary depending on context

Annual subscriptions in 2018 range from $30 (student/low income) to $300 per user (individual or company packages). 60 d trial subscription free. See more at 🔗

STRENGTHS	WEAKNESSES
❖ Relatively easy to use, good documentation and guidance ❖ Fully compatible with the CMP Open Standards for the Practice of Conservation ❖ Strong output and reporting functions ❖ Strong visualizations for project design phase ❖ Supported by strong community of practice and through project exchange platform Miradi Share, and Conservation Coaches Network ❖ Integration of project design, planning, management, monitoring and reporting functions	❖ Not spatially explicit – no mapping functions ❖ Relatively inflexible approach to threat prioritization (in "simple" mode) ❖ Most experience with project design and planning functions – less with project management and monitoring functions

TOOL 17 Continued

REFERENCE

Salzer, D. (2012). Miradi – a tool to adaptively manage conservation projects. Overview and Tutorial with screen shots. PPT, 30 pp. Arlington, Virginia: TNC. Accessed 8 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Several versions and language packs since launch in 2008 – Version 4.5 launched in 2018.

REVIEWS

Schwartz, M. W., K. Deiner, T. Forrester, P. Grof-Tisza, M. J. Muir, M. J. Santos, L. E. Souza, M. L. Wilkerson, M. Zylberberg (2012). Perspectives on the open standards for the practice of conservation. Biological Conservation 155: 169–177.

DOCUMENTED EXPERIENCE

Examples of the use of Miradi are available through a project database under Miradi Share 🔗

RELATED RESOURCES/FURTHER READING

Miradi (2016). Miradi – a tool to Adaptively Manage Conservation Projects. Self-guided PPT tutorial. Accessed on 11 October 2018 at 🔗

›› 3.3.1 General

TOOL18	ADAPTIVE MANAGEMENT OF VULNERABILITY AND RISK AT CONSERVATION SITES (MARISCO)
	English 🔗 | German 🔗 | Portuguese 🔗 | Spanish 🔗
2014	HNE Eberswalde, Centre for Econics and Ecosystem Management

TYPE	PURPOSE
Methodology	Strategic design, planning and management of conservation (including PA related) projects with particular attention on vulnerability and risks, such as those related to climate change.

STRUCTURE AND FUNCTION

Modified version of the Conservation Measures Partnership's Open Standards for the Practice of Conservation, which places greater emphasis on ecosystem dynamics, change, uncertainty and risk, with a particular focus on the effects and problems relating to climate change

Differences to CMP Open Standards mainly in the project design and planning phase.

Issues that are specifically addressed in MARISCO, in contrast to the CMP Open Standards:

❖ Spatial analysis
❖ Ecosystem diagnostics analysis (key attributes: biomass, information and network)
❖ Ecosystem function and ecosystem based adaptation principles integrated in situation analysis, more than in CMP Open Standards
❖ Comprehensive assessment of stresses
❖ Scenario planning
❖ Concept of vulnerability in adaptive conservation management.

MARISCO management planning process consists of four basic, interrelated steps, for which the methodology provides concise guidance:

1. Preparation and initial conceptualization (including ecosystem diagnostics analysis)
2. Systemic vulnerability and risk analysis
3. Comprehensive evaluation, prioritization and strategy formulation, including related to risk management
4. Implementation and (non-)knowledge management

Typically carried out as a "MARISCO exercise" in a stakeholder workshop setting.

Further information on structure and function in MARISCO manual (see reference).

TYPICAL USE

Design, planning and adaptive management of conservation and ecosystem management projects and PAs/ PA systems in situations of uncertainty, risk and vulnerability, and where the necessary resources for this tool are available.

ADDITIONAL POTENTIAL USES

❖ Assessment and evaluation of existing conservation projects/programmes from an ecosystem and risk perspective
❖ Risk assessment and risk-proofing of existing conservation activities, e.g. in the context of climate change
❖ Design, planning, adaptive management and implementation, monitoring of and learning from projects on ecosystem-based adaptation to climate change

TOOL 18 Continued

LEVEL OF APPLICATION

Individual PAs (or areas of interest) or PA systems

SKILLS AND RESOURCES REQUIRED

- ❖ Capacity and knowledge requirements: basic ecological understanding essential, familiarity with MARISCO or at least CMP Open Standards and Miradi software
- ❖ Relatively extensive information needs about scope area implementation costs vary depending on project
- ❖ Implementation of the full range of MARISCO modules requires the capacity to train implementation staff in the methodology, to conduct extensive participatory planning workshops, and to produce complex documents with visual content

STRENGTHS

- ❖ Focused on ecosystem functionality, which depicts cause-impact networks affecting biodiversity and ecosystem services more realistically than a focus on species and habitats only
- ❖ Aimed at taking into account uncertainty, vulnerability and risk, which are often not considered sufficiently in strategic planning for conservation
- ❖ Stepwise process with strong visualization, based on the CMP Open Standards

WEAKNESSES

- ❖ Relatively theory-heavy and information-hungry approach
- ❖ Complex process and product of situation analysis, which requires considerable knowledge, understanding and skill of those involved
- ❖ Only partly supported by Miradi and not supported by other conservation software tools

REFERENCE

Ibisch, P. L., P.R. Hobson (eds.) (2014). MARISCO. Adaptive Management of vulnerability and Risk at Conservation sites. A guidebook for risk-robust, adaptive and ecosystem-based conservation of biodiversity. Eberswalde, Germany: Centre for Econics and Ecosystem Management. 190 pp. Accessed on 8 October 2018 at 🔗

REVIEWS

Schick, A., P. R. Hobson, and P. L. Ibisch. (2017). Conservation and sustainable development in a Volatility, Uncertainty, Complexity, and Ambiguity world: the need for a systemic and ecosystem-based approach. Ecosystem Health and Sustainability 3(4): e01267. 10.1002/ehs2.1267
Accessed on 11 September 2018 at 🔗

DOCUMENTED EXPERIENCE

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (2011): Análisis de la vulnerabilidad y estrategias para la adaptación al cambio climático en la Reserva Comunal El Sira – Perú. Accessed on 11 Septem-ber 2018 at 🔗

Case studies from Albania, China, Cost Rica, Ecuador, Germany, Guatemala, Peru, Ukraine and United Kingdom available at 🔗

Additional experience from Kazakhstan and Russia mentioned in manual.

RELATED RESOURCES/FURTHER READING

MARISCO Training: 🔗

3.3.2 | SPECIFIC PLANNING TOOLS

TOOL 19 — ECOLOGICAL RESTORATION FOR PROTECTED AREAS (IUCN GUIDELINES)

English 🔗 | French 🔗 | Spanish 🔗

2012	IUCN WCPA

TYPE	PURPOSE
Guideline including case studies	Guidance for terrestrial, marine, and freshwater protected area managers at both system and site levels on the restoration of natural and associated values of PAs.

STRUCTURE AND FUNCTION

Guideline including the following core chapters:

1. Instructions how to use guidelines
2. Introduction to key concepts relating to restoration and protected area management and explanation of when and where restoration might be the best option
3. Principles and guidelines for restoration to help in setting restoration policies, goals, and objectives, and in implementation. The aim is to encourage consistency with underlying principles, while allowing for biome-, site- or issue-specific variation in implementation.
4. Analysis of global experience to identify best practice methods and techniques for restoration projects
5. Seven-phase framework/approach for ecological restoration for protected areas
6. Case studies

References, bibliography (further reading), glossary, and an appendix listing "best practices" provided at the end of the document.

TYPICAL USE

Design and planning of ecological restoration projects/activities at the individual PA or PA system level

ADDITIONAL POTENTIAL USES

❖ Evaluation of ongoing ecological restoration projects
❖ Decision making as to whether ecological restoration is a promising approach in a given situation
❖ Academic learning
❖ CEPA

LEVEL OF APPLICATION

Individual PAs and PA systems

SKILLS AND RESOURCES REQUIRED

Implementation costs for concrete restoration projects vary depending on scale and nature of project, but in many restoration projects can be considerable.

STRENGTHS	WEAKNESSES
❖ Well-founded general principles and broad approach with wide applicability across systems and geographic areas ❖ Includes a stepwise approach to ecological restoration projects ❖ Good documentation and bibliographic information ❖ Wide range of case studies	❖ elatively general nature of guidelines, which means that typically there will be a need to consult extensive additional guidance on appropriate restoration approaches, methods and tools in each individual case ❖ Relatively new and its usefulness in practice not fully proven yet

TOOL 19 Continued

REFERENCE

Keenleyside, K. A., N. Dudley, S. Cairns, C. M. Hall, S. Stolton (2012). Ecological Restoration for Protected Areas: Principles, Guidelines and Best Practices. Gland, Switzerland: IUCN. x + 120pp. Accessed on 10 October 2018 at 🔗

DOCUMENTED EXPERIENCE

Chapter 6 of the guidelines includes 12 case studies, including from Madagascar, Mexico, Mauritania, Brazil and Iraq.

RELATED RESOURCES/FURTHER READING

A list of Related resources (further reading) is included in the guidelines document.

Beatty, C.R., Cox, N. A., and M. E. Kuzee (2018). Biodiversity guidelines for forest landscape restoration opportunities assessments. First edition. Gland, Switzerland: IUCN. v + 43pp. Accessed on 24.10.2018 at 🔗 (available in English, French, Spanish, Portuguese and Russian)

McDonald, T., Gann, G.D., Jonson, J., Dixon, K.W. (2016) International standards for the practice of ecological restoration – including principles and key concepts. Society for Ecological Restoration, Washington, D.C. 🔗 (available in English, Spanish, Portuguese, Arabic, Korean and French)

IUCN and WRI (2014). A guide to the Restoration Opportunities Assessment Methodology (ROAM): Assessing forest landscape restoration opportunities at the national or sub-national level. Working Paper (Road-test edition). Gland, Switzerland: IUCN. 125pp. Accessed on 25.10.2018 at 🔗 (available in English, Spanish, French, Portuguese, Russian, Indonesian)

›› 3.3.2 Specific planning tools

TOOL 20	SUSTAINABLE TOURISM IN PROTECTED AREAS: GUIDELINES FOR PLANNING AND MANAGEMENT
	English 🔗 | Chinese 🔗 | Russian 🔗
2002	IUCN WCPA

TYPE	PURPOSE
Guideline including toolbox	Support to PA managers and other stakeholders (including the tourism industry) in the planning and sustainable management of visitor recreation in and around PAs.

STRUCTURE AND FUNCTION

Guidelines document covering the following key issues:

❖ Principles for tourism in PAs
❖ Planning for tourism in PAs
❖ Sensitive development of infrastructure and services
❖ Principles of visitor management, health and safety management, and existing frameworks to these
❖ Visitor management "toolbox"
❖ Economics and financial aspects of tourism in PAs
❖ Human resources planning for tourism in PAs
❖ Monitoring

❖ Appendix D contains a comparison of five visitor management frameworks, including Limits of Acceptable Change (LAC), Visitor Impact Management (VIM), Visitor Experience and Resource Protection (VERP), Visitor Activity Management Process (VAMP), and The Recreation Opportunity Spectrum (ROS)

TYPICAL USE

❖ Guidance to planning and development of tourism infrastructure and services in PAs
❖ Definition, measurement, management and use of park tourism data
❖ Initiatives to enhance the quality of the tourism experience in PAs

ADDITIONAL POTENTIAL USES

❖ Identification and use of opportunities through which tourism can effectively contribute to the conservation of natural and cultural diversity, as well as the development of nearby communities
❖ Academic teaching
❖ Development and implementation of monitoring and evaluation programmes in protected areas

LEVEL OF APPLICATION

Individual PAs and PA systems

SKILLS AND RESOURCES REQUIRED

Depends on specific context of use.

TOOL 20 Continued

STRENGTHS	WEAKNESSES
❖ Broad, principles based approach which is applicable in many different settings ❖ Wide geographical range of examples and case studies from which good practice has been extracted ❖ Numerous step-by-step instructions on specific aspects of tourism planning and management in PAs	❖ Impact of guidelines on PA tourism practice poorly documented and unclear ❖ While there is explicit discussion on PA tourism also in other governance types, the main focus of the guidelines appears to be on tourism in state-managed PAs. This may be increasingly narrow as the actual range of PAs diversifies further.

REFERENCE

Eagles, P. F. J., S. F. McCool, C. D. A. Haynes (2002). Sustainable Tourism in Protected Areas: Guidelines for Planning and Management. Gland, Switzerland and Cambridge, UK: IUCN. xv + 183pp. Accessed on 8 October 2018 at 🖉

DOCUMENTED EXPERIENCE

A wide range of – usually short - case studies and examples are interspersed with the guidelines text, including from Belize, Bolivia, Costa Rica, Ecuador, Ghana, Indonesia, the Maldives, Nepal, Rwanda, the Solomon Islands, St. Lucia, Tanzania and Zimbabwe.

RELATED RESOURCES/FURTHER READING

Numerous additional resources on specific aspects of tourism in PAs are referenced in the guidelines.

Leung, Y.-F., Spenceley, A., Hvenegaard, G., Buckley, R. (eds.) (2018). Tourism and visitor management in protected areas: Guidelines for sustainability. Best Practice Protected Area Guidelines Series No. 27, Gland, Switzerland: IUCN. xii + 120 pp. . Accessed on 21. February 2019 at 🖉

3.4 PROTECTED AREA FINANCING

3.4.1 | GENERAL

TOOL 21	SUSTAINABLE FINANCING OF PROTECTED AREAS: A GLOBAL REVIEW OF CHALLENGES AND OPTIONS
🌐	English 🔗	Turkish 🔗
2006	IUCN

TYPE	PURPOSE
Guideline including case studies.	Review and assess the status of various protected area finance mechanisms, the major obstacles and opportunities for their implementation. It seeks to identify lessons which influence the success of different financing mechanisms, and to provide recommendations for improving the future sustainability, efficiency and effectiveness of protected area financing.

STRUCTURE AND FUNCTION

The Guideline is divided into three parts:

1. presents the background and conceptual framework within which we investigate PA financing.
2. defines and describes different mechanisms for financing PAs, and reviews their strengths and weaknesses in light of real-world experiences.
3. identifies lessons learned and points the way forward in improving the sustainability, efficiency and effectiveness of PA financing.

TYPICAL USE

Primarily for government and non-government agencies responsible for funding and managing PAs, although some findings may also be relevant to private companies involved in PA management.

LEVEL OF APPLICATION

PA or PA-system level

STRENGTHS	WEAKNESSES
❖ Recognises that PA financial sustainability is to do with more than just mobilising additional funding. ❖ Case studies provide concrete examples of how specific financing mechanisms are being used in a range of contexts.	❖ Published in 2006, some of the more recent developments are not reflected.

REFERENCE

Emerton, L., Bishop, J. and L. Thomas (2006). Sustainable Financing of Protected Areas: A Global Review of Challenges and Options. World Commission on Protected Areas Best Practice Protected Area Guidelines Series No. 13, IUCN, Gland. Accessed on 05.11.2018 at 🔗

DOCUMENTED EXPERIENCE

The guideline provides 29 case studies from Vietnam, Lao PDR, Kenya, Uganda, Indonesia, Madagascar, Australia, Bhutan, USA, Brazil, Tanzania, Pakistan, Zanzibar, Seychelles, Netherlands, South Africa, New Zealand, Turkey, Bolivia, EU as concrete examples of how specific financing mechanisms are being used in a range of contexts. However, they are not intended as illustrations of "best practice" in PA financing.

RELATED RESOURCES/FURTHER READING

The preceding IUCN Guideline ("Financing Protected Areas – Guidelines for Protected Area Managers". Gland, Switzerland and Cambridge (2000), UK: IUCN. viii + 58pp. Accessed on 3 November 2018 at 🔗 is still a useful resource as it provides a solid basis, however, it does not reflect many of the advances in thinking that have taken place since publication in 2000.

3.4.2 | ASSESSING, MONITORING AND DIAGNOSING FINANCING STATUS

TOOL 22	FINANCIAL SUSTAINABILITY SCORECARD FOR NATIONAL SYSTEMS OF PROTECTED AREAS
⌖	English 🔗	French (version is the scorecard with no introductory section) 🔗	Spanish 🔗
2010	UNDP

TYPE	PURPOSE
Methodology and tool.	This tool provides a simple checklist for recording and diagnosing the current status of PA financing in a country. It can be used to provide a one-off snapshot, or to establish a baseline and monitor trends in PA financing. In addition, it offers a vehicle to promote discussion and reflection on PA financing by PA and financial planners and managers.

STRUCTURE AND FUNCTION

Scorecard tables (two main parts) on financial situation, preceded by a general introduction and instructions

1. Determination of costs, revenues and financing gaps of the PA system both in the current year and as forecast for the future. Provides a quantitative analysis of the PA system and shows the financial data needed by PA planners to determine financial targets, and hence the additional funds required to finance effective management of their PA system.
2. Compartmentalised into three fundamental components for a fully functioning financial system at the site and system level, i.e. (1) governance and institutional frameworks, (2) business planning and other tools for cost-effective management (e. g. accounting practices) and (3) revenue generation.
3. Scoring
   ◆ Scores can be used to track progress over time
   ◆ Intended for a participatory workshop setting

TYPICAL USE

❖ Analysis, assessment and monitoring of PA system level financing systems, as an input into the planning for their financial sustainability.
❖ It is often included as a core part of GEF project baselines and targets, and required for GEF project reporting.

ADDITIONAL POTENTIAL USES

❖ Analysis at the level of subsets of national PA systems.
❖ Exploration of data needs for effective financial analysis.
❖ Prioritization of financial needs for fund allocation of donors.
❖ Communication and fundraising.

LEVEL OF APPLICATION

National PA systems

SKILLS AND RESOURCES REQUIRED

❖ Availability of comprehensive financial data (both inflows and outflows) for the PA system of interest, including government expenditures, PA revenues and donor funding. As this tool is designed to be filled in via a consultative process, it is also usually necessary to plan for some kind of roundtable or consultation which brings together different PA and financial planners and managers.
❖ Basic understanding and skills in data and financial management and reporting, sound numeracy skills.
❖ At least basic computer equipment (personal computers, spreadsheet programmes).

TOOL 22 Continued

STRENGTHS	WEAKNESSES
❖ Simple and at the same time relatively comprehensive approach to assessing the monetary funding of PA systems. ❖ Useful for establishing a baseline and monitoring trends in funding amounts. Scoring can be used to track progress or to set goals for it. ❖ Suitable for catalysing discussion among stakeholders.	❖ Requires comprehensive data about PA system financing situation ❖ By looking at scores and funding only, more subtle developments in the financing situation may be overlooked or under-appreciated for example non-monetary aspects of or constraints to PA financial sustainability. ❖ It does not diagnose or improve financial sustainability or provide a means of identifying financing 'solutions'. This would require a much deeper analysis e.g. institution and context analysis, decision analysis, political economy assessments. ❖ Not suitable to be used alone to diagnose PA financial situation or responses/solutions. This requires a more reasoned analysis of the drivers and underlying causes of PA financial (un)sustainability, and of appropriate responses and financing mechanisms. → PA financial sustainability scorecard is usually best-applied in combination with an institutional context analysis or detailed political economy assessment (check the other tools in this section).

REFERENCE

Bovarnick, A. (2010). Financial Sustainability Scorecard for National Systems of Protected Areas. 2nd edition. New York: UNDP. Accessed on 8 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

First edition 2007, second edition 2010

DOCUMENTED EXPERIENCE

See "Related resources" above for a comprehensive review for South and Central America and the Caribbean.

It is likely that there are additional examples, which have not been documented to the same extent.

RELATED RESOURCES/FURTHER READING

Bovarnick, A., J. Fernandez Baca, J. Galindo, H. Negret (2010). Financial Sustainability of Protected Areas in Latin America and the Caribbean: Investment Policy Guidance. New York and Arlington, Virginia: United Nations Development Programme (UNDP) and The Nature Conservancy (TNC). 162 pp. Accessed on 8 October 2018 at
🔗

›› 3.4.2 Assessing, monitoring and diagnosing financing status

TOOL 23 — FINANCIAL PLANNING FOR NATIONAL SYSTEMS OF PROTECTED AREAS

English 🔗

| 2008 | The Nature Conservancy (TNC) |

TYPE	PURPOSE
Guideline, collection of methods and good practice standards.	To provide guidelines and lessons to optimize the financial planning processes of PAs and the products resulting from these processes. Also: to improve the financial management capacities of individuals and institutions working in PAs.

STRUCTURE AND FUNCTION

Guidelines document consisting of four chapters, annexes, a bibliography and a list of useful websites. Key aspects covered include:

1. Financial analysis: funding needs and gaps
2. Pre-selection and analysis of financial mechanisms and understanding the legislative and regulatory framework conditioning their use.
3. Formulation of financial and business plans.
4. Additionally important aspects related to implementation, monitoring, and evaluation of PA system financial plans.

TYPICAL USE

National PA system financial planning.

ADDITIONAL POTENTIAL USES

❖ Application at the sub-national level.
❖ Evaluation and review of existing PA system financial planning documents.
❖ Learning and communication related to PA finance.

LEVEL OF APPLICATION

National PA systems.

SKILLS AND RESOURCES REQUIRED

❖ Basic information about the financial situation (including needs and available resources) of the PA system in question.
❖ Basic understanding and skills in data and financial management, planning and reporting, sound numeracy skills.
❖ Familiarity with generic PA financing mechanisms.
❖ At least basic computer equipment (personal computers, spreadsheet programmes).

STRENGTHS	WEAKNESSES
❖ Well-founded, broad approach. ❖ Thorough consideration of the impact of legal, institutional and capacity related frameworks on opportunities and constraints of PA system financing. ❖ Good coverage of operational business planning and implementation aspects. ❖ Relevant examples from the Americas. ❖ Useful illustrations.	❖ Lack of methodological detail regarding individual financing tools. ❖ Examples almost exclusively from Latin America.

TOOL 23 Continued

REFERENCE

Flores, M., G. Rivero, F. León, G. Chan, et al. (2008). Financial Planning for National Systems of Protected Areas: Guidelines and Early Lessons. Arlington, Virginia: The Nature Conservancy. 114 pp. Accessed on 8 October 2018 at 🖉

DOCUMENTED EXPERIENCE

A number of examples from various Central and South American countries, but no comprehensive case studies are included in the guideline document.

RELATED RESOURCES/FURTHER READING

Discusses Biodiversity Finance in general, not PA specific:
The Biodiversity Finance Initiative. (2016). BIOFIN Workbook: Mobilizing Resources for Biodiversity and Sustainable Development. UNDP. 266 pp. Accessed on 05.11.2018 at 🖉

Meyers, D., Bohorquez, J., Cumming, T., Emerton, L., Heuvel, O.v.d., Riva, M., and Victurine, R. Conservation Finance: A Framework, Conservation Finance Alliance, 2020. Accessed on 6 June 2020 at 🖉

3.4.3 | FINANCING MECHANISMS

TOOL 24	THE LITTLE BIODIVERSITY FINANCE BOOK
⟟	English 🔗
2012	Global Canopy Programme

TYPE	PURPOSE
Sourcebook.	Lays out options for financing biodiversity and ecosystem services, and highlights the need and potential for synergies not only between financing mechanisms, but also between financing sources earmarked for development, climate change and biodiversity. It seeks to help key stakeholders including governments, NGOs, the private sector, indigenous peoples and local communities to compare existing and future options for biodiversity finance in a clear and consistent way.

STRUCTURE AND FUNCTION

This publication introduces an overarching framework that organises financial mechanisms under three main headings:

1. Revenue generation.
2. Delivery.
3. Institutional arrangements.

Details of different biodiversity financing mechanisms are given. These modules can be thought of as independent building blocks that can be arranged in a 'mix and match' approach, choosing the most suitable options from each module to create a more effective, efficient, and equitable financial system.
Overall, 17 finance generation mechanisms are discussed in the book.

TYPICAL USE

Review and compare financing options and combinations of financing mechanisms for biodiversity and ecosystems services.

ADDITIONAL POTENTIAL USES

❖ Learning and communication related to conservation finance.

LEVEL OF APPLICATION

Various (not PA specific).

STRENGTHS	WEAKNESSES
❖ Provides a global assessment of current available financing for biodiversity. ❖ Sourcebook for understanding the variety of financing options and assessment and comparison of different options based on criteria. ❖ Includes options for the institutional arrangement of finance for biodiversity and ecosystem services and examples.	❖ By focusing on financing options, essential prerequisites and framework conditions and/or existing constraints to financial sustainability may be overlooked or underestimated. ❖ Additional methodological guidance regarding the suitability and feasibility of each financing option is needed for decision-making.

REFERENCE

Parker, C., Cranford, M., Oakes, N. and M. Leggett (eds. (2012) The Little Biodiversity Finance Book, Global Canopy Programme, Oxford. Accessed on 05.11.2018 at 🔗

TOOL 24 Continued

RELATED RESOURCES/FURTHER READING

Cranford, M., Oakes, N., Leggett, M., Parker, C., ed., 2012. The Little Biodiversity Finance Book Methodology Appendix, Global Canopy Programme; Oxford. Accessed on 05.112018 at 🔗

›› 3.4.3 Financing mechanisms

TOOL 25	GUIDE TO CONSERVATION FINANCE: SUSTAINABLE FINANCING FOR THE PLANET
⌖	English 🔗
2009	WWF US

TYPE	PURPOSE
Guideline including overview of financing mechanisms and case studies.	General overview about existing mechanisms and approaches on sustainable conservation (including PA) financing.

STRUCTURE AND FUNCTION

Guideline document consisting of a general introduction and an overview (with practical case examples) of 37 approaches and mechanisms under the following categories, plus references:

1. Carbon finance (4 approaches/ mechanisms)
2. Payments for watershed services (1 approach)
3. Revenue from tourism and recreation (6 approaches/mechanisms)
4. Compensation payments (5 approaches/mechanisms)
5. Fishing industry revenues (4 approaches/mechanisms)
6. Real estate and economic activity (2 approaches/mechanisms)
7. Revenue from the sale and trade of wildlife (4 approaches/mechanisms)
8. Sustainable capital and environmental investment funds (4 approaches/mechanisms)
9. Allocations from government revenues (6 approaches/mechanisms)
10. Conservation trust funds (1 approach)

For each category, specific instruments with case examples are listed and briefly discussed.

TYPICAL USE

General orientation about possible sustainable financing options, approaches and methods for PAs or other conservation activities.

ADDITIONAL POTENTIAL USES

❖ CEPA.
❖ Identification of existing case studies for further consultation/study.
❖ Assessment and evaluation of existing sustainable financing strategies of PAs.

LEVEL OF APPLICATION

Various

SKILLS AND RESOURCES REQUIRED

❖ General information about the context (legal and policy framework, institutional context).
❖ Basic information about the financial situation (including needs and available resources) of the PA in question.
❖ Additional skills needed and implementation costs depend on context and tool.

STRENGTHS	WEAKNESSES
❖ Wide thematic scope. ❖ Many interesting case studies with relevance to development cooperation. ❖ Concise presentation.	❖ Lack of detailed methodological guidance. ❖ Not PA specific.

TOOL 25 Continued

REFERENCE

WWF US (2009). Guide to Conservation Finance. Sustainable Financing for the Planet. Washington, D.C.: WWF US. 64 pp. Accessed on 20 September 2018 at 🔗

DOCUMENTED EXPERIENCE

Numerous (typically short) examples and case studies, including from Belize, Brazil, Costa Rica, Ecuador, Guatemala, Honduras, Indonesia, Kenya, Madagascar, Malaysia, Mozambique, Namibia, Peru, Philippines, Rwanda and Tanzania discussed in the document.

RELATED RESOURCES/FURTHER READING

Meyers, D., Bohorquez, J., Cumming, T., Emerton, L., Heuvel, O.v.d., Riva, M., and Victurine, R. Conservation Finance: A Framework, Conservation Finance Alliance, 2020. Accessed on 6 June 2020 at 🔗

Gobin, C., Landreau, B. (2017). Innovating conservation finance in West Africa and the Mediterranean. MAVA Fondation pour la nature. Gland Switzerland. 40 pp. Accessed on 05.11.2018 at 🔗

Includes a number of "new" mechanisms such as Green/Blue Bonds or Project Finance for Permanence (PFP).

Spergel, B. and M. Moye (2004) Financing Marine Conservation: A Menu of Options. WWF Center for Conservation Finance. Washington, D.C. USA. 68 pp. Accessed on 05.11.2018 at 🔗

3.4.4 | SPECIFIC FINANCING INSTRUMENTS

TOOL 26	PRACTICE STANDARDS FOR CONSERVATION TRUST FUNDS (CTFS)
🧭	English 🔗	French 🔗	Spanish 🔗
2014	Conservation Finance Alliance (CFA)

TYPE	PURPOSE
Standards and good practice guidelines.	Improving the design, management, and monitoring/evaluation of CTFs, based on voluntary observation of standards.

STRUCTURE AND FUNCTION

Guideline document consisting of sections on background/objectives, instructions for use, overview table and detailed descriptions/discussions of 52 standards on the below aspects of CTFs. The annexes provide checklists of standards to consider when creating or assessing CTFs and information about the methodology used to produce the standards.

The following areas are covered:

❖ Governance (10 standards)
❖ Operations (10 standards)
❖ Administration (6 standards)
❖ Reporting, monitoring and evaluation (10 standards)
❖ Asset management (9 standards)
❖ Resource mobilization (7 standards)

Each section begins with a glossary of terms used. A rationale, practical considerations and suggested sources of evidence for applying the standard (e.g. in an assessment) are provided for each individual standard.

TYPICAL USE

Implementing good international practice in the design, management, and monitoring/evaluation of CTFs.

NOT meant to be a certification tool in their current form.

ADDITIONAL POTENTIAL USES

❖ Harmonization of CTFs and relevant international donor rules related to them.
❖ Learning and communication related to CTFs and good CTF practice.
❖ Promoting better donor support for CTFs.

LEVEL OF APPLICATION

Depends on scope of trust fund – typically PA system level (sub-national, national or eco-regional), but can also focus on individual areas.

SKILLS AND RESOURCES REQUIRED

❖ Involvement with a CTF. The practice standards are most relevant to organizations which either run a CTF or have the capacity and intention to do so.
❖ Application costs vary.

STRENGTHS	WEAKNESSES
❖ Broad comprehensive thematic focus and wide applicability. ❖ Provides some detailed guidance on key elements of CTFs.	❖ Merely voluntary – not a certification approach. ❖ No detailed methodological guidance is provided as to how each of the standards can be met. ❖ Relatively complex.

TOOL 26 Continued

REFERENCE

Spergel, B., Mikitin, K. (2014). Practice Standards for Conservation Trust Funds.: Conservation Finance Alliance. 113 pp. Accessed on 19 September 2018 at 🔗

REVIEWS

CFA. (2014). Sustainable Financing of Protected Areas: Conservation Trust Funds and Projects: Comparative Advantages. CFA 44 pp. Accessed on 05.11.2018 at 🔗

DOCUMENTED EXPERIENCE

Conservation Finance Alliance (CFA). (2008) Rapid Review of Conservation Trust Funds. Prepared for the CFA Working Group on Environmental Funds by Barry Spergel and Philippe Taïeb. Second Edition. Accessed on 05.11.2018 at 🔗

This document presents an overview of experiences and lessons learned on the creation, operation and evaluation of conservation trust funds across the globe.

Berghöfer, Augustin et al. (2017). Sustainable financing for biodiversity conservation: A review of experiences in German development cooperation, UFZ Discussion Papers, No. 1/2017, Helmholtz-Zentrum für Umwelt-forschung (UFZ), Leipzig. 143 pp. Accessed on 20 September 2018 at 🔗

Lapeyre, R., Laurans, Y. (2016). Innovating for Biodiversity Conservation in African Protected Areas: Funding and Incentives. Insights from Côte d'Ivoire, Sierra Leone and South Africa. Study summary, ministère des Affaires étrangères et du Développement international, Institut du développement durable et des relations internationales, and France-IUCN Partnership, Paris. 40 pp. Accessed on 4 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

Further resources such as webinars and book recommendations available at 🔗

The Environmental Funds Toolkit shares the experiences of contributing Environmental Funds – their legal documents, manuals, plans, and communications materials and is accessible at 🔗

Winter, J. (2015). Exploring Options for Pooling the Administrative, Investment Management, and Training Functions of Conservation Trust Funds. IUCN, WCS, FIBA et al. 63 pp. Accessed on 19 September 2018 at 🔗

›› 3.4.4 Specific financing instruments

TOOL 27	PAYMENTS FOR ECOSYSTEM SERVICES (PES): BEST PRACTICE GUIDE
	English
2013	Department for Environment, Food and Rural Affairs (UK)

TYPE	PURPOSE
Guideline including case studies.	This guide is intended to support the design and implementation of Payments for Ecosystem Services (PES) schemes.

STRUCTURE AND FUNCTION

The guide is aimed at the key participants in a PES scheme (e.g. buyers and sellers of ecosystem services, the brokers or intermediaries that can facilitate scheme delivery, and the wide range of actors who can support the emergence of PES schemes, for example, scientists, regulators and planners).

The Guide is divided into three parts:

1. Introduces PES including the key principles and concepts which under-pin scheme development, and provides a useful resource for those seeking an overview
2. Step-by-step advice on designing and implementing PES schemes with references to case studies:
3. Points readers in the direction of further information and resources and is followed by a glossary of key terms.

TYPICAL USE

Design and implementation of Payments for Ecosystem Services schemes.

ADDITIONAL POTENTIAL USES

May be helpful for organisations interested in promoting PES schemes in their areas.

LEVEL OF APPLICATION

Various

SKILLS AND RESOURCES REQUIRED

❖ Data: Biophysical information (status and trends in the flow of ecosystem services), economic valuation of ecosystem services, institutional and cultural framework, including key stakeholders (e.g. providers, beneficiaries, intermediaries), quantification of demand.
❖ Skills: Ecosystem services assessments and valuation, stakeholder assessment and management, financial planning.

STRENGTHS	WEAKNESSES
❖ Relatively comprehensive and up-to-date methodological guidance for PES schemes. ❖ Provides key questions for buyers and sellers in the process of establishing a PES scheme.	❖ Promotes one individual financing tool, rather than assessing and comparing different options and/or combinations. ❖ Examples mainly from developed countries.

REFERENCE

Smith, S., Rowcroft, P., Everard, M., Couldrick, L., Reed, M., Rogers, H., Quick, T., Eves, C. and C. White (2013) Payments for Ecosystem Services: A Best Practice Guide. Department for Environment, Food and Rural Affairs, London.

TOOL 27 Continued

DOCUMENTED EXPERIENCE

The Annex provides details to 17 relevant case studies from UK, USA, Australia, Norway, and France.

RELATED RESOURCES/FURTHER READING

Wunder, Sven (2005). Payments for environmental services: Some nuts and bolts. Occasional Paper No. 42. CIFOR. Accessed on 13 November 2018 at 🔗

Forest Trends, The Katoomba Group, and UNEP (2008): Payments for Ecosystem Services. Getting Started: A Primer. Accessed on 13 November 2018 at 🔗

Wunder, S., Brouwer, R., Engel, S., Ezzine-de-Blas, D., Muradian, R., Pascual, U., Pinto, R. (2018). **From principles to practice in paying for nature's services. Nature Sustainability 1**: 145–150.

Greiber, T. (Ed) (2009). Payments for Ecosystem Services. Legal and Institutional Frameworks. Gland, Switzerland: IUCN. xvi + 296 pp. Accessed on 20 September 2018 at 🔗

Greiber et. al. provides recommendations and guidance for the future development of legal and institutional frameworks which support water-related PES schemes and their implementation

Questionnaire for country assessments: 🔗

›› 3.4.4 Specific financing instruments

TOOL 28	TOURISM CONCESSIONS IN PROTECTED AREAS: GUIDELINES FOR MANAGERS

English 🔗

2014	UNDP

TYPE	PURPOSE
Guideline and toolbox including case studies.	Improving the capability of protected area managers, governments and the private sector to develop and manage tourism concessions.

STRUCTURE AND FUNCTION

The guideline is a 300 page comprehensive, well-structured collection of accumulated knowledge, lessons and experiences of park agencies around the world with tourism concession management.
Guidance is provided on topics ranging from planning and implementing concessions to environmental impact assessment and monitoring performance of concessions in the field.

❖ Each chapter ends with a tools section, listing tools provided in the appendix and other sources of information and examples;
❖ Tools provided in the appendix include for example model texts for concession law, regulation and policies, checklists to identify and mitigate potential effects of proposed concession activities, a competence self-assessment tool for concession staff or a valuation form for clients of concessionaires.

TYPICAL USE

To develop robust concession systems or to improve the management of existing concessions to maximize the benefits of working with the private sector.

ADDITIONAL POTENTIAL USES

To develop regulatory frameworks for tourism concessions.

LEVEL OF APPLICATION

PA or PA system level.

SKILLS AND RESOURCES REQUIRED

❖ To develop a tourism concession system, experience in financial management, legal and contract design and basic computer skills are mandatory.
❖ It is important that planners carefully assess the project context from different perspectives (socio-political, socio-ecological and market) – therefore expertise in these sectors is vital.

STRENGTHS	WEAKNESSES
❖ Many detailed case studies with lessons learned. ❖ Presents concessions only as one part of a sustainable financing plan. ❖ Also provides the concessionaire's perspective, not only that of protected area managers. ❖ Specifically addresses the challenges of developing countries, including capacity development needs.	❖ Only available in English.

REFERENCE

Thompson, A., Massyn, P.J., Pendry, J., Pastorelli, J. (2014). Tourism Concessions in Protected Natural Areas: Guidelines for Managers. United Nations Development Programme. 302 pp. Accessed on 27 September 2018 at 🔗

TOOL 28 Continued

REVIEWS

Dinica, V. (2018) The environmental sustainability of protected area tourism: towards a concession-related theory of regulation, Journal of Sustainable Tourism, 26:1, 146-164 pp. Accessed on 2 October 2018 at 🖉

DOCUMENTED EXPERIENCE

The guideline includes case studies from the USA, Australia, New Zealand, Namibia, Mozambique, the Galapagos Islands (Ecuador) and Mongolia.

RELATED RESOURCES/FURTHER READING

Thompson, A., Massyn, P.J., Pendry, J., Pastorelli, J. (2014). Tourism Concessions in Protected Natural Areas: Appendices. United Nations Development Programme. 51 pp. Accessed on 1 October 2018 at 🖉

Spenceley, A., Snyman, S., Eagles, P. (2017). Guidelines for tourism partnerships and concessions for protected areas: Generating sustainable revenues for conservation and development. Report to the Secretariat of the Convention on Biological Diversity and IUCN. 60 pp. Accessed on 1 October 2018 at 🖉

World Bank Group. (2016). An introduction to tourism concessioning: 14 characteristics of successful programs. World Bank Group. 32 pp. Ac-cessed on 1 October 2018 at 🖉

3.4.5 | BUSINESS PLANNING

TOOL 29	DEVELOPING PROTECTED AREA CONSERVATION INVESTMENT PLANS – QUICK REFERENCE GUIDE AND WORKBOOK
🪂	English 🔗
2018	World Conservation Society Myanmar

TYPE	PURPOSE
Guideline	Conservation Investment Plans (CIPs) give a clear picture of the financial needs that must be met in order to deliver the management plan, locate the most appropriate funding sources, and identify the other actions that are required to overcome the financial constraints to effective PA management.

STRUCTURE AND FUNCTION

These guidelines describe in a very comprehensive and simple way how to apply a conservation investment planning approach. A stepwise approach is introduced along with guidance, key questions and tables for recording information for each step:

1. **Reviewing the financing status & context**
   What are the key financial constraints, opportunities and risks to effective PA management?
2. **Calculating management plan costs**
   What will the management plan and biodiversity conservation cost, and for whom?
3. **Assessing funding needs & gaps**
   What funds are available, how much is still needed, what are the other financial conditions for effective management?
4. **Identifying new financing sources**
   What potential new revenues, funders and other financial instruments can be developed to meet these needs?
5. **Developing investment packages**
   What is the best way of organizing and presenting funding needs to potential investors and budget holders?
6. **Designing the strategy for engagement**
   How and to whom should the CIP be communicated, what are the best means of engagement and most strategic entry points?
7. **Setting targets & actions for delivery**
   What needs to be done to secure funding and financial sustainability, when and by whom?

TYPICAL USE

❖ Developing a CIP to ensure that the right financial and funding conditions are provided to enable the management plan.

ADDITIONAL POTENTIAL USES

❖ CIP as communications and marketing tool to convey to public decision-makers, government staff, potential donors and other stakeholders the conservation investment rationale, needs, anticipated outcomes and funding requirements of the PA.

LEVEL OF APPLICATION

PA or PA-system level.

SKILLS AND RESOURCES REQUIRED

❖ Stakeholder engagement and facilitation skills.
❖ Detailed expenditure and cost figures from both the annual PA budgets and the management plan.
❖ In most cases, a two or three day brainstorming or workshop is supposed to be sufficient to develop a CIP.

TOOL 29 Continued

STRENGTHS	WEAKNESSES
❖ Hands-on guide to elaborate a CIP. ❖ Simple and practical, usually no external exper-tise needed. ❖ Includes strategy development (e.g. investment packages and marketing).	❖ Is supposed to be an integrated part of the PA management planning process, but might lead to separate exercises in some cases.

REFERENCE

Emerton, L., Tizard, R. and Saw Htun (2018) Developing Protected Area Conservation Investment Plans – Quick Reference Guide and Workbook. WCS Myanmar, Yangon Accessed on 06.11.2018 at 🔗

RELATED RESOURCES/FURTHER READING

Ruzzier, M., J. Zujo, M . Marinsek, S. Sosic (2010). Guidelines for the Preparation of Protected Areas Business Plan. Lubljana: NATREG project. 47 pp. Accessed on 24 September 2018 at 🔗

UNESCO (2008) Business Planning for Natural World Heritage Sites A Toolkit. UNESCO World Heritage Centre, Paris and Shell Foundation, London. Accessed on 5 November 2018 🔗

›› 3.4.5 Business planning

TOOL 30	**GUIDEBOOK FOR THE DEVELOPMENT OF SIMPLIFIED BUSINESS PLANS FOR PROTECTED AREAS**
🜋	English 🔗 | French 🔗 | Portuguese 🔗
2012	Fondation Internationale du Banc d'Arguin (FIBA)

TYPE	PURPOSE
Guideline and summary collection of methods.	Guidance to PA managers for development of simplified PA business plans.

STRUCTURE AND FUNCTION

Guidebook on simple PA business planning, including general sections and step by step guidance on developing a simple PA business plan. The guidebook was originally developed for western Africa, but is applicable more widely.

General sections:

❖ Role of business plan;
❖ Main steps in completing a simple business plan;
❖ Guidance on developing and completing MS Excel files for PA busi-ness planning;
❖ Further reading;
❖ Sample table of content of a PA business plan.

Stepwise guide (each step with sub-steps and summaries of specific methods that can be used):

1. Determining long-term financial needs.
2. Presentation of existing funding sources.
3. Identifying other possible funding (including discussion of existing funding mechanisms).
4. Identifying and setting up Payments for Environmental Services (PES) schemes.

The last step is optional as applicability of PES depends on the given PA.

TYPICAL USE

PA business planning in resource limited situations.

ADDITIONAL POTENTIAL USES

Assessment of existing business plans.

LEVEL OF APPLICATION

Individual PAs (possibly sets of several of them).

SKILLS AND RESOURCES REQUIRED

❖ Medium computer literacy including sound MS Excel skills.
❖ Information about funding and likely costs for the given PA.
❖ Sound numeracy skills.
❖ Capacity and resources to conduct planning workshops.

TOOL 30 Continued

STRENGTHS	WEAKNESSES
❖ Good simple overview with easy how-to guidance. ❖ Simple language and good step-by-step structure.	❖ Relatively general ❖ Quite a lot of text is dedicated to summarizing specific PA funding mechanisms/approaches which are described more comprehensively elsewhere. ❖ Relatively text heavy for a methodological guide. ❖ PES is not a part of PA business planning and the section could be misinterpreted.

REFERENCE

Landreau, B. (2012). Guidebook for the Development of Simplified Busi-ness Plans for Protected Areas. Dakar, Senegal: FIBA. Accessed on 1 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

A CD with sample excel files for business planning was created in 2012, but is currently not publicly available.

3.5 CAPACITY DEVELOPMENT

TOOL 31	A GLOBAL REGISTER OF COMPETENCES FOR PROTECTED AREA PRACTITIONERS
🧭	English 🔗 | French 🔗
2016	IUCN WCPA

TYPE	PURPOSE
Includes: guideline, manual and tool	Promote and improve the professionalization of protected area management and the performance of protected area organisations and personnel.

STRUCTURE AND FUNCTION

The publication is divided into four parts:

1. Background and overview
2. The competence register explained
3. How to use the competence register
4. The competence register

The competence register is a list of 300 skills and competences regularly required in protected areas and in associated work around the world. These are organized in 15 categories within three groups:

1. Planning, management and administration
2. Applied protected area management
3. General personal competences

For each competence, specific needs are described for four staff levels of PA practitioners from "Executive" to "Senior Manager", "middle manager/technical specialist" and "Skilled Worker". Some competences are only relevant to some levels.

The competence register is available in three forms:

❖ A pdf 🔗 that includes the full Register, an overview of the competence based approach and a detailed guide on how to use the register
❖ An Excel Workbook 🔗, which includes all the competences and supporting material and enables users to search, copy, sort and adapt the competences to their own needs.
❖ A printed version

TYPICAL USE

At PA management level it can support anyone involved in managing protected areas (senior officials, site staff, local communities, NGOs, trainers and educators as well as project staff):

❖ To plan and manage staffing of protected areas
❖ To build and asses the actual skills, knowledge and personal qualities required by managers, staff and stewards of protected and other conserved areas
❖ To guide, inspire and recognise better practice and performance in protected area management.

In detail, the guidebook can be used for:

❖ Developing national occupational definitions and standards
❖ Preparing job descriptions and support staff recruitment
❖ Designing and reorganising staffing structures
❖ Assessing current skills and competences and identifying priority needs for capacity development
❖ Identifying capacity development needs for implementing management plans and projects
❖ Designing training curricula and courses

TOOL 31 Continued

ADDITIONAL POTENTIAL USES

❖ Assessing and certifying competence
❖ Designing internal capacity development strategies and plans
❖ Ensuring that projects investing in capacity development reflect local priorities and needs
❖ Widening access to capacity development and protected area work
❖ Providing evidence to support arguments for mobilising (external) support for protected areas
❖ Cross-referencing the competences to other protected area and conservation support tools

LEVEL OF APPLICATION

Different levels of application, typically at a single PA, but can be used for a system of PAs (e.g. when reorganising or recruiting staff), and for personnel at the local up to the national level (e.g. when assessing competences or developing national occupational definitions and standards).

SKILLS AND RESOURCES REQUIRED

The skills and resources required depend on the purpose of use.

For example, for competence assessment the main tool is the excel worksheet. For its application, a computer and intermediate computer literacy is required.

A competence assessment consists of two main steps:

1. Creating a job profile based on areas of responsibility for the position in question
2. Identifying relevant tasks and evaluating individual competences for their realisation

Depending on the complexity of the position (field of work, tasks) and the familiarity of the evaluated person with assessments/questionnaires the steps can be completed in 2–4 hours per position/person.

STRENGTHS	WEAKNESSES
❖ Can be flexibly adapted and used according to local needs, contexts, working practices and cultures ❖ Can be used at different levels of detail ❖ Low cost ❖ Provides guidance for every field of application (see typical and additional potential uses) ❖ The Excel Workbook includes assessment and certification examples for every competence.	As the tool is intended to be applicable in a wide range of contexts, the formulation of the competences and examples provided require a certain ability of abstract thinking to be able to adapt them to the specific context and may need translation into context-specific terms by a facilitator during the assessment. Currently the tool is available only in English and French; due to the rather technical vocabulary, its application might be challenging for people without a good command of one of these languages.

REFERENCE

Appleton, M.R. (2016). A Global Register of Competences for Protected Area Practitioners. Gland, Switzerland: IUCN. 169 pp. Accessed on 13 September 2018 at 🔗

Appleton, M.R. (2016). A Global Register of Competences for Protected Area Practitioners. Excel Workbook. IUCN, Gland, Switzerland. Accessed on 14 September 2018 at 🔗

DOCUMENTED EXPERIENCE

Appleton, M. R., Toussaint, A., Daltry, J.C. (2017). From forestry to protected area and ecosystem management: organisational change in Saint Lucia, West Indies. PARKS Vol. 23.2. 51–62 pp. Accessed on 13 September 2018 at 🔗

TOOL 31 Continued

RELATED RESOURCES/FURTHER READING

A collection of useful references is available in the annex of the publication.

IUCN-WCPA. (2015). Strategic framework for capacity development in protected areas and other conserved territories 2015–2025. IUCN, Gland, Switzerland. 24 pp. Accessed on 14 September 2018 at 🔗

Kopylova, S. L., Danilina N. R. (Editors) (2011). Protected Area Staff Training: Guidelines for Planning and Management. Gland, Switzerland: IUCN. xiv + 102 pp. Accessed on 17 September 2018 at 🔗

The competences can be cross-referenced with various widely used plans and tools that support the improvement of protected area standards. For example with the Management Effectiveness Tracking Tool (METT) as it includes assessments on thirty management issues. METT measures performance of protected area organisations rather than individual competence, but as discussed in Part 1 of the guideline there is a correlation between good staff skills and good METT scores.

›› 3.5 Capacity Development

TOOL 32	PROTECTED AREA STAFF TRAINING: GUIDELINES FOR PLANNING AND MANAGEMENT
	English
2011	IUCN WCPA

TYPE	PURPOSE
Guideline including case studies, method descriptions and templates	Guidance on how to raise the capacity of PA managers to adapt to new challenges, using innovative and creative approaches, as well as guidance on developing and managing PA training centres.

STRUCTURE AND FUNCTION

Guideline document consisting of summary, introduction, nine core sections, conclusions, six appendices (including templates for assessments of needs and participant satisfaction) and references.

Core sections:

1. Training PA staff: A way of increasing PA management efficiency
2. Training needs assessments: Approaches and results
3. PA training centres around the world: International review of training opportunities for PA staff
4. Strategic and business planning for training centres
5. Networking mechanisms between training centres
6. How to create a positive "group climate"? Psychological aspects of successful training programmes
7. How to organize space and time: Delivery of practice-oriented training
8. Monitoring and evaluation of training effectiveness
9. Certification and accreditation in PA staff training: Some questions to consider

TYPICAL USE

❖ Guidance on establishing and running PA training centres
❖ Guidance on design, planning, implementation and evaluation of PA-related training courses

ADDITIONAL POTENTIAL USES

❖ Assessment and evaluation of existing training centres/courses
❖ General learning
❖ Project development in the sphere of PA training, including specific aspects, such as training needs analysis

LEVEL OF APPLICATION

Individual PAs or PA systems

SKILLS AND RESOURCES REQUIRED

Involvement with PA staff training

The guidelines are most relevant to organizations with a mandate and capacity (staff, venue, equipment, financial resources etc.) to run PA-related training programmes. Implementation costs depend on specific situation.

TOOL 32 Continued

STRENGTHS	WEAKNESSES
❖ Covers both training centre development and training courses in general ❖ Detailed how-to approach to PA related training, including "soft" but crucial aspects such as creating a good working atmosphere ❖ Many (if often rather short) case studies and practice examples ❖ Inclusion of templates for various assessment forms	❖ Limited suggestions on skills and competences in need of training (but approaches how to determine those are provided)

REFERENCE

Kopylova, S. L., N. R. Danilina (Editors) (2011). Protected Area Staff Training: Guidelines for Planning and Management. Gland, Switzerland: IUCN. xiv + 102 pp. Accessed on 17 September 2018 at 🔗

DOCUMENTED EXPERIENCE

39 case studies (including from South East Asia, southern Africa, Belize, Costa Rica, India, Kazakhstan) are included in the guideline document.

RELATED RESOURCES/FURTHER READING

WildTeam (2018). Delivering Training Workshops for Wildlife Conservation 🔗 v1. WildTeam ▶, Cornwall, UK.

3.6 ASSESSMENT, MONITORING AND EVALUATION

3.6.1 | PA MANAGEMENT EFFECTIVENESS ASSESSMENT

TOOL 33	EVALUATING EFFECTIVENESS – IUCN FRAMEWORK FOR ASSESSING MANAGEMENT EFFECTIVENESS OF PAS
	English	French
2006	IUCN WCPA

TYPE	PURPOSE
Guideline including case studies	Broad conceptual framework for PA management effectiveness assessment.

STRUCTURE AND FUNCTION

❖ General framework around assessment of six main elements: **context** and vision for site management (within the context of existing status and pressures), progress through **planning**, allocation of resources (**inputs**), management actions (**process**), goods and services (**outputs**), and impacts/**outcomes**.

❖ Distinction of four key phases of designing and implementing PAME assessments: **(1)** defining assessment objectives, scope and resourcing, **(2)** choosing/developing a methodology, including establishment of team and defining indicators **(3)** implementation of assessment, **(4)** interpretation, communication and use of results.

❖ Further general recommendations: **(1)** integrate PAME assessment into management routine, **(2)** improve data coordination and rationalization, **(3)** develop cost-effective, meaningful monitoring systems and indicators, particularly on ecological integrity assessment and indicators for social, cultural and economic factors, **(4)** find better ways to engage with managers and communities, **(5)** integrate data from various assessments to find trends, themes and lessons across regions, and **(6)** ensure results are interpreted, communicated and used.

TYPICAL USE

Familiarization with general conceptual framework and approach for PA management effectiveness assessments – implemented through more specific methods such as METT or RAPPAM

LEVEL OF APPLICATION

Individual PAs or PA systems

SKILLS AND RESOURCES REQUIRED

No specific skills and resources can be identified, as this is a general framework.

STRENGTHS	WEAKNESSES
❖ General character and broad scope ❖ Wide applicability and use ❖ Complementarity with several more specific PAME assessment methods (e.g. METT, RAPPAM)	❖ Lack of specific guidance on how to conduct PAME assessments ❖ Gives relatively little attention to outcomes, although these are key for adaptive management ❖ Possible lack of integration with strategic management frameworks of sites appraised

REFERENCE

Hockings, M., S. Stolton, F. Leverington, N. Dudley, J. Courrau (2006). Evaluating Effectiveness: A framework for assessing management effectiveness of protected areas. 2nd edition. Gland, Switzerland and Cambridge, UK: IUCN. xiv + 105 pp

TOOL 33 Continued

VERSIONS AND/OR MODIFICATIONS

First edition 2000, second edition 2006, no further modifications as of May 2015

REVIEWS

Hockings, M., F. Leverington, C. Cook (2015). Protected area management effectiveness. In G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds.): Protected Area Governance and Management, pp. 889–928. Canberra: ANU Press. Accessed on 24 September 2018 at ⬚

Leverington, F., K. L. Costa, J. Courrau, H. Pavese, C. Nolte, M. Marr, L. Coad, N. Burgess, B. Bomhard, M. Hockings (2010). Management effectiveness evaluation in protected areas – a global study. Second edition 2010. Brisbane: The University of Queensland. Accessed on 24 September 2018 at ⬚

DOCUMENTED EXPERIENCE

Seven case studies – some of them from a development cooperation context – included in Hockings et al. (2006).

Experience with more specific PAME assessment tools (e.g. METT, RAPPAM) is also relevant to this general IUCN framework, as these methods implement the approach.

RELATED RESOURCES/FURTHER READING

See profiles of METT, RAPPAM etc. below.

›› 3.6.1 PA management effectiveness assessment

TOOL 34	MANAGEMENT EFFECTIVENESS TRACKING TOOL (METT) AND METT HANDBOOK
🖝	English 🔗
2007 (Tool) 2016 (Handbook)	WWF and World Bank (original tool) WWF-UK (Supporting METT Handbook)

TYPE	PURPOSE
Assessment methodology / Best practice Guideline	Identification of progress on management effectiveness of PAs and PA related projects (originally those of WWF and the World Bank, now also GEF-funded projects) over time.

STRUCTURE AND FUNCTION

The Management Effectiveness Tracking Tool:

❖ Questionnaire-based self-assessment methodology
❖ Consists of a data sheet (baseline information on PA) and a questionnaire of 30 questions on context, planning, inputs, processes and outputs
❖ Answers are linked to a scoring system (range 0-3 for poor to excellent) which can be aggregated to give an overall score
❖ Corresponds to IUCN PAME framework (Hockings et al. 2006)
❖ Typically used by PA managers or teams themselves, with the support of a skilled METT facilitator

The **supporting METT Handbook** aims to improve the efficacy with which the METT is applied. The different chapters include detailed additional guidance on:

❖ Experiences from 15 years of METT use
❖ Best Practice when implementing the METT
❖ METT Question-By-Question Guidance
❖ METT: Preparing the groundwork for protected area standards
❖ Conclusions
❖ Addendum: METT origins, different versions and implementation

TYPICAL USE

❖ Tracking of management effectiveness trends of individual PAs or PA related projects over time
❖ Identification and prioritization of key management issues in a specific PA, and how to resolve them in an adaptive management context
❖ Identification of appropriate follow-up steps, particularly at the site level
❖ Reporting of management effectiveness for a PA system (e.g. proportion of PAs which have undergone an assessment, and score achieved)
❖ Collective reflection and learning of PA management teams about their own PAs

ADDITIONAL POTENTIAL USES

❖ Provision of baseline data on PA project portfolios and assistance with reporting and accountability
❖ Identification of portfolio trends and priorities for the development of appropriate tools and policies
❖ Donor/treasury evaluation
❖ Accountability/audit
❖ Evaluation of small sets of closely related PAs

LEVEL OF APPLICATION

Individual PAs or small sets of similar PAs

TOOL 34 Continued

SKILLS AND RESOURCES REQUIRED

❖ Information about and understanding of the aspects addressed in the METT questionnaire
❖ Capacity to run small internal METT workshops and document findings
❖ Involvement of an experienced METT facilitator usually a plus
❖ A good METT process takes up to three days. It is recommended that a diverse group of stakeholders have a chance to contribute.

STRENGTHS	WEAKNESSES
❖ Simplicity, rapidity and low cost ❖ Universal applicability ❖ Produces a score which can be monitored over time ❖ Relatively high standardisation and reproducibility (guiding questions for scoring system) makes tool suitable for trend monitoring ❖ Complementarity with IUCN PAME framework (Hockings et al. 2006) ❖ Wide acceptance as a standard tool	❖ Self-assessment without indicators that are linked to objectively verifiable sources of information – somewhat susceptible to subjective bias. Therefore, it is better at addressing changes over time at a single site than detailed comparison of individual management aspects between different sites ❖ Limited comparability between PAs ❖ Lack of integration with strategic management frameworks of sites ❖ Issues of stakeholder participation and governance are only addressed to a very limited extent although they often have a large influence on overall effectiveness of a PA ❖ Gives only limited weight to outcomes, although these are key for adaptive management ❖ Weak at discovering whether that management is ultimately successful in terms of nature conservation and other values.

REFERENCE

Latest Version of the **Management Effectiveness Tracking Tool**:
WWF (2007). Management Effectiveness Tracking Tool. Reporting Progress at Protected Area Sites. 2nd edition. Gland, Switzerland: WWF International Accessed on 24 September 2018 at 🔗

Latest Version of **supporting Handbook on METT**:
Stolton, S. and N. Dudley (2016). METT Handbook: A guide to using the Management Effectiveness Tracking Tool (METT), WWF-UK, Woking. 75 pp. Accessed on 24 September 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

First edition of the Management Effectiveness Tracking Tool was released in 2003, the second edition in 2007.

A version for MPAs has been developed based on the first edition of the METT and published by the World Bank (Staub & Hatziolus 2004).

TOOL 34 Continued

REVIEWS

A selection of reviews of the METT approach is listed below. (Further reviews and documented experience are available in the METT Handbook).

Hockings, M., F. Leverington, C. Cook (2015). Protected area management effectiveness. In G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds.): Protected Area Governance and Management, pp. 889–928. Canberra: ANU Press. Accessed on 24 September 2018 at 🔗

Leverington, F., K. L. Costa, J. Courrau, H. Pavese, C. Nolte, M. Marr, L. Coad, N. Burgess, B. Bomhard, M. Hockings (2010). Management effectiveness evaluation in protected areas – a global study. Second edition 2010. Brisbane: The University of Queensland Accessed on 24 September 2018 at 🔗

WWF (2007). Tracking progress in managing protected areas around the World. Gland Switzerland: WWF International. 32 pp. Accessed on 24 September 2018 at 🔗

Geldmann, J., Coad, L., Barnes, M, et al. (2015). Changes in protected area management effectiveness over time: a global analysis. Biological Conservation, 191, 692–699 pp. Accessed on 12.11.2018 at 🔗

GEF. (2015). Impact Evaluation of GEF Support to Protected Areas and Protected Area Systems. GEF, Washington, D.C. Accessed on 12.11.2018 at 🔗

DOCUMENTED EXPERIENCE ▶

Since 2001, the METT has been used in over 2,500 protected areas covering over 4.2 million km^2 in 127 countries around the world according to data held in the METT database 🔗

METT surveys of 330 PAs from 51 countries summarized in WWF (2007). Additional examples and statistics in Leverington et al. (2010) and Hockings et al. (2015).

Examples of the use of METT in the context of UNDP PA related projects (including UNDP GEF projects) can be found in the UNDP project database 🔗

Fuentes, E., Domínguez, R., Gómez, N. (2015) Consultoría de aplicación y análisis de resultados del management effectiveness tracking tool (METT) a las principales áreas protegidas en Chile 2015. Proyecto: Creación de un Sistema Nacional Integral de Áreas Protegidas Para Chile: Estructura Financiera y Operacional. 334 pp. Accessed on 25 September 2018 at 🔗

Ministerio del Ambiente. (2014). Evaluación de Efectividad de Manejo del Patrimonio de Áreas Naturales del Estado: Guía Metodológica. 85 pp. Accessed on 26 September 2018 at 🔗

Mardiastuti, A., Ratu Simorangkir, A., Kusrini, M, Buchori, D, Suryadi, I. (2013). Management Effectiveness of ASEAN Heritage Parks: A Study Report. 🔗 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and ASEAN Centre for Biodiversity. 91 pp.

RELATED RESOURCES/FURTHER READING

Staub, F., M. E. Hatziolos (2004). Score Card to Assess Progress in Achieving Management Effectiveness Goals for Marine Protected Areas. Washington, D. C.: The World Bank. 29 pp. Accessed on 24 September 2018 at 🔗

UN Environment-WCMC, IUCN. (2018). Global Database on Protected Area Management Effectiveness. Accessed on 31.10.2018 at 🔗

›› 3.6.1 PA management effectiveness assessment

TOOL 35	**RAPID ASSESSMENT AND PRIORITIZATION OF PROTECTED AREAS MANAGEMENT (RAPPAM)**
	English 🔗	Portuguese 🔗	Spanish 🔗
2003	WWF

TYPE	PURPOSE
Assessment methodology	Broad level comparison of PA management and management effectiveness among many PAs, typically within national PA systems.

STRUCTURE AND FUNCTION

- ❖ Five-step appraisal methodology: **(1)** determining the scope of the assessment, **(2)** assessing existing information for each protected area, **(3)** administering the RAPPAM questionnaire, **(4)** analyzing the findings, (5) identifying next steps and recommendations
- ❖ Central step: questionnaire (not indicator) based appraisal of sets of PAs (typically not individual PAs)
- ❖ Questionnaire covers general information, context, planning, inputs, processes, outputs
- ❖ Corresponds to IUCN PAME framework (Hockings et al. 2006)
- ❖ Allows for multi-variate analyses
- ❖ Typically administered in a workshop setting involving representatives of the PAs included in the assessment

TYPICAL USE

- ❖ Identification of management strengths and weaknesses of PA systems
- ❖ Analysis of pressures and threats across entire PA systems
- ❖ Identification of areas of high ecological and social importance
- ❖ Prioritization of policy interventions
- ❖ Identification of follow-up steps, particularly at the PA system level

ADDITIONAL POTENTIAL USES

- ❖ Tracking of the above over time
- ❖ Appraisal of individual PAs

LEVEL OF APPLICATION

National or sub-national PA systems

SKILLS AND RESOURCES REQUIRED

Necessary skills: Workshop organization and facilitation, MS Excel or comparable skills
Costs of appraisal workshop depends on number of PAs appraised
Information on the assessed aspects of all PAs included in a RAPPAM assessment is needed

STRENGTHS	WEAKNESSES
❖ Simplicity, rapidity and low cost ❖ Simple but powerful prioritization function ❖ Relevance to the PA system level ❖ Complementarity with IUCN PAME framework (Hockings et al. 2006) ❖ Suitability to support and guide discussion in participatory appraisal workshops	❖ Susceptibility to subjective judgement and bias (particularly if used outside workshop setting) ❖ Limited reproducibility ❖ Limited suitability for single PA assessments ❖ Lack of integration with strategic management frameworks of sites appraised

›› 3.6.1 PA management effectiveness assessment

TOOL 35 Continued

REFERENCE

Ervin, J. (2003). Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology. Gland, Switzerland: WWF. 52 pp. 🔗 (PDF 4.8 MB)

REVIEWS

Leverington, F., K. L. Costa, J. Courrau, H. Pavese, C. Nolte, M. Marr, L. Coad, N. Burgess, B. Bomhard, M. Hockings (2010). Management effectiveness evaluation in protected areas – a global study. Second edition 2010. Brisbane: The University of Queensland Accessed on 24 September 2018 at 🔗

Hockings, M., F. Leverington, C. Cook (2015). Protected area management effectiveness. In G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds.): Protected Area Governance and Management, pp. 889–928. Canberra: ANU Press. Accessed on 24 September 2018 at 🔗

Jamison, E. (2003) Rapid Assessment of Protected Area Management Effectiveness in Four Countries, BioScience, Volume 53, Issue 9, 1, 833–841 pp. Accessed on 24 September 2018 at 🔗

A critical review, which is based on a case study, is provided here:

Carranza, T., A. Manica V. Kapos, A. Balmford (2014). Mismatches between conservation outcomes and management evaluation in protected areas: A case study in the Brazilian Cerrado. Biological Conservation 173: 10 – 16.

DOCUMENTED EXPERIENCE

- ❖ Serbia 🔗
- ❖ Cambodia 🔗
- ❖ Senegal 🔗
- ❖ Malawi 🔗
- ❖ Chile 🔗
- ❖ China 🔗
- ❖ Russia 🔗
- ❖ South Africa 🔗
- ❖ Bhutan 🔗
- ❖ Mongolia 🔗
- ❖ Romania 🔗
- ❖ Georgia 🔗
- ❖ Brazil 🔗
- ❖ Taiwan 🔗

›› **3.6.1** PA management effectiveness assessment

TOOL 36	HOW IS YOUR MPA DOING?

	Arabic ⌀	English ⌀	French ⌀	Italian ⌀	Spanish ⌀

2004	IUCN, WWF and US NOS/NOAA

TYPE	PURPOSE
Guideline including a collection of indicators	Design and planning of PAME evaluations for MPAs.

STRUCTURE AND FUNCTION

❖ Broadly builds on IUCN PAME framework (Hockings et al. 2000)
❖ 2 sections: **(1)** sequence of steps in PAME evaluation **(2)** indicators
❖ Steps in MPA PAME assessment: **(1)** indicator selection, **(2)** evaluation planning for selected indicators, **(3)** data collection and analysis, **(4)** communication of results and input into adaptive management
❖ Indicator set: 10 biophysical, 16 socio-economic, 16 on governance
❖ Each indicator discussed in detail (definition, purpose, data collection, analysis and interpretation, strengths and limitations, requirements and outputs, references)
❖ Guidance supported by flow charts of evaluation process and worksheet (checklist of steps to be completed)

TYPICAL USE

❖ Design and planning of marine MPA management effectiveness assessments

ADDITIONAL POTENTIAL USES

❖ Accountability, donor/treasury use, CEPA

LEVEL OF APPLICATION

Individual PAs (MPAs)

SKILLS AND RESOURCES REQUIRED

❖ Understanding of site(s) and basic understanding of ecology and social sciences present within team
❖ MPA has existed for at least two years, has explicitly stated goals and objectives (e.g. in management plan)
❖ Evaluation costs depend on indicators chosen and assessment protocol (e.g. intensity of data collection). Some indicators require considerable expertise and equipment for their use. These are discussed in the indicator sections.

TOOL 36 Continued

STRENGTHS	WEAKNESSES
❖ Detailed instructions for indictor use and interpretation	❖ Relatively high skills, effort and costs of indicator based PAME evaluation – Sustained implementation (e.g. in a monitoring context) needs continued efforts and resource input
❖ Designed for close integration with management goals and objectives of MPAs in question	❖ Sustained implementation (e.g. in a monitoring context) needs continued efforts and resource input
❖ Wide range of indicators including biophysical, socio-economic and governance related	❖ High number of possible indicators will lead to different choices by individual PA managers, and hence limited comparability between assessments of different sites
❖ High standardization of indicators and resulting replicability makes tool suitable for trend monitoring and inter-site comparison, as well as system level synthesis of findings	❖ Further standardisation needed for some indicators
❖ Broad complementarity with IUCN PAME framework (Hockings et al. 2006)	
❖ Concise documentation and referencing of guide lines	

REFERENCE

Pomeroy, R.S., J. E. Parks, L. M. Watson (2004). How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. Gland, Switzerland and Cambridge, UK: IUCN. xvi + 216 pp. Accessed on 24 September 2018 at 🔗

REVIEWS

Pomeroy, R. S., L. M. Watson, J. E. Parks, G. A. Cid (2005). How is your MPA doing? A methodology for evaluating the management effectiveness of marine protected areas. Ocean & Coastal Management 48 (7–8): 485–502.

Fox, H. E., Holtzman, J. L., Haisfield, K. M., McNally, C. G., Cid, G. A., Mascia, M. B., Parks, J. E., Pomeroy, R. S. (2014) How Are Our MPAs Doing? Challenges in Assessing Global Patterns in Marine Protected Area Performance, Coastal Management, 42:3, 207-22 pp.

DOCUMENTED EXPERIENCE

Review of early global post-launch experience summarized by Parks, J. (2009). Lessons Learned from "How Is Your MPA Doing?" Considerations for evaluating networks of MPAs. The Nature Conservancy. 62 pp. Accessed on 24 September 2018 at 🔗

Lopez, A. C. (2015). A holistic strategy for Protected Area management. Panorama – solutions for a healthy planet. Accessed on 24 September 2018 at 🔗

›› **3.6.1** PA management effectiveness assessment

TOOL 37	ENHANCING OUR HERITAGE TOOLKIT (EOH)
🧭	English 🔗	French 🔗	Spanish 🔗
2008	UNESCO

TYPE	PURPOSE
Assessment methodology including a set of twelve methods ("tools") and case studies	Management effectiveness assessment of natural World Heritage sites.

STRUCTURE AND FUNCTION

❖ Broadly based on IUCN WCPA PAME framework (Hockings et al. 2006)
❖ Consists of 12 detailed descriptions of assessment steps and methods used ("tools") focusing on specific aspects of WH management effectiveness assessment – along the management cycle as identified by Hockings et al. (2006) – and complementing each other:

1. Identifying Site Values and Management Objectives
2. Identifying Threats
3. Relationships with Stakeholders
4. Review of National Context
5. Assessment of Management Planning
6. Design Assessment
7. Assessment of Management Needs and Inputs
8. Assessment of Management Processes
9. Assessment of Management Plan Implementation
10. Work/Site Output Indicators
11. Assessing the Outcomes of Management
12. Review of Management Effectiveness Assessment Results

❖ Each assessment step is conducted following a concise worksheet with additional explanations and based on various combinations of indicators and appraisals
❖ Methods designed to be used as a whole, or as subsets
❖ Typically used by World Heritage site managers, based on participatory assessment workshops
❖ Can be repeated over time (monitoring)
❖ Includes broad guidance on how to collate and analyse data, identify and fill knowledge gaps, improve integration with management
❖ Methods build on other existing generic approaches (e.g. of TNC, CMP)

TYPICAL USE

Management effectiveness assessment of individual natural/mixed World Heritage sites or small sets of sites

ADDITIONAL POTENTIAL USES

❖ Management effectiveness assessment for cultural World Heritage properties (see 🔗)
❖ Management effectiveness assessment of PAs that are not World Heritage sites

LEVEL OF APPLICATION

Individual PAs (natural or mixed World Heritage sites) or small sets of sites

SKILLS AND RESOURCES REQUIRED

❖ Considerable information on the management aspects covered by the methodology
❖ Capacity to conduct participatory assessment workshops and produce complex assessment reports
❖ Specific costs for conducting assessment depend on scope and degree of participation.

TOOL 37 Continued

STRENGTHS	WEAKNESSES
❖ Comprehensiveness ❖ Modular structure and resulting flexibility for adaptation ❖ Relatively high standardization and reproducibility (strict worksheet format) makes tool suitable for trend monitoring ❖ Broad complementarity with IUCN PAME framework (Hockings et al. 2006)	❖ Relatively narrow focus on natural WH sites ❖ Objectivity depends on degree of participation in conducting the assessment (otherwise merely self-assessment) ❖ Limited comparability between PAs ❖ Some of the component methods are qualitative or semi-quantitative ❖ Gives relatively little weight to outcomes, although these are key for adaptive management ❖ Limited integration with strategic management frameworks of sites

REFERENCE

Hockings, M., R. James, S. Stolton, N. Dudley, V. Mathur, J. Makombo, J. Courrau, J. Parrish (2008). Enhancing our Heritage Toolkit. Assessing management effectiveness of natural World Heritage sites. Paris: UNESCO. 108 pp. Accessed on 9 October 2018 at 🔗

REVIEWS

Leverington, F., K. L. Costa, J. Courrau, H. Pavese, C. Nolte, M. Marr, L. Coad, N. Burgess, B. Bomhard, M. Hockings (2010). Management effectiveness evaluation in protected areas – a global study. Second edition 2010. Brisbane: The University of Queensland Accessed on 27 September 2018 at 🔗

DOCUMENTED EXPERIENCE

Methodology builds on experience and piloting in nine natural World Heritage properties. Case studies from India, Ecuador and Uganda are included in the guideline document.

EoH Evaluations coordinated by IUCN's Program on African Protected Areas and Conservation (PAPACO) can be accessed here: 🔗

RELATED RESOURCES/FURTHER READING

❖ The IUCN World Heritage Outlook (🔗) is a complementary, but more general and less in-depth method for the assessment of the status and outlook of natural and mixed World Heritage sites. Results of the WH Outlook are more comparable among sites.

3.6.2 | GLOBAL PA PERFORMANCE STANDARDS

TOOL 38	IUCN GREEN LIST OF PROTECTED AND CONSERVED AREAS (IUCN GREEN LIST)
🧭	English 🔗	Arabic, Chinese, French, Slovene, Spanish, Vietnamese
2018	IUCN and IUCN WCPA

TYPE	PURPOSE
Standard and certification methodology	To provide a global benchmark for protected and conserved areas to assess whether they are achieving successful conservation outcomes through effective and equitable governance and management.

STRUCTURE AND FUNCTION

The core element of the IUCN Green List is a global standard. This standard includes four globally consistent components and 17 criteria, which are supported by 50 indicators, to measure site performance. It is assumed that PAs that meet the standard will deliver successful conservation outcomes.

Components and criteria (source: IUCN Green List standard)

Good Governance
1.1 Guarantee Legitimacy and Voice
1.2 Achieve Transparency and Accountability
1.3 Enable Governance Vitality and Capacity to Respond Adaptively

Sound Design and Planning
2.1 Identify and Understand Major Site Values
2.2 Design for Long-Term Conservation of Major Site Values
2.3 Understand Threats and Challenges to Major Site Values
2.4 Understand Social and Economic Context

Effective Management
3.1 Develop and Implement a Long Term Management Strategy
3.2 Manage Ecological Condition
3.3 Manage Within Social and Economic Context of the Area
3.4 Manage Threats
3.5 Effectively and Fairly Enforce Laws and Regulations
3.6 Manage Access, Resources Use and Visitation
3.7 Measure Success

Successful Conservation Outcomes
4.1 Demonstrate Conservation of Major Natural Values
4.2 Demonstrate Conservation of Major Associated Ecosystem Services
4.3 Demonstrate Conservation of Cultural Values

Indicators for the criteria can be adapted to the national context.

The implementation of the IUCN Green List standard is detailed in the User Manual.

Certification for the Green List is a three-step process (application, candidate and green list phase), during which applicants have to demonstrate that their sites meet all Green List criteria. Decision on awarding Green List status is taken by the IUCN Green List of Protected and Conserved Areas Committee.

TYPICAL USE

❖ Gap analysis of performance against the IUCN Green List Stand-ard using it as diagnostic tool in a process of self-assessment and improvement towards best practice.
❖ Demonstrating performance and maintaining the capacity of PAs to deliver conservation results.

ADDITIONAL POTENTIAL USES

❖ Formulating national PA policy;
❖ Planning and prioritising measures to improve performance and effectiveness of PAs and PA systems;
❖ Allocation of PA funding and resources;
❖ Communication, education and awareness raising among PA practitioners and the general public

TOOL 38 Continued

LEVEL OF APPLICATION

Individual PAs (can be applied simultaneously to many PAs within a PA system)

SKILLS AND RESOURCES REQUIRED

Skills and resources required and preconditions to be met prior to application for certification to the Green List standard as listed below refer to preparing an application, not to meeting the criteria of the standard. Depending on the area, the latter may require substantial additional resources, as it may entail major changes to the governance and management of an existing PA.

Skills and resources required and preconditions to be met when applying for certification:

❖ Mandate to commit to the standard on behalf of an area's management authority;
❖ Knowledge and understanding of the IUCN Green List standard and user manual (i.e. also: proficiency in one of the languages in which it is available);
❖ Resources to conduct site level stakeholder consultation and host visit of an international expert;
❖ Resources and capacity to prepare and submit a full nomination dossier on how the site meets the criteria of the standard.

STRENGTHS

❖ Global, widely supported, increasingly respected, comprehensive standard for good PA governance and management;
❖ Clear guidance in many languages, support on demand available from IUCN;
❖ Relatively lean certification process;
❖ Adaptability of indicators for criteria to national/regional situations

WEAKNESSES

❖ Evidence for meeting some of the criteria (e.g. measures of success, conservation of natural values and ecosystem services) requires considerable data and on-site monitoring systems that do not exist in many PAs.
❖ Some of the generic indicators leave considerable room for interpretation in national adaptations of the standard which poses a challenge to the quality assurance mechanisms of the overall programme.
❖ The requirement that Green List certification of individual sites requires prior commitment of a whole jurisdiction including setting-up of structures and processes to support implementation may act as a barrier for managers of individual sites willing to undergo certification if the jurisdiction is not committed.

REVIEWS

Slezak, M. (2018). New 'green list' highlights the positives in nature conservation. The Guardian, 23 March 2018. Accessed on 1 October 2018 at 🖉

RELATED RESOURCES

IUCN and World Commission on Protected Areas (WCPA) (2018). IUCN Green List of Protected and Conserved Areas: User Manual, Version 1.1. Gland, Switzerland: IUCN. Accessed on 1 October 2018 at 🖉

IUCN Green List electronic information and help desk: 🖉

IUCN and World Commission on Protected Areas (WCPA) (2018). IUCN Green List Bulletin. Gland, Switzerland: IUCN. Accessed on 1 October 2018 at 🖉

REFERENCE

IUCN and World Commission on Protected Areas (WCPA) (2018). IUCN Green List of Protected and Conserved Areas: Standard, Version 1.2. Gland, Switzerland: IUCN. Accessed on 20 January 2020 at 🖉

VERSIONS AND/OR MODIFICATIONS

It is expected that additional versions of the standard will be published in the future.

3.6.3 | BIODIVERSITY MONITORING AND SURVEILLANCE TOOLS

TOOL 39	BIODIVERSITY MONITORING FOR NATURAL RESOURCE MANAGEMENT – AN INTRODUCTORY MANUAL
🜚	English 🔗	French 🔗
2016	GIZ SNRD Asia

TYPE	PURPOSE
Practical manual and resource book	Providing practical guidance for planning biodiversity monitoring including for selecting indicators and engaging partners. It addresses some of the principal questions, issues and pitfalls in biodiversity monitoring and offers carefully selected references for further reading.

STRUCTURE AND FUNCTION

The manual is divided into seven chapters:

1. Introduction (definition and purpose of biodiversity monitoring; in-ternational commitments)
2. Selecting suitable indicators (indicator categories and quality)
3. Engaging partners (stakeholder engagement; participatory biodi-versity monitoring; other partners)
4. Planning monitoring activities (monitoring types; data acquisition, management and analysis; usage of results)
5. References cited
6. Further resources (adaptive management and opportunistic moni-toring; participatory monitoring; se-lection of monitoring indicators; study design and data analysis; survey methods for specific organism groups; software for data management and analysis)
7. Appendix

TYPICAL USE

Search for overview information and an introduction into how to plan and implement biodiversity monitoring in practice

LEVEL OF APPLICATION

Individual PAs

SKILLS AND RESOURCES REQUIRED

No specific skills required, manual serves as a first introduction to the topic

STRENGTHS	WEAKNESSES
Helps practitioners to get a brief overview of the topic against the background of the overwhelming amount of information available.	The manual is only a starting point and doesn't provide in depth information.

REFERENCE

Werner, Florian A. & Gallo-Orsi, Umberto. 2016. Biodiversity Monitoring for Natural Resource Managemen – An Introductory Manual. GIZ, Eschborn and Bonn, Germany. DOI: 10.13140/RG.2.1.3141.8488/1. 35 pp. Accessed on 6 March 2019 at 🔗

RELATED RESOURCES

A broad collection of further resources (including tools and methodology) is listed in the document under chapter 6.

Wildlife Insights 🔗 – a platform for sharing and analysing camera trap

›› 3.6.3 Biodiversity monitoring and surveillance tools

TOOL 40	COMMUNITY-BASED MONITORING, REPORTING AND VERIFICATION KNOW-HOW: SHARING KNOWLEDGE FROM PRACTICE (CMRV)
⌖	English 🔗
2015	WWF Forest and Climate Programme

TYPE	PURPOSE
Collection of approaches and methods	Community-based monitoring, reporting and verification of carbon stocks and other forest data.

STRUCTURE AND FUNCTION

Collection and short description of nine approaches and methods (some supported by online tools and/or more complex software setups):

1. Open Data Kit
2. Geodok
3. Geo-Wiki
4. Moabi DRC
5. Sound recordings
6. Sapelli
7. Cybertracker
8. Interactive Forest Monitoring
9. Participatory mapping and GIS

❖ Descriptions for each include URL, purpose, originators, functioning, prerequisites of use, strengths, weaknesses and challenges, uses

❖ Information on general lessons learned in community based monitoring and verification and on the availability and prerequisites of use of the methods listed is also included

TYPICAL USE

Community-based monitoring, reporting and verification of carbon stocks and other forest data in the context of REDD+

ADDITIONAL POTENTIAL USES

❖ Mapping and monitoring of biodiversity, ecosystem services, direct threats/pressures and their drivers in and around forest PAs

LEVEL OF APPLICATION

Individual PAs

STRENGTHS	WEAKNESSES
Strengths and weaknesses vary depending on individual tools.	Strengths and weaknesses vary depending on individual tools.
General strengths:	General weaknesses:
❖ Relative simplicity of methods and tools ❖ Cost effectiveness ❖ Contribution to community empowerment ❖ Potential for increased sustainability of monitoring programmes, because of the factors listed above	❖ Limitations to types of data that can be collected ❖ Often need of internet access ❖ Some tools need further development ❖ Community take-up of technologies can take time

TOOL 40 Continued

REFERENCE

WWF (2015). Community-based monitoring, reporting and verification know-how: sharing knowledge from practice. Gland, Switzerland: WWF. 42 pp. Accessed on 8 October 2018 at 🔗

DOCUMENTED EXPERIENCE

❖ One case study from North Rupununi Forest (Guyana) included in method collection

Jeffrey-Coker, F., Basinger, M., Modi, V. (2010). Open Data Kit: Implications for the Use of Smartphone Software Technology for Questionnaire Studies in International Development. 12 pp. Accessed on 24 September 2018 at 🔗

RELATED RESOURCES/FURTHER READING

Corrigan C. & Hay-Edie T. 2013. A toolkit to support conservation by indigenous peoples and local communities: building capacity and sharing knowledge for indigenous peoples and community conserved territories and areas (ICCAs) . 🔗 UNEPWCMC, Cambridge. Accessed on 22 February 2019

Pratihast, A.K., B. DeVries, V. Avitabile, S. de Bruin, L. Kooistra, M. Tekle, M., M. Herold (2014). Combining satellite data and community-based observations for forest monitoring. Forests 5: 2464–2489.

Pratihast, A.K., M. Herold, V. de Sy, D. Murdiyarso, M. Skutsch (2013). Linking community-based and national REDD+ monitoring: A review of the potential. Carbon Management 4: 91–104.

Further resources are available on the websites of the individual tools.

›› 3.6.3 Biodiversity monitoring and surveillance tools

TOOL 41	SPATIAL MONITORING AND REPORTING TOOL (SMART)
🧭	English 🔗 | French 🔗 | Spanish 🔗 software has been translated to eight additional languages, manual to five additional languages.
2017	SMART Partnership

TYPE	PURPOSE
Guideline and software tool, supported by training resources and user platform	Planning, measuring, evaluating and improving the effective-ness of law enforcement patrols and site-based conservation and monitoring activities.

STRUCTURE AND FUNCTION

❖ The SMART approach combines a software to design, plan, manage, monitor, document, analyse and report on law enforcement activities (patrolling) of rangers, and observations made, with site based protection standards and capacity building

Software features:

❖ Includes full set of mapping functions
❖ Import of information from handheld GPS devices
❖ Training manuals to enable use of software
❖ Support function available through "superuser" organizations
❖ Central server setup possible with SMART Connect
❖ Various links to databases on enforcement, fixed poacher cameras, plug-ins for designing wildlife surveys (line transects, point counts), plug-ins are available for increased functionality.

TYPICAL USE

❖ Monitoring of patrolling and law enforcement by PA rangers
❖ Data collection and monitoring of infractions and other information relevant to management (e.g. poached carcasses)
❖ Monitoring of state of biodiversity in support of PA management

ADDITIONAL POTENTIAL USES

❖ Strategy development
❖ Capacity development planning
❖ Populating higher level indicators (e.g. for PAME monitoring or Open Standards based adaptive manage-ment)
❖ CEPA

LEVEL OF APPLICATION

Individual PAs (system wide application possible)

SKILLS AND RESOURCES REQUIRED

Methodological guidance, software and online training resources free of charge. Implementation costs de-pend on equipment needs and scale of use (e.g. area to be covered).

❖ Handheld GPS sets and skills to use them (for typical use).
❖ Financial resources for maintenance and replacement of equipment
❖ SMART software: standard PC (Linux/Mac or Windows), google drive; – shapefiles for PA boundaries
❖ General patrol capacity (including trained staff, equipment and infrastructure) needed to conduct law enforcement
❖ Basic capacity in use of GPS, data management and processing
❖ Solid data: SMART data analysis can only be as good as the quality of input data and thus processes to ensure sufficient data quality (incl. integrity and standardization) – species identification skills/resources (for biodiversity monitoring applications)

TOOL 41 Continued

STRENGTHS	WEAKNESSES
❖ Integration of software, standards, training materials, planning and evaluation functions, analysis and reporting ❖ Standardization for all aspects of law enforcement monitoring ❖ Flexibility and adaptability to speciic needs at PAs, within the predetermined data framework ❖ Extensibility through plug-ins ❖ Able to import legacy data, some compatibility with other systems ❖ Community platform for mutual learning ❖ Does not require extensive IT/GIS expertise ❖ Possibility to teach not only PA staff but also community rangers how to use SMART	❖ Relatively narrow focus on law enforcement and monitoring ❖ Has not been in use for long – limited experience of routine application to date ❖ Only flexible within the predetermined framework design ❖ Changes on established data models without losing data can be challenging ❖ Batch upload of input data only easily possible with CyberTracker ❖ Integration of other GIS (e.g. QGIS) and statistical (e.g. R) software for more advanced analysis lacking ❖ Other OpenROSA- and XLSForm-based mobile data collection tools (e.g. KoBo Toolbox, (geo)ODK) not supported ❖ Data security not yet addressed in SMART in spite of sensitivity of many SMART results

REFERENCE

Smart Partnership (2015). SMART (Spatial Monitoring and Reporting Tool). Website accessed on 20 November 2019 at 🔗

VERSIONS AND/OR MODIFICATIONS

Version 1.0.0 released in 2013, since then continuously updated. Current Version 5.0.0 (2017)

There is also specific guidance on SMART use in marine environments: 🔗

DOCUMENTED EXPERIENCE ▶

SMART Partnership 2017 Annual Report (including short case studies from Philippines, Belize, Bangladesh, Kenya and Nigeria). 32 pp. Accessed on 24 September 2018 at 🔗

A SMART Case Study Successfully and Sustainably Implementing SMART in a Community Conservancy where Rangers are semi-illiterate (Kenya) 10 pp. Accessed on 24 September 2018 at 🔗

Dobbelsteijn, R. (2016). Integration of local knowledge in park management. PANORAMA –solutions for a healthy planet. Accessed on 9 October 2018 at 🔗

Bangladesh Forest Department (2018). Report on a Seminar and Strategy Workshop with Senior Officials from the Bangladesh Forest Department on Law Enforcement Monitoring Using a SMART Approach in Protected Areas. Dhaka (Bangladesh): Bangladesh Forest Department. 37 PP.

Phung Ngoc Khanh (2015). Assessment of the Status Quo of SMART Implementation of Pilot Sites. Report. Ha Noi: Ministry of Agriculture and Rural Development and GIZ. 51 pp.

Phong Bui Dang, Khanh Ngoc Phung, Nguyen Ngoc Quang (2016). Pilot the Spatial Monitoring and Reporting Tool (SMART) in three Pilot Sites. Report. Ha Noi: Department of Nature Conservation, Viet Nam Administration of Forestry and GIZ. 15 pp.

TOOL 41 Continued

RELATED RESOURCES/FURTHER READING

SMART Partnership (2017). Technical Training Manual SMART 5.0. 305 pp. Accessed on 8 October 2018 at 🔗

Handbook specifically for South Asia and Southeast Asia: Bangladesh Forest Department, Wildlife Conservation Society and Deutsche Gesellschaft für Internationale Zusammenarbeit (2017). Handbook for SMART Patrols in the Sundarbans Mangrove Forest of Bangladesh. Published by the Wildlife Conservation Society, Dhaka, Bangladesh. 205 pp. Accessed on 1 November 2018 at 🔗

Example of language conversion (to Vietnamese): Noi The Nghiep 2016). Language converting and updating list of of faunal and floral species in SMART software. Report. Ha Noi: VNForest and GIZ. 18 pp.

Further materials (Guides, Brochures,) in different languages (English, Spanish, French, and some in Mongolian, Farsi) are available at 🔗

3.6.4 | COSTS, BENEFITS AND SOCIAL IMPACTS

TOOL 42	THE PROTECTED AREAS BENEFITS ASSESSMENT TOOL (PA-BAT)
🧭	English 🔗	Russian 🔗
2012	WWF International

TYPE	PURPOSE
Methodology and assessment tool	Assessment of PA benefits.

STRUCTURE AND FUNCTION

Document includes glossary, introduction, methodology description, guid-ance notes and data sheets, and an Appendix (trainer's guide).

The methodology includes a standard typology of values and benefits. The assessment involves conducting workshops in which stakeholders jointly fill in two data sheets, one on background information and one on benefits to PA stakeholders. It is recommended that different use zones are taken into consideration.

Background information data sheet: name, IUCN category, location, socio-economic context, governance, etc, along with an opportunity to identify key management objectives and to make a value judgement about how much the protected area contributes to wellbeing in the dimensions: sub-sistence, economic, cultural and spiritual, environmental services, and political.

Values and their benefits to PA stakeholders data sheets: A set of datasheets which collect basic infor-mation about: the values and types of benefits they generate; who they are important to; and qualitative infor-mation about their level of importance, their relationship to the protected area and the times of year in which they are important. The focus is on legal use.

The types of values and resulting benefits are categorised into nine main groups: nature conservation; PA management (mainly jobs), values related to food, values related to water, cultural and spiritual values, health and recreation, knowledge, environmental services, materials), with 24 more detailed indicators.

The completed worksheets constitute the assessment.

TYPICAL USE

❖ Collation and building information about the overall values of and benefits from PAs, across a wide range of stakeholders.
❖ The results of the assessments can be aggregated to provide an overview of a portfolio of protected areas (e.g. regional groups, national systems, biome groups etc)

ADDITIONAL POTENTIAL USES

❖ Use in other areas of conservation value (e.g. forests, agricultural land-scapes) which are not formally declared as PAs
❖ Planning for use of benefits at the PA system level
❖ CEPA
❖ Learning

LEVEL OF APPLICATION

Individual PAs (some aspects relevant to system level planning)

TOOL 42 Continued

SKILLS AND RESOURCES REQUIRED

PDF downloadable free of charge. Application costs vary according to context.

Involvement in PA management and general understanding of the PA(s) in question. Typical use requires access to stakeholders and capacity (in terms of logistics, facilitation, equipment and financial resources) to conduct participatory assessment workshops and produce assessment reports.

STRENGTHS	WEAKNESSES
❖ Multi-stakeholder approach ❖ Typology (checklist by category) of values and benefits of PAs ❖ Inclusion of detailed data sheets that can be used to conduct assessment ❖ Provides a good qualitative description of benefits and values of PAs	❖ Essentially a qualitative approach, no quantitative output ❖ No valuation intended or supported

REFERENCE

Stolton, S., N. Dudley (2009). The Protected Areas Benefits Assessment Tool (PA-BAT). Revised version 2012. Gland, Switzerland and Zagreb, Croatia: WWF International and WWF Mediterranean Project Office. 72 pp. Accessed on 5 October 2018 at 🔗

VERSIONS AND/OR MODIFICATIONS

Revised versions in 2009 and 2012, not further modified between then and July 2015.

REVIEWS

Kettunen, M., P. ten Brink (2013). Social and Economic Benefits of Protected Areas. An Assessment Guide. Oxon, UK: Routledge. 34x pp.

DOCUMENTED EXPERIENCE

ÖBf (2009). Assessment of the value of the PA system of Ethiopia, "Mak-ing the Economic Case". Addis Abbeba and Pukersdorf, Austria: Ethiopian Wildlife Conservation Authority and ÖBf. 100 pp. Available on request from Sue Stolton, Equilibrium Research.

WWF Mediterranean Programme (2014). WWF PA benefit assessment in the Dinaric Arc. Zagreb: WWF Medi-terranean Programme Office. 4 pp. Accessed on 5 October 2018 at 🔗

Mansourian, S., Higgins-Zogib, L., Dudley, N., Stolton, S. (2008). Poverty and protected areas. 5 – 18 pp. In Protected Areas in Today's World: Their Values and Benefits for the Welfare of the Planet. Secretariat of the Convention on Biological Diversity, Montreal, Technical Series no. 36, i-vii + 96 pages. Accessed on 5 Octo-ber 2018 at 🔗

Ivanić, K.-Z., Štefan, A., Porej, D., Stolton, S. (2017). Using a Participatory Assessment of Ecosystem Services in the Dinaric Arc of Europe to support Protected Area Management. PARKS Vol 23.1. 61 74 pp. Accessed on 5 October 2018 at 🔗

Yenilmez Arpa, N., Ersöz, N., Yilmaz, Z., Haçat, A., Özkan, M., Tiraş, H., Arda, S. S., Karaarslan, Z. (2017). Ben-efit assessment of forest protected areas: Case on Küre Mountains National Park. Kastamonu Univ., Journal of Forestry Faculty, 17 (3): 434-449 pp. Accessed on 5 October 2018 at 🔗

RELATED RESOURCES/FURTHER READING

The IUCN World Heritage Outlook 🔗 includes a modified version of the PA-BAT for individual sites. The same may be true for other more spe-cialist assessment approaches.

WWF Arguments for protection 🔗

IUCN Decision tree (guides the practitioner through the selection process among nine existing ecosystem services assessment tools – ARIES, Cost-ingNature, EST, InVEST, MIMES, PA-BAT, SolVES, TESSA and Water-World). Accessed on 5 October 2018 at 🔗

›› 3.6.4 Costs, benefits and social impacts

TOOL 43	SOCIAL ASSESSMENT FOR PROTECTED AREAS (SAPA)
⌖	English 🔗	French 🔗
2016	International Institute on Environment and Development (IIED), UN Environment-WCMC, World Conservation Society (WCS) and Fauna and Flora International (FFI)

TYPE	PURPOSE
Methodology Manual	Structured assessment of the positive and negative social impacts of protected areas on the well-being of people living nearby. Method should help biodiversity conservation managers and other key stakeholder groups to increase and more equitably share benefits and reduce the costs of PAs.

STRUCTURE AND FUNCTION

The hands-on manual guides facilitators to organise and conduct SAPA. SAPA uses a combination of community workshops to identify significant social impacts, a short household survey to explore these impacts and related governance issues, and stakeholder workshops to discuss and validate survey results and to generate recommendations.

The 72-page manual consists of two sections and annexes.
Section A: Introduction (Key concepts, SAPA methodology)
Section B: Step by step guidance (Phase I: Preparation, Phase II: Scoping, Phase III: Assessment; Phase IV: Activities)
Annexes: Tools such as Terms of Reference for SAPA Facilitation Team, templates to be used for different steps, e.g. household survey, model workshop agendas

Workflow:

1. Stakeholder analysis
2. First community workshop
3. First stakeholder workshop
4. Household survey
5. Second community workshop
6. Second stakeholder workshop

SAPA standard assessment questions:

❖ What is the overall contribution to human wellbeing of the PA and re-lated conservation and development activities?
❖ What are the more significant negative impacts of the PA and related conservation and development activities?
❖ What are the more significant positive impacts of the PA and related conservation and development activities?
❖ To what extent are communities aware of key information on the PA and related conservation and development activities?
❖ To what extent is there community participation and influence in deci-sion-making regarding the PA and related conservation and develop-ment activities?
❖ How are relations between the PA and local communities?

TYPICAL USE

❖ Assessment of the social impact (benefits and costs) of PAs on neighbouring communities
❖ Generation of recommendations for concrete action by PA manag-ers and stakeholders how negative impacts of a PA can be re-duced or mitigated and positive impacts can be enhanced and benefits shared more equitably

TOOL 43 Continued

ADDITIONAL POTENTIAL USES

❖ Section A of the Manual for academic learning about governance, management and equity relating to PAs.
❖ Monitoring change in social impacts of a PA and perceptions of social impact through repeated assessment

LEVEL OF APPLICATION

PA-site level

SKILLS AND RESOURCES REQUIRED

❖ Cost estimates for conducting SAPA range from US$5,000 to US$15,000.
❖ The process takes about 4 months (see related resources) with intermittent activities.
❖ SAPA-Team consists of 3–6 facilitators, including state actors and non-state actors, supported by an expert with social research expertise.

STRENGTHS	WEAKNESSES
❖ Low cost application ❖ Applicable to any governance type, management category and ecological context ❖ Available in two languages ❖ Detailed Step by step guidance including pre-assessment of when and when not to do a SAPA ❖ Section A of the Manual provides background information on governance, management and equity in context of PA	❖ SAPA should only be conducted in situations in which a reasonable level of trust or goodwill exists between local communities and PA management ❖ Undertaking the household survey may require external support e.g. from an NGO or local university with social research expertise ❖ The SAPA assessment takes a few months hence PA Team needs persistence and dedication for this project ❖ During SAPA, stakeholders and PA managers need to meet at least once. This may not be practical for very large PAs where travel within and around the PA is difficult and costly.

REFERENCE

Franks, P and Small, R (2016) Social Assessment for Protected Areas (SAPA). Methodology Manual for SAPA Facilitators. IIED, London. Accessed on 6. September 2018 at 🔗

DOCUMENTED EXPERIENCE

Research report provides an overview of the Social Assessment for Protected Areas (SAPA) methodology and describes the results of SAPA's application at four protected area sites in Uganda, Zambia, Gabon and Kenya: Phil Franks and Rob Small (2016) Understanding the social impacts of protected areas: a community perspective. IIED Research Report. IIED, London. 🔗

RELATED RESOURCES/FURTHER READING

White, S. C. (2009). Analyzing Wellbeing: A Framework for Development Practice. (Wellbeing in Developing Countries (WeD) Working Papers; No. WeD Working Paper 09/44). Bath: University of Bath/Wellbeing in Develop-ing Countries Research Group. Accessed on 07 September 2018 at 🔗

Franks, P., Roe, D., Small, R., Schneider, H. (2014). Social Assessment of Protected Areas: Early Experience and Results of a Participatory, Rapid Approach. IIED Working Paper. IIED, London Accessed on 19 September 2018 at 🔗

Further resources available at 🔗

3.6.5 | ECOSYSTEM SERVICES ASSESSMENT AND VALUATION

TOOL 44	TOOLS FOR MEASURING, MODELLING, AND VALUING ECOSYSTEM SERVICES. GUIDANCE FOR KEY BIODIVERSITY AREAS, NATURAL WORLD HERITAGE SITES, AND PROTECTED AREAS
🔾	English 🔗
2018	IUCN

TYPE	PURPOSE
Guideline including case studies.	Overview and decision-support for selecting ecosystem services (ES) assessment and valuation methods.

STRUCTURE AND FUNCTION

The document provides guidance for practitioners on existing tools that can be applied to measure or model ecosystem services (ES) provided by important sites for biodiversity and nature conservation, including Key Biodiversity Areas (KBAs), natural World Heritage sites (WHS), and protected areas (PAs). It summarizes a range of possible reasons for ES assess-ment and introduces tools that can be used for each purpose. It contains a comparison of a set of nine ES assessment tools that are (a) most commonly applied, (b) available to practitioners at no cost, and (c) can be applied in new contexts (i.e. they are not restricted to specific countries or case studies). Tools include written step-by-step and computer-based modelling tools.

TYPICAL USE

Preparation of ES assessments and valuations.

ADDITIONAL POTENTIAL USES

Education and learning.

LEVEL OF APPLICATION

Various.

SKILLS AND RESOURCES REQUIRED

❖ Skills needed and application costs depend on context and selected assessment tool (e.g. written vs. computer-based modelling).
❖ Basic data on ES will be needed in any case.

STRENGTHS	WEAKNESSES
❖ Up-to-date information on methods and tools presented. ❖ All tools are freely available. ❖ Comprehensive description and classi-fication of the featured methods and tools.	❖ The selection of an appropriate method or tool should always be guided by an expert – the information presented is not sufficient for new-comers to make decision on that basis (e.g. decision trees). ❖ Does not emphasize that ES assessments should be closely linked to policy questions.

REFERENCE

Neugarten, R.A., Langhammer, P.F., Osipova, E., Bagstad, K.J., Bhagabati, N., Butchart, S.H.M., Dudley, N., Elliott, V., Gerber, L.R., Gutierrez Arrellano, C., Ivanić, K.-Z., Kettunen, M., Mandle, L., Merriman, J.C., Mulligan, M., Peh, K.S.-H., Raudsepp-Hearne, C., Semmens, D.J., Stolton, S., Willcock, S. (2018). Tools for measuring, modelling, and valuing ecosystem services: Guidance for Key Biodiversity Areas, natural World Heritage Sites, and protected areas. Gland, Switzerland: IUCN. x + 70pp. 🔾

RELATED RESOURCES/FURTHER READING ▶

Comprehensive compilation of ES assessment tools and methods: ValuES Database 🔗

›› **3.6.5** Ecosystem services assessment and valuation

TOOL 45	INTEGRATED VALUATION OF ECOSYSTEM SERVICES AND TRADEOFFS (INVEST)
⌖	English 🔗 | User Manual Version 3.2.0 also available in Chinese 🔗
2018	Natural Capital Project (Stanford University, TNC, WWF, and the University of Minnesota)

TYPE	PURPOSE
Approach, method and software tool.	Mapping and assessing ecosystem services across spatial scales to inform land use related decision making.

STRUCTURE AND FUNCTION

InVEST is a family of tools to assess how distinct scenarios of land use development might lead to different ecosystem services and human well-being related outcomes in particular geographic areas. InVEST enables decision-makers to assess the tradeoffs associated with alternative choices and to identify areas where investment in natural capital can enhance human development and conservation in different ecosystems. InVEST models are spatially explicit, using diverse data as information input and producing maps as outputs. InVEST produces results in either biophysical terms (e.g., tons of carbon sequestered) or economic terms (e.g., net present value of that sequestered carbon). Maps, trade-off curves and balance sheets are produced, which can be used for assessing scenarios in an iterative process of stakeholder consultations.

TYPICAL USE

Decision making on land use (often involving multiple land use options) based on the impact of alternative land use scenarios and tradeoffs on ecosystem service provision and the benefits derived from them by various actors.

ADDITIONAL POTENTIAL USES

Other types of analysis and/or decision making related to ecosystem service provision, including addressing the following questions:

❖ Where do ecosystem services originate and where are they con-sumed?
❖ How does a proposed forestry management plan affect timber yields, biodiversity, water quality and recreation?
❖ What kinds of coastal management and fishery policies will yield the best returns for sustainable fisheries, shoreline protection and recrea-tion?
❖ Which parts of a watershed provide the greatest carbon sequestration, biodiversity, and tourism values?
❖ Where would reforestation achieve the greatest downstream water quality benefits while maintaining or minimizing losses in water flows?
❖ How will climate change and population growth impact ecosystem ser-vices and biodiversity?
❖ What benefits does marine spatial planning provide to society in addi-tion to food from fishing and aquaculture and secure locations for re-newable energy facilities?

(Source: 🔗)

LEVEL OF APPLICATION

Local: usually specific areas, such as PAs and their surroundings

SKILLS AND RESOURCES REQUIRED

❖ The resources needed for applying the method are strongly dependent on data availability, available expertise for using the InVEST model and the scale of stakeholder process required for analysing the issue of interest.
❖ InVEST software is free of charge. Hiring experts with GIS skills and knowledge of using InVEST is likely to be the main cost influencing factor.
❖ Basic to intermediate skills in GIS are required.

TOOL 45 Continued

STRENGTHS	WEAKNESSES
❖ Geared towards real decision making processes – not just an academic method. ❖ Tiered design allows the use of simple to more complex models based on availability of data and expertise. ❖ Comprehensive analysis of comparative benefits of alternative land use scenarios, able to suggest optimization and tradeoffs. ❖ InVEST is open source and available for free. Compatibility of most modules with free GIS software. ❖ Documentation and guidance are available.	❖ Quality and availability of input data can be an issue and can influence the quality of results. ❖ Experience and expertise in using InVEST can influence the credibility of results. ❖ Processing and interpreting results can be difficult for beginning users. ❖ Some models may be oversimplified for a particular purpose. In this case it is recommended people use alternative ecosystem service models such as Soil and Water Assessment Tool (SWAT 🔗) in combination with InVEST. ❖ Only available in English.

REFERENCE

Sharp, R., Tallis, H. T., Ricketts, T., Guerry, A. D., Wood, S. A., Chaplin-Kramer, R., Nelson, E., Ennaanay, D., Wolny, S., Olwero, N., Vigerstol, K., Pennington, D., Mendoza, G., Aukema, J., Foster, J., Forrest, J., Cameron, D., Arkema, K., Lonsdorf, E., Kennedy, C., Verutes, G., Kim, C.K., Guannel, G., Papenfus, M., Toft, J., Marsik, M., Bernhardt, J., Griffin, R., Glowinski, K., Chaumont, N., Perelman, A., Lacayo, M. Mandle, L., Hamel, P., Vogl, A. L., Rogers, L., Bierbower, W. (2015). InVEST+VERSION + User's Guide. The Natural Capital Project, Stanford University, University of Minnesota, The Nature Conservancy, and World Wildlife Fund. Accessed on 19 September 2018 at 🔗 (9.5 MB)

VERSIONS AND/OR MODIFICATIONS

Various updates since first release in 2007. Current version is 3.5.0. (2018)

REVIEWS

Tallis, H., S. Polasky (2009). Mapping and valuing ecosystem services as an approach for conservation and natural-resource management. Annals of the New York Academy of Sciences 1162: 265–283. Accessed on 19 September 2018 at 🔗

Ruckelshaus, M., McKenzie, E., Tallis, H., Guerry, A., Daily, G., Kareiva, P., Polasky, S., Ricketts, T., Bhagabati, N., Wood, S.A., Bernhardt, J. (2015). Notes from the field: Lessons learned from using ecosystem service approaches to inform real-world decisions. Ecological Economics Volume 115, 11–21 pp. Accessed on 19 September 2018 at 🔗

Guerry, A. D., M. H. Ruckelshaus, K. K. Arkema, J. R. Bernhardt, G. Guannel, Choong-Ki Kim, M. Marsik, M. Papenfus, J. E. Toft, G. Verutes, S. A. Wood, M. Beck, F. Chan, K. M. A. Chan, G. Gelfenbaum, B. D. Gold, B. S. Halpern, W. B. Labiosa, S. E. Lester, P. S. Levin, M. McField, M. L. Pinsky, M. Plummer, S. Polasky, P. Ruggiero, D. A. Sutherland, H. Tallis, A. Day & J. Spencer (2012). Modeling benefits from nature: using ecosystem services to inform coastal and marine spatial planning. International Journal of Biodiversity Science, Ecosystem Services & Management 8 (1-2):107–121. Accessed on 19 September 2018 at 🔗

DOCUMENTED EXPERIENCE

❖ Natural Capital Project has used InVEST in 20 decision making processes worldwide, including in a development context 🔗

TOOL 45 Continued

RELATED RESOURCES/FURTHER READING

A wide range of related resources – many with links to abstracts or full text – is listed at 🔗

Learning resources (online courses etc.) are listed at 🔗

Descriptions for application of the methodology for specific ES (carbon sequestration, pollination, water purification, nutrient retention, recreation, sediment retention, etc.) are provided at 🔗 (Search Method Database for InVEST)

3.7 GOVERNANCE

3.7.1 | GENERAL

TOOL 46	GOVERNANCE OF PROTECTED AREAS: FROM UNDERSTANDING TO ACTION
🧭	English 🔗	French 🔗	Spanish 🔗
2013	IUCN WCPA

TYPE	PURPOSE
Guideline including concepts, case studies and assessment methodology	1. Understanding and reflecting the concept of governance in the context of protected areas 2. Assessing the governance situation in PA systems and in individual protected areas with a focus on governance diversity and governance quality as well as identifying options for action

STRUCTURE AND FUNCTION

Guideline document consisting of two core parts. Additionally, IUCN provides three annexes that are not part of the document itself.

Part 1 – Understanding governance – explains key concepts, introduces the four different protected area governance types recognised by IUCN and the IUCN Protected Area Matrix, explores the issue of governance diversity in a PA system, describes different degrees of participation by introducing the governance continuum and sets out five principles of good governance for protected areas with detailed considerations underpinning each.

Part 2 – Towards effective action – offers practical guidance on assessing, evaluating and improving governance for a given protected area system or for a single site including tools, key questions and ideas for improvement. It also provides suggestions for a four-step multi-stakeholder process to conduct governance assessments.

Annexes (provided in a separate document):

- ❖ DOs and DON'Ts in recognising and supporting Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs),
- ❖ A group exercise to examine and discuss governance quality
- ❖ Suggested indicators for monitoring governance quality

TYPICAL USE

- ❖ Reviewing and adapting the policy, legal and regulatory framework for protected and conserved areas systems
- ❖ Identifying potential for expanding/improving a PA system/network
- ❖ Reviewing and adapting processes of decision-making in individual protected areas as to their effectiveness, inclusiveness and equitability

ADDITIONAL POTENTIAL USES

- ❖ Assessing and improving PA governance with a view to meeting the IUCN Green List standards in the governance dimension.

LEVEL OF APPLICATION

Individual PAs and PA systems (two separate methods included)

TOOL 3 Continued

SKILLS AND RESOURCES REQUIRED

The skills and resources required depend on the purpose of use and geographical and topic scope of the assessment.

For a participatory governance assessment a small team comprising trusted individuals who are able to communicate with and convene a broad variety of rightsholders and stakeholders is suggested to design and facilitate the process. It may be useful to include an expert on governance issues and a professional facilitator. Particularly a system level assessment needs to draw on spatial data management expertise. The process will need a convening agency and resources for workshops and potentially for data gathering or mapping work.

STRENGTHS	WEAKNESSES
❖ comprehensive clarification of concepts illustrated by examples ❖ based on a wide range of experiences around the world ❖ provides broad guidance for PA governance assessments that can be adapted to different needs and purposes ❖ in line with international policies provided by the Convention on Biological Diversity	❖ assessment methodology needs adaptation to specific contexts and practical application ❖ suggested comprehensiveness of assessments can seem over-whelming

REFERENCE

Borrini-Feyerabend, G., N. Dudley, T. Jaeger, B. Lassen, N. Pathak Broome, A. Phillips and T. Sandwith (2013). Governance of Protected Areas: From understanding to action. Best Practice Protected Area Guidelines Series No. 20. Gland, Switzerland: IUCN. xvi + 124pp. Accessed on 5 October 2018 at 🔗 (5,75 MB)

DOCUMENTED EXPERIENCE

Six case studies (including from Brazil, Colombia, Nepal and Senegal) are included in the guidelines document.

Experience from German development cooperation: Governance assessment of the Hin Nam No National Protected Area for equitable and effective management (chapter 4.1 ▶)

RELATED RESOURCES/FURTHER READING

Borrini-Feyerabend, G., P. Bueno, T. Hay-Edie, B. Lang, A. Rastogi and T. Sandwith (2014). A primer on governance for protected and conserved areas, Stream on Enhancing Diversity and Quality of Governance, 2014 IUCN World Parks Congress. Gland, Switzerland: IUCN. Accessed on 20 January 2020 on 🔗

Convention on Biological Diversity (2018): Protected and conserved areas governance in the Convention on Biological Diversity: A review of key concepts, experiences, and sources of guidance. Subsidiary Body on Scientific, Technological and Technical Advice, CBD/SBSTTA/22/INF/8. Montreal: CBD. Accessed on 20 January 2020 at 🔗

Convention on Biological Diversity (2018): Decision adopted by the Conference of the Parties to the Convention on Biological Diversity 14/8: Protected areas and other effective area-based conservation measures. Sharm El-Sheikh: CBD. Accessed on 20 January 2020 at 🔗

IUCN, World Commission on Protected Areas (WCPA) and Assurance Services International (ASI) (2019). IUCN Green List of Protected and Conserved Areas: User Manual, Version 1.2. Gland, Switzerland: IUCN. Accessed on 20 January 2020 at 🔗

›› 3.7.1 General

TOOL 47	GOVERNANCE ASSESSMENT OF PROTECTED AREAS (GAPA)
⌖	English 🔗
2018	International Institute for Environment and Development (IIED)

TYPE	PURPOSE
Methodology manual for process facilitators	Multi-stakeholder-led methodology for assessing the effectiveness, equity and sustainability of governance within protected areas and other conserved areas (CAs).

STRUCTURE AND FUNCTION

Collection of methods and tools consisting of **two main sections** and an extensive list of annexes.

Section A serves as an introduction to GAPA and contains background information on governance and key concepts that underpin the methodology.

Section B is a step-by-step guidance which outlines the different phases of GAPA: Preparation (I), Scoping (II), Information Gathering (III), Assessing (IV), Taking Action (V).

Based on IUCN's framework of governance principles and considerations GAPA presents 11 principles of good PA/ CA governance which encompass the core principles of participation, transparency, accountability as well as mitigation of negative impacts and benefit sharing.

The GAPA methodology uses a combination of i) key informant interviews and focus group discussions to identify the governance strengths and chal-lenges and ideas for action and ii) stakeholder workshops to discuss and validate the results and review the ideas for action to improve the situation. There is an optional extra: iii) a site-level governance scorecard to provide a quantitative assessment of PA/CA-related governance issues and the diversity of views on these issues within and across communities.

A variety of tools can be found in the annex, including assessment plans, workshop agendas, templates for stakeholder analysis, communications strategy, action planning and progress monitoring as well as resources for information gathering and reporting.

TYPICAL USE

GAPA can be used

❖ as a **health check** to determine governance strengths and challenges and identify issues that need attention,
❖ as a **diagnostic** to understand the underlying causes of challenges and identify actions that could improve the situation
❖ and to establish a baseline for **monitoring** changes in governance over time.

ADDITIONAL POTENTIAL USES

Preparation for achieving Green List standards (and certification) in the governance dimension.

LEVEL OF APPLICATION

PAs and other CAs: Focused on site level, but able to contribute to system-level governance assessment.

SKILLS AND RESOURCES REQUIRED

❖ Prior experience of facilitating group discussions and conducting interviews.
❖ Third party technical support such as an in-country NGO, university or consulting firm with some social research expertise will be beneficial.

TOOL 47 Continued

STRENGTHS	WEAKNESSES
❖ Universally applicable to PAs of any governance type and management category ❖ Multi-stakeholder: engaging all key actors determined by stakeholder analysis ❖ Self-assessed: conducted by stakeholders, not external experts ❖ Socially differentiated and able to capture different social groups' perspectives ❖ Action-oriented: generating ideas for action to address identified challenges ❖ Standardised, yet adaptable: using the same process, good governance principles and methods, yet able to focus on a site's specific priorities	Due to its recency, GAPA remains work in progress. At the time of publishing the toolkit, the final action phase which provides a structured approach to applying results and reviewing progress is still being tested and developed at different sites. Furthermore, a multi-stakeholder approach like GAPA will only work under certain conditions and needs strong, impartial facilitation. In situations where in-depth governance assessment is neither advisable nor feasible, IIED's Social Assessment for Protected and Conserved Areas methodology (SAPA) could be more adequate (cf. Related resources).

REFERENCE

Booker F and Franks P (2019). Governance Assessment for Protected and Conserved Areas (GAPA). Methodology manual for GAPA facilitators. IIED, London. Accessed on 20 January 2020 at 🔗

DOCUMENTED EXPERIENCE

Six case-studies from Bangladesh, Kenya, Philippines and Uganda are documented in the IIED Working Paper on the same subject (cf. Related resources).

RELATED RESOURCES/FURTHER READING

Franks, P and Booker, F (2018). Governance Assessment for Protected and Conserved Areas (GAPA): Early experience of a multi-stakeholder methodology for enhancing equity and effectiveness. IIED Working Paper, IIED, London. 🔗

Franks P, Small R, and Booker F (2018). Social Assessment for Protected and Conserved Areas (SAPA). Methodology Manual for SAPA Facilitators. IIED, London 🔗

3.7.2 | COLLABORATIVE MANAGEMENT / SHARED GOVERNANCE

TOOL 48	SHARING POWER – A GLOBAL GUIDE TO COLLABORATIVE MANAGEMENT OF NATURAL RESOURCES
	English 🔗	French 🔗
2004	IIED, IUCN and partners

TYPE	PURPOSE
Guideline including tool descriptions and case studies	Supporting co-management practitioners in understanding, establishing and further developing collaborative management of natural resources in a "learning by doing" approach. It includes practical guidance and tools on how to organise, negotiate and implement co-management agreements.

STRUCTURE AND FUNCTION

The guideline is divided into four parts and eleven chapters:

Part I. Towards a contextual framework

1. Managing natural resources: a struggle between politics and culture (introduction of the different interests towards natural resource use)
2. Actors, entitlements and equity in natural resource management (description of actors and associated rights)
3. Co-management of natural resources (characteristics of co-management)

Part II. Towards effective processes

4. A point of departure (identification of feasibility for collaboration)
5. Preparing for the partnership (organisational aspects before the start of the negotiations)
6. Negotiating the co-management agreement and organisation (agreeing rules and procedures and managing the negotiation process)

Part III. Towards effective institutions

7. Co-management agreements (forms and functions of agreements)
8. Co-management organisations (types and characteristics of organ-isations)
9. Learning-by-doing in co-management institutions (flexible procedures to ensure successful co-management)

Part IV. Towards an enabling social context

10. Natural resource policy and instruments (features of a supportive policy environment)
11. Empowering civil society for policy change (possibilities for civil participation)

Each chapter encompasses multiple case studies, amounting to 121 in total both from the global South and North. Chapters 2, 4–7, 9–11 also include 31 practical checklists on specific aspects of co-management.

TYPICAL USE

❖ Establishing new arrangements for co-management of natural resources
❖ Reviewing and adapting existing co-management arrangements

ADDITIONAL POTENTIAL USES

❖ Informing development of policy and legal frameworks on co-management of natural resources

LEVEL OF APPLICATION

Not specific to PAs but can be applied to PAs at the site level

TOOL 48 Continued

SKILLS AND RESOURCES REQUIRED

❖ Skills and resources required for applying the tools presented vary.

STRENGTHS	WEAKNESSES
❖ Builds on vast practical knowledge on co-management processes (predominantly in PAs) around the world ❖ Offers a wealth of illustrative examples ❖ Provides guidance for stepwise processes and checklists for practitioners	❖ The comprehensiveness and wealth of information can be overwhelming. ❖ Although the processes and approaches described are still pertinent to any co-management arrangement, they may not fully reflect more recent developments in conservation policy.

REFERENCE

Borrini-Feyerabend, G., Pimbert, M., Taghi Farvar, M., Kothari, A., Renard, Y. (2007). Sharing Power. A global guide to collaborative management of natural resources. The International Institute for Environment and Development (iied), The World Conservation Union (IUCN), The IUCN Commission on the Environmental, Economic and Social Policy (CEESP), The CEESP Collaborative Management Working Group (CMWG), Centre for Sustainable Development (CENESTA). UK and USA: Earthscan. 473 pp. ⌀ Accessed on 18 April 2019.

VERSIONS AND/OR MODIFICATIONS

❖ First edition (2004)
❖ Second edition (2007) as Earthscan publication
❖ Published ebook (2013)

DOCUMENTED EXPERIENCE

The majority of the 121 case studies are situated in PAs

RELATED RESOURCES/FURTHER READING

Beltrán, J. (2000). Indigenous and traditional peoples and protected areas: principles, guidelines and case studies. Gland, Switzerland: IUCN, 2000. xi, 133pp. Accessed on 5 April 2019 at ⌀ (2,17 MB)

Borrini-Feyerabend, G., A. Kothari, G. Oviedo (2004). Indigenous and Local Communities and Protected Areas: Towards Equity and Enhanced Conservation. Gland, Switzerland and Cambridge, UK: IUCN. xviii + 111 pp. Accessed on 5 October 2018 at ⌀ (2,24 MB)

3.7.3 | INDIGENOUS PEOPLES' AND COMMUNITY CONSERVED TERRITORIES AND AREAS (ICCAS)

TOOL 49	A TOOLKIT TO SUPPORT CONSERVATION BY INDIGENOUS PEOPLES AND LOCAL COMMUNITIES: BUILDING CAPACITY AND SHARING KNOWLEDGE FOR INDIGENOUS PEOPLES' AND COMMUNITY CONSERVED TERRITORIES AND AREAS (ICCAS) ("THE ICCA TOOLKIT")
⌖	English 🔗
2013	UN Environment-WCMC (publisher), UNDP

TYPE	PURPOSE
Collection of methods, tools, resources and case studies	Provision of resources for the purpose of building community capacities to effectively manage ICCAs.

STRUCTURE AND FUNCTION

Guideline document consisting of introductory part (including definitions), compilation of methods, tools and case examples organized in five themes, including many links to more specific tools, ordered by themes/purposes.

Themes:

1. Documenting Presence. Provides solutions for communities to establish proof of its physical presence on the land or sea through various formats, such as paper claims or maps.
2. Management Planning.
3. Monitoring and Evaluation. Helps communities to engage in monitoring of the natural resources and livelihoods. Shows how evaluating progress at regular intervals, especially through participation of community members, ensures that monitoring is locally meaningful, and can be used for adaptive learning.
4. Communication. Various communication methods are presented for local organizations to draft and create their own narratives and communications.
5. Values and Finance. Supports communities who govern and manage ICCAs to access appropriate re sources, including finance, which are in line with their local value systems, and can help support their conservation initiatives.

TYPICAL USE

Community-based organisations build their capacities for effective ICCA management and governance

ADDITIONAL POTENTIAL USES

❖ Informing organisations that support communities in managing and conserving their territories and areas (e.g. government, development cooperation)
❖ Learning
❖ CEPA

LEVEL OF APPLICATION

Individual ICCAs (system level application possible)

SKILLS AND RESOURCES REQUIRED

Implementation costs vary depending on tools chosen and context. Typical use will require the capacity (in terms of network/access, logistics, facilitation, equipment and financial resources) to conduct training and participatory planning workshops.

TOOL 49 Continued

STRENGTHS	WEAKNESSES
❖ Developed specifically for use by local communities and civil society organizations ❖ Clear and simple structure that is based on user needs ❖ Many links to more specific resources, including methodologies and online tools	❖ Relatively recent so only limited experience with use available ❖ Will need regular updating, particularly regarding cross-linked tools and resources (URLs)

REFERENCE

Corrigan, C., T. Hay-Edie (2013). A toolkit to support conservation by indigenous peoples and local communities: building capacity and sharing knowledge for indigenous peoples' and community conserved territories and areas (ICCAs). Cambridge, UK: UNEP- WCMC. 72 pp. Accessed on 5 October 2018 at 🔗 (5 MB)

DOCUMENTED EXPERIENCE

17 case studies, including from Cambodia, Colombia, Ecuador, Ethiopia, Gambia, Indonesia, Iran, Mexico, Peru, Philippines and Senegal, are included in the guideline document.

RELATED RESOURCES/FURTHER READING

ICCA Consortium 🔗
ICCA Registry (online platform for ICCAs, provides data, case studies, maps etc.) Accessed on 5 October 2018 at 🔗

Gombos, M., Atkinson, S., Green, A., & Flower, K. (Eds.). (2013). Designing Effective Locally Managed Areas in Tropical Marine Environments: A Booklet to Help Sustain Community Benefits through Management for Fisheries, Ecosystems, and Climate Change. Jakarta, Indonesia: USAID Coral Triangle Support Partnership. 🔗 Accessed on 19 February 2019

3.7.4 | RIGHTHOLDER AND STAKEHOLDER ANALYSIS AND PARTICIPATION

TOOL 50	FREE, PRIOR AND INFORMED CONSENT (FPIC)

TYPE	PURPOSE
Standard, principle and process	Safeguard the collective rights of indigenous peoples (and local communities) to self-determination by enabling them to negotiate the conditions under which the project / activity will be designed, implemented, monitored and evaluated. FPIC ensures that rights holders are involved in all stages of projects / activities that will affect their land, livelihoods and resources through freely chosen representatives and according to customary laws or other institutions.

STRUCTURE AND FUNCTION

What is FPIC?

❖ An internationally enshrined human rights standard that is referenced in the ILO Convention 169, the Convention on Biological Diversity (CBD), UN Declaration on the Rights of Indigenous Peoples (UNDRIP) as well as safeguards policies of international financing agencies. It is not a stand-alone right but enables a wider set of collective indigenous peoples' rights and freedoms, including the right to self-determination.
❖ A principle that a community has the right to give or withhold consent to activities that are likely to affect land and resources they own, occu-py or customarily use.
❖ It is a collective and iterative process between a project proponent (government, company, NGO, or other) and the affected community. It is not a "tick-the-box" procedure that is completed with the com-munity signing an agreement.

What does FPIC stand for?

❖ **Free**: a process self-directed by the community without coercion, intim-idation, manipulation, threat or bribery.
❖ **Prior**: consent has been sought sufficiently in advance, before the au-thorization/commencement of any project/activity; also, time re-quirements of the community's internal consultation/consensus processes have been respected.
❖ **Informed**: Information has been provided in a language and form that are easily understood by the com-munity. It should cover the (i) nature, size, pace, reversibility and scope of the project or activity; (ii) its purpose, duration and locality; (iii) information about areas that will be affected, (iv) economic, social, cultural and environmental impacts, including potential risks; (v) information on all involved actors, and (vi) the procedures that the project or activity may entail (permits, licenses, administrative procedures).
❖ **Consent**: The right of indigenous peoples to give or withhold their con-sent to any decision that will impact their lands, territories, resources, and livelihoods.

TYPICAL USE

FPIC becomes relevant or, depending on the country, legally binding in any context where an indigenous community enters a relationship with a third party that intends to implement projects / activities with likely impacts on the community, their land and resources. With the rising legal recognition of indigenous peoples' rights in international law and instruments, the use of FPIC has grown significantly, encompassing develop-ment projects in infrastructure and extractive industries as well as in forestry, REDD+ and protected areas.

In the context of conservation, FPIC is applicable when establishing a new protected area, expanding an ex-isting area or elaborating / adjusting PA management plans and use regulations that will affect indigenous communities living within or adjacent to the area or that will affect the lands, territories and resources they have traditionally owned and used.

Beyond the legal requirement, following an iterative two-way FPIC process is a respectful and meaningful tool to engage with indigenous peoples and local communities. It can create transparency on the project/ activity as well as on the community's culture, governance and traditional use of land and resources.

TOOL 50 Continued

ADDITIONAL POTENTIAL USES

Respecting FPIC and following the respective processes, can:

❖ Increase the mutual understanding between indigenous peoples / local communities and external actors and contribute to mutually beneficial cooperation;
❖ Promote and strengthen customary decision-making processes as well as customary or other institutions;
❖ Contribute to improved governance and self-determination beyond the project /activity, through tools employed in FPIC process (e.g. socio-economic research, leadership training, capacity-building, stakeholder, land and resource mapping, etc.)

LEVEL OF APPLICATION

Mainly PA level; possibly for selected communities within PA

SKILLS AND RESOURCES REQUIRED

Respecting FPIC and reaching robust and legitimate outcomes will require:

❖ Time, as the rights-holders need to be consulted fully and effectively to understand, appraise and analyse the project for as long as they deem necessary.
❖ Wide participation, as broad involvement of the affected community may increase the legitimacy of the decision taken and reduce the risk of conflict, dispute or grievances at later stages. Also, including different interest groups will consider the diversity of values, uses and resources that may be present in heterogenous communities.
❖ Resources, as meaningful engagement with a community will require investments in people, capacity building, communication materials as well as technical and legal advice.
❖ Mutual trust and respect, as transparent, two-way communication, repeated negotiation and good-faith engagement are fundamental building blocks of a meaningful FPIC process.
❖ Cultural sensitivity, as indigenous peoples will have cultural norms that are likely to shape consultation processes, decision-making mechanisms as well as time requirements.
❖ Accepting a "no" by the community, as a rejection of the project/activity is an equally legitimate outcome of an FPIC process.

STRENGTHS	WEAKNESSES
❖ The meaningful application of FPIC: ❖ Means that duty-bearers (primarily the state, but also companies, NGOs) and rights-holders (IP, local communities) follow a human-rights-based approach to conservation projects and PA management in particular. ❖ Minimizes the risk for the state, companies and NGO that disputes escalate into conflicts, jeopardizing the sustainability of the project. ❖ Contributes to establishing open, equitable and culturally appropriate relations between IP and third-party stakeholders. ❖ Furthers understanding/recognition of the strong cultural and spiritual ties many IP have with their land and territories.	❖ Given the diversity of legal, social, economic and cultural contexts, there is no "one-size-fits-all" approach for FPIC. Technical, legal and anthropological advice as well as capacity building may be required to make the process meaningful for the specific community. ❖ Projects/activities are often highly complex and require a high degree of information. Getting the right balance for providing full and accurate information without raising expectations or confusing community members constitutes a challenge. ❖ The manipulation of traditional institutions and decision-making pro-cesses by indigenous elites (elite capture) constitutes a risk for the project's overall legitimacy. ❖ Following indigenous peoples' or local communities' decision-making processes is time-consuming and resource intensive. Considering FPIC as part of project development and duly following it can however enhance the legitimacy and hence sustainability of the intervention. ❖ The representation of women and marginalized groups may not always be guaranteed in traditional institutions and decision-making processes and thus requiring additional attention.

TOOL 50 Continued

REFERENCE

There are manifold reference documents on FPIC, including practical guidelines, toolkits as well as full studies and reports. Listed here are a position paper as well as five practical guidance documents. For further information on lessons learned, see 'documented experience' and 'related resources' below.

Report of the International Workshop on Methodologies Regarding Free, Prior and Informed Consent. E/C.19/2005/3, United Nations Economic and Social Council. 🔗

Fauna & Flora International's position on free, prior and informed consent. FFI, May 2019 🔗

Implementing free, prior, and informed consent (FPIC): A Forest Stewardship Council Discussion Paper. March 2018. 🔗

Respecting free, prior and informed consent: Practical guidance for governments, companies, NGOs, indigenous peoples and local communities in relation to land acquisition. Food and Agriculture Organization (FAO), Rome 2014. 🔗

RECOFTC – The Center for People and Forests & Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH: Free, Prior, and Informed Consent in REDD+: Principles and Approaches for Policy and Project Development. Bangkok, 2011. 🔗

Theresa Buppert and Adrienne McKeehan. Guidelines for Applying Free, Prior and Informed Consent: A Manual for Conservation International. Arlington, VA: Conservation International, 2013. 🔗

REVIEWS

Marcus Colchester and Maurizio Farhan Ferrari. Making FPIC Work: Challenges and Prospects for Indigenous Peoples. Forest Peoples Programme, Moreton-in-Marsh, 2007. 🔗

DOCUMENTED EXPERIENCE

Project case study: Inclusive processes of consultation with indigenous communities to underpin sustainable development in the Mesoamerican Biological Corridor (chapter 5.1 ▶)

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), Deutsches Institut für Menschenrechte. Promising Practices – On the human rights-based approach in German development cooperation: Consult – Consent – Cooperate: Integrating indigenous practices in biodiversity conservation in the Agusan Marsh, Mindanao, Philippines, 2015. Accessed on 20 January at 🔗

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ). Negotiating with the Spirits: Recognizing the Conservation Values of Indigenous Knowledge Systems and Practices of the Agusanon Manobo, Agusan del Sur, Philippines, 2017. Accessed on 20 January at 🔗

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Assessing Free and Prior Informed Consent (FPIC) implementation in the Philippines, 2013. 🔗

TOOL 50 Continued

RELATED RESOURCES/FURTHER READING

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), A/RES/61/295. United Nations General Assembly, 13 September 2007. 🔗

Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security (VGGT), Food and Agriculture Organizations of the United Nations (FAO), Rome, 2012. 🔗

International Finance Corporation (IFC) Performance Standard 7 on Indigenous Peoples (2012). 🔗

Indigenous and Tribal Peoples Convention (Convention 169), International Labour Organization (ILO), Geneva, 1989. 🔗

Cathal M. Doyle. Indigenous Peoples, Title to Territory, Rights and Resources: The Transformative Role of Free Prior and Informed Consent. Routledge, 2015 🔗

›› **3.7.4** Rightholder and stakeholder analysis and participation

TOOL 51 BIOCULTURAL COMMUNITY PROTOCOLS (BCP)

TYPE	PURPOSE
Instrument and process	Support indigenous peoples and local communities (IPLCs) to secure their rights and responsibilities and strengthen customary ways of life and stewardship of their territories and resources.

STRUCTURE AND FUNCTION

What is a BCP?

❖ It is a statement about the natural resources a community is stewarding and the traditional knowledge it uses to manage it;
❖ It proclaims rights and sets out terms and conditions for outsiders engaging with the community;
❖ It demands respectful treatment, according to prescribed standards and procedures.

A BCP is developed in a participatory, iterative process led and shaped by the community.

A BCP is usually compiled in the form of a document, which may contain the following elements:

❖ Definition of the community and its governance structure
❖ Aspiration/goal
❖ Description of natural resources and related management systems / knowledge / practices
❖ Ways of life, culture, spirituality, customary laws, values
❖ Responsibilities and duties regarding use of biodiversity – often related to customary practices
❖ Relevant rights under national and international law
❖ Conditions for access to resources/knowledge – e.g. procedure for (F)PIC
❖ Challenges faced by community

TYPICAL USE

The approach is relevant in any context where a community would like to clarify its position, rights and responsibilities in relation to the State or other external actors. The first BCPs were developed in the context of access and benefit-sharing (ABS), but the approach was soon applied also in other contexts, such as REDD+, extractive industries, large infrastructure projects or protected area management.

In all these contexts, a BCP is an instrument and process for communities to collectively identify their values, rights and interests with regard to their territories and resources and to agree on how to communicate that to outsiders.

From the perspective of external actors (government, researchers, private sector, NGOs, etc.) a BCP creates transparency with regard to local governance structures, rights and responsibilities, clarifying, for instance, who can make decisions and grant access to resources on the community's behalf. In the context of protected areas, a BCP can inform the development and implementation of (co-)management plans, as it documents customary practices of natural resource management and sustainable use.

ADDITIONAL POTENTIAL USES

A BCP process:

❖ Triggers a community dialogue on cultural values, rights and obligations regarding their natural resources and traditional knowledge, which has positive impacts on the conservation of these resources and of the community's knowledge.
❖ Includes a key element of legal empowerment. In some countries, BCPs can even be officially recognised as by-laws.
❖ Promotes the active participation of all groups within the community and can help build fair internal governance structures
❖ Can help to define "the community" in the specific context (e.g. inhabitants of a certain territory, several communities who provide the same resource or share common knowledge)

TOOL 51 Continued

LEVEL OF APPLICATION

Typically PA Level

SKILLS AND RESOURCES REQUIRED

❖ A BCP process requires a skilled facilitator who is familiar with the respective community's culture and way of life and who is trusted by the community.
❖ Developing the protocol is a complex process, in which a good understanding of the legal basis at the local, national and international level is necessary. Therefore, external legal support is usually necessary.
❖ A BCP depends on active participation. Sufficient resources are thus required to allow for regular consultation with all members and/or subgroups of the community.
❖ Depending on the context, the implementation of a BCP may require further facilitation and/or legal support in the follow-up.

STRENGTHS	WEAKNESSES
BCPs …: ❖ Make customary ways of managing and sustainably using natural resources visible and understandable ❖ Lead to greater transparency of community procedures, and therefore greater certainty for users of genetic resources and traditional knowledge ❖ Are developed within the community, through a participatory decision-making process, based on traditional norms, values and laws	❖ Being a community-led process, developing a BCP is complex. It can be time-consuming and in most cases requires external support ❖ Process could be overly influenced by certain parties, which could reinforce power asymmetries within the community ❖ Developing a BCP could raise unrealistic expectations within the community ❖ In politically sensitive contexts, actively raising issues of rights may cause conflict with external actors ❖ It may be difficult to ensure community-based monitoring and evaluation of the process and outcomes

REFERENCE

There are several sources and guidelines for BCPs. Listed here are a factsheet and three guidelines / toolkits. For further information on lessons learned, see 'documented experience' and 'related resources' below.

Lassen, B. (2012). Biocultural Community Protocols. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn and Eschborn, Germany. 2 pp. Accessed on 10 October 2018 at 🔗 (9.5 MB)

Shrumm, H., Jonas, H. (2012). Biocultural Community Protocols: A Toolkit for Community Facilitators. Natural Justice: Cape Town. 120 pp. Accessed on 26 September 2018 at 🔗 (5MB) (also available in Spanish 🔗)

LPP. (2018). Community protocols for pastoralists and livestock keepers: Claiming rights under the Convention on Biological Diversity. League for Pastoral Peoples and Endogenous Livestock Development, Ober-Ramstadt, Germany. 103 pp. Accessed on 2 October 2018 at 🔗

Heinrich-Böll Stiftung. Community Protocol Tool Box and Project Report. Accessed on 5 October 2018 at 🔗

REVIEWS

Ruiz, M. (2012). Possibilities and Limitations for a Biocultural Protocol(s) in Countries in the Andes and Amazon Basin. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn and Eschborn, Germany. 30 pp. Accessed on 10 October 2018 at 🔗

TOOL 51 Continued

DOCUMENTED EXPERIENCE

Natural Justice, ABS Capacity Development Initiative (2018): Community Protocols in Africa – Lessons learned for ABS implementation. 🔗 Accessed on 4 April 2019.

Natural Justice, ABS Capacity Development Initiative, ONG CESAREN (2017). Experiences and Lessons Learned from the Development and Implementation of Community Protocols and Procedures – Contribution to the first Assessment and Review of the Effectiveness of the Nagoya Protocol. Natural Justice. 20 pp. Accessed on 2 October 2018 at 🔗

For further documented experience, see links under "related resources / further reading".

RELATED RESOURCES/FURTHER READING

🔗 www.community-protocols.org

🔗 www.naturaljustice.org

🔗 www.absch.cbd.int/

🔗 www.abs-initiative.info/topics/integrating-iplc/

The websites contain a wide range of supplementary multimedia resources including short films, articles, books, e-learning modules and existing community protocols from Africa, America, Asia and Pacific.

UNEP and EDO NSW. (2013). Community Protocols for Environmental Sustainability: A Guide for Policymakers. UNEP, Nairobi and EDO NSW, Sydney. 82 pp. Accessed on 27 September 2018 at 🔗

IIED. (2012). Biodiversity and culture: exploring community protocols, rights and consent. Participatory learning and action, 65, 223 pp. IIED, London, UK. Accessed on 10 October 2018 at 🔗

›› **3.7.4** Rightholder and stakeholder analysis and participation

TOOL 52	GUIDELINES FOR STAKEHOLDER INVOLVEMENT IN PA MANAGEMENT. IN: PARTICIPATORY MANAGEMENT OF PAs IN THE CARPATHIAN ECOREGION.
⌖	English 🔗
2012	WWF Danube–Carpathian Programme

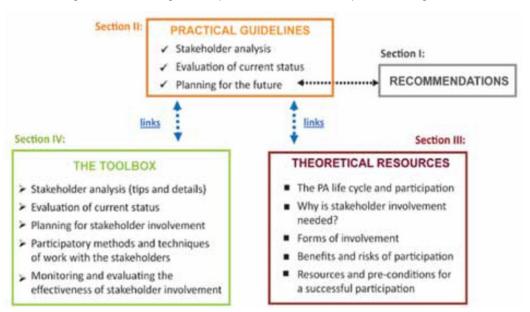| TYPE	PURPOSE
Guideline, methodology and good practice standards, collection of existing methods and tools	Guidance for stakeholder involvement by PA managers.

STRUCTURE AND FUNCTION

Guideline document consisting of a glossary, introduction, four core sections, two annexes, references and bibliography.

Section:

1. General recommendations for site-level decision makers
2. Guidelines for planning stakeholder involvement in the management of protected areas (four-step planning methodology)
3. Theoretical background
4. Participatory management toolbox (tools and methodologies on preliminary analysis, planning, participatory processes, and monitoring/evaluation)

Annex:

1. Detailed methodology for analysis, assessment and planning of stakeholder involvement
2. PA value categories, threat categories, important threats in the Carpathian ecoregion

TYPICAL USE

Development and implementation of stakeholder engagement activities in PAs

TOOL 52 Continued

ADDITIONAL POTENTIAL USES

❖ Application at PA system level
❖ Basis for assessment and monitoring of existing stakeholder engagement projects
❖ Stakeholder engagement for local non-PA conservation projects
❖ Feasibility checks for new PAs

LEVEL OF APPLICATION

Primarily site level

SKILLS AND RESOURCES REQUIRED

PDF downloadable free of charge. Application costs vary according to context.

Typical use will require the capacity (in terms of networks, logistics, equipment and financial resources) to conduct participatory consultation/planning workshops and support the continued operation of stakeholder participation mechanisms in PAs.

Several of the more specific methods described require sound facilitation and partly mediation skills.

STRENGTHS	WEAKNESSES
❖ Combination of a sound approach and good practice principles, explanation of underlying concepts, and a detailed step-by-step guidance including some worksheet templates ❖ Compendium of methods and tools ❖ Strong tools for initial situation analysis	❖ Relatively recent, so limited experience from application available to date

REFERENCE

Ioniță, A., E. Stanciu (2012). Participatory management of protected areas in the Carpathian ecoregion, Part II: Guidelines for stakeholder involvement in protected area management. Vienna: WWF Danube-Carpathian Programme. 148 pp. Accessed on 10 July 2015 at 🔗 (3MB)

RELATED RESOURCES/FURTHER READING

🔗 (including various language versions)

›› 3.7.4   Rightholder and stakeholder analysis and participation

TOOL 53	STAKEHOLDER PARTICIPATION TOOLKIT FOR IDENTIFICATION, DESIGNATION AND MANAGEMENT OF MARINE PROTECTED AREAS
	English 🔗
2013	UN Environment / Mediterranean Action Plan Regional Activity Centre for Specially Protected Areas IUCN–Mediterranean IUCN Environmental Law Center

TYPE	PURPOSE
Resource Book	Provide strategic orientations for stakeholders' participation in MPA management and planning with view to improving good governance of MPAs

STRUCTURE AND FUNCTION

Context and introduction describe the origins of the toolkit and the process of development.

Part I: Stakeholders' participation – some basic definitions as an introduction and useful classification, relevant for applying tools
Part II: Typology of protected areas governance provides an overview of the IUCN typology.
Part III: What are the main phases/actions/processes existing in MPA planning, identification, creation, and management? And where are the various categories of stakeholders usually involved for better planning, identification, creation, and management?
Provides lists detailing different phases and recommended involvement of which stakeholders on which aspects of the process.
Part IV: Participatory tools commonly used in the context of MPAs planning, identification, creation, manage-ment provides a short description of the most important tools.

In the annexes details on certain processes are described in more detail and the toolkit ends with tips and links to make stakeholder engagement a success (including e.g. tips how to conduct meetings, or resources on conflict resolution)

TYPICAL USE

Project planning and understanding options for stakeholder engagement. Introduction into the topic and overview of most important tools.

LEVEL OF APPLICATION

A single MPA or MPA network

SKILLS AND RESOURCES REQUIRED

Depends on approach or tool chosen.

STRENGTHS	WEAKNESSES
❖ Short and concise overview with well-structured lists and graphics.	❖ Level of detail is not sufficient to use the tools. ❖ No concrete examples of their application are provided. ❖ Limited geographical focus on Mediterranean

REFERENCE

Stakeholder Participation Toolkit for Identification, Designation and Management of Marine Protected Areas. RAC/SPA and IUCN-Med. Ed. RAC/SPA, Tunis. 30pp. 🔗

›› 3.7.4 R Rightholder and stakeholder analysis and participation

TOOL 54	GUIDANCE ON INTEGRATING HUMAN DIMENSIONS INTO MPA PLANNING AND MANAGEMENT

English 🔗

| 2014 | Department of Environmental and Geographical Science University of Capetown, South Africa |

TYPE	PURPOSE
Guideline including case studies	Providing an understanding of the human dimensions of MPAs as well as guidance on how human dimensions can be understood and integrated into MPA planning and management processes.

STRUCTURE AND FUNCTION

Section A: deals with understanding human dimensions and the steps and processes required for identifying, understanding and integrating human dimensions into various stages of the MPA planning and management cycle.

Section B: provides supporting information and further reading.

The core guidelines consist of eight steps:

1. Understand the context: initiate the planning process
2. Engage stakeholders
3. Identify the key values and attributes of the area
4. Develop the vision, goals and draft objectives
5. Gather further information and conduct in-depth assessments
6. Identify and evaluate different management scenarios
7. Develop or review the management plan
8. Monitoring, evaluation and adaptation

TYPICAL USE

Integration of human dimensions into MPA planning and management

ADDITIONAL POTENTIAL USES

❖ Assessment and evaluation of existing MPAs
❖ Development of system level guidance on human dimensions of MPAs
❖ CEPA
❖ Learning

LEVEL OF APPLICATION

Typically individual MPAs

SKILLS AND RESOURCES REQUIRED

Typical use requires the capacity (in terms of logistics, facilitation, equipment and financial resources) to conduct participatory consultation/planning workshops and integrate the results in PA management systems.

Because of the interdependency of integrating human dimensions with the overall management system, sound knowledge, understanding and skills in PA management planning are usually also required.

TOOL 54 Continued

STRENGTHS	WEAKNESSES
❖ Clear approach and eight-step methodology ❖ Good documentation and explanation, which helps to set out the rationale and justification of the approach ❖ High quality production and illustrations of guidelines	❖ Limited initial geographical focus (mainly South Africa)

REFERENCE

Sowman, M., S. Raemaekers, J. Sunde (2014). Guidelines for integrating human dimensions into MPA planning and management. Cape Town, South Africa: WWF Neobank Green Trust and University of Capetown. 140 pp. Accessed on 5 October 2018 at 🖉

DOCUMENTED EXPERIENCE

Main focus is on South Africa. Nine case studies included in guideline document, including from Fiji.

›› 3.7.4   Rightholder and stakeholder analysis and participation

TOOL 55	AUDUBON TOOLS FOR ENGAGEMENT
🧭	English 🔗
2011	Audubon Society (publisher–BirdLife USA), in cooperation with the U.S. Fish and Wildlife Service, the Environmental Education and Training Partnership (EETAP) and TogetherGreen

TYPE	PURPOSE
Methodology and collection of specific tools/methods	Guidance on how best to engage people in any type of nature conservation work, including PAs.

STRUCTURE AND FUNCTION

Guideline document consisting of an introduction, a 20-step guide to successful engagement of people (organized in eight chapters within four sections), a collection of 34 more specific approaches, methods and tools, and an appendix including a glossary and a list of further resources and case studies.

Eight core chapters:

1. Getting started
2. What are you trying to do?
3. What's causing the problems?
4. Who do you need to engage and why?
5. Getting to know your audience
6. Developing messages that matter
7. Exploring the social strategies
8. Moving from planning to action

The guidelines are meant as an open framework that can be adapted to the context of each individual planning process. They are meant to be used in conjunction with general conservation planning approaches, such as the Open Standards for the Practice of Conservation.

As of 2018, the guideline has been complemented by two additional modules (see related resources). Two more are in preparation.

TYPICAL USE

Developing strategies and plans to engage stakeholders in any type of conservation project or activity, including PAs.

ADDITIONAL POTENTIAL USES

❖ Assessment and evaluation of outreach elements of existing conservation projects
❖ Learning
❖ Application to non-biodiversity related projects

LEVEL OF APPLICATION

Applicable at all levels, from individual PAs to international policy

SKILLS AND RESOURCES REQUIRED

Toolkit document and additional modules downloadable free of charge. Required skills and resources vary depending on tools chosen and context.

TOOL 55 Continued

STRENGTHS	WEAKNESSES
❖ General nature of approach and wide applicability ❖ Wide range of specific methods for stakeholder engagement included ❖ Compatibility with Open Standards for Practice of Conservation and other planning frameworks ❖ High quality publication and website, including effective graphics	❖ Relatively complex structure ❖ Not PA specific (but widely applicable to PAs)

REFERENCE

Braus, J. (Editor) (2011). Tools of Engagement: A Toolkit for Engaging People in Conservation. Washington, D.C.: Audubon Society. 215 pp. Accessed on 15 June 2015 at 🔗 (16,5 MB)

RELATED RESOURCES/FURTHER READING

Related resources are available at 🔗 Two resources have been published already:

Bonta, M., T. DeFalco, C. Taylor Smith (2015). Diversity and the Conservation Movement. New York: The National Audubon Society. 44 pp. Accessed on 13 November 2018 at 🔗

Ardoin, N., J. Heimlich, J. Braus, C. Merrick (2013). Influencing Conservation Action: What the Research Says About Environmental Literacy, Behavior, and Conservation. New York: The National Audubon Society. 87 pp. Accessed on 13 November 2018 at 🔗

Additional resources are in preparation.

3.7.5 | CONFLICT RESOLUTION

TOOL 56	UNDERSTANDING, PREVENTING AND SOLVING LAND CONFLICTS: A PRACTICAL GUIDE AND TOOLBOX
⚲	English 🔗
2017	GIZ

TYPE	PURPOSE
Guideline including tool descriptions and case studies	The Guideline aims to broaden the understanding of the complexity of causes that lead to land conflicts in order to provide for more targeted ways of addressing such conflicts. For this purpose, it provides tools and options that can be used to analyse and settle ongoing land conflicts, and to prevent new ones.

STRUCTURE AND FUNCTION

The guideline is divided into eight chapters:

1. Introduction (examples of land conflicts; defining land conflicts)
2. Understanding land conflicts (different types of land conflicts and consequences and social dimension)
3. Analysing land conflicts (type of information/data needed for land conflict analysis; tools to visualize and analyse land conflicts)
4. Dealing with land conflicts (approaches to uncover hidden land conflicts; forms of land conflict resolution; tools to solve land disputes)
5. Preventing land conflicts (creating awareness; establishing institu-tional framework; tools to prevent land dispute)
6. The role of land in (violent) conflict and peacebuilding (land as cause of broader conflicts; the role of land during and post-conflict settings)
7. Case studies – Good practices from a project level
8. Conclusion

Each chapter (except No. 7 and No. 8) ends with concepts for review, questions for discussion, exercises and further reading. In addition, Chapter 3 – 5 provide tools to support the process of solving land conflicts.

TYPICAL USE

❖ Search for overview information and guidance to better understand land conflicts and options for action in a project context
❖ Support in processes of analysing, settling or preventing land conflicts

ADDITIONAL POTENTIAL USES

❖ The end of chapter notes can be used for general courses on land administration and land management

LEVEL OF APPLICATION

Level of application depends on purpose. If it is used to analyse land dis-putes it would typically be at the individual PA or sometimes at the PA system level.

SKILLS AND RESOURCES REQUIRED

❖ Skills and resources required for applying the tools presented vary.

TOOL 56 Continued

STRENGTHS	WEAKNESSES
❖ Provides clear definitions and explanations of terms and concepts illustrated by examples ❖ Includes good practice case studies ❖ Broad overview over tools regarding land conflicts ❖ Includes further reading, concepts for review, question for discussion and exercises to deliberate the lessons learned	❖ Need of external support (e.g. mediator) for the application of tools presented ❖ Not PA-specific

REFERENCE

Wehrmann, B. (2017). Understanding, preventing and solving land conflicts. A practical guide and toolbox. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn/Eschborn; Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), Berlin. 156 pp. (2,844 KB) Accessed on 17 September 2018 🔗

VERSIONS AND/OR MODIFICATIONS

❖ First edition (2008)
❖ Revised second edition (2017)

DOCUMENTED EXPERIENCE

Of six case studies two are PA-related (Laos, Philippines).

RELATED RESOURCES/FURTHER READING

An accompanying Training Manual can be obtained upon request at 🔗

Further readings for the specific tools and methods are included in the Guideline.

E-learning course: FAO. (2014). Addressing Disputes and Conflicts over the Tenure of Natural Resources. Accessed on 17 September 2018 at 🔗

Food and Agriculture Organization of the United Nations. (2012). Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Food and Agriculture Organization of the United Nations, Rome. 40 pp. Accessed on 17 September 2018 at 🔗

4

EXPERIENCES with selected tools in projects of German technical cooperation

4.1 GOVERNANCE ASSESSMENT IN HIN NAM NO NPA – FOR EQUITABLE AND EFFECTIVE MANAGEMENT

▶ The objective of the Hin Nam No project is that the NPA Management Authority and local communities conserve the biodiversity in Hin Nam No (HNN) National Protected Area (NPA) in mutual agreement through a co-management approach.
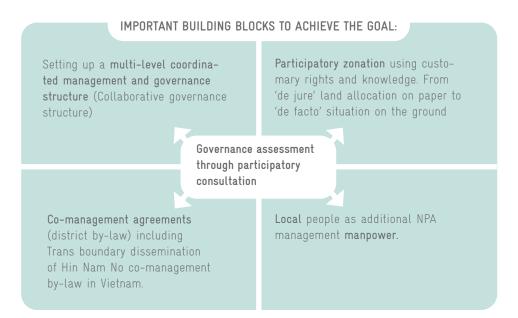
›› METHOD

Entry point for the governance assessment was the need for advice and poor results during the project Progress Review in January 2013. The project rating was unsatisfactory and negative results are predominant despite identifiable positive results. This was due to the difficult institutional situation (e.g. transition from responsible Ministries, the delay in implementation and the misconception of the co-management concept). The project strategy and steering were lagging behind expectations. Benefit and necessity of participatory management was widely accepted, but it became obvious that key stakeholders had different conceptions of what the participatory approach means in practice. Some people equated the right to participate in forest protection as an obligation to help implement existing laws. It was important for stakeholders to become aware that true participation is voluntary and motivated by self-interest. Consequently, the obligations and duties must be linked to rights and privileges. Most importantly, the participatory management is a partnership. Thus if local people want to become partners with protected area management, we need to help them build the necessary structure and organization to act effectively.
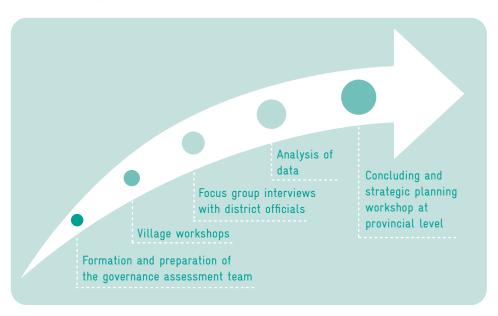
›› MAIN CHALLENGES

❖ An increasing demand for timber, non-timber forest products and wildlife from within Laos and neighboring countries.
❖ Balancing biodiversity conservation and livelihoods of local people around Hin Nam No NPA (18 villages / 8.000 people) as it is difficult to find alternative income (NFPs; eco-tourism) that is more lucrative compared to illegal logging/poaching.
❖ Institutional weakness of proteced area authorities (staff/budget/capacity/skills/equipment).
❖ Lack of political will and poor governance as well as a lack of rule of law and law enforcement.
❖ Lack of knowledge and skills of local population.
❖ Hydropower, mining, road and other developments.
❖ Slash and burn practices.
❖ Climate change (fires; floods).

›› 4.1 Governance assessment in Hin Nam No NPA – for equitable and effective management

IMPORTANT BUILDING BLOCKS TO ACHIEVE THE GOAL:

Setting up a **multi-level coordinated management and governance structure** (Collaborative governance structure)

Participatory **zonation** using customary rights and knowledge. From 'de jure' land allocation on paper to 'de facto' situation on the ground

Governance assessment through participatory consultation

Co-management agreements (district by-law) including Trans boundary dissemination of Hin Nam No co-management by-law in Vietnam.

Local people as additional NPA management **manpower**.

›› GOVERNANCE ASSESSMENT PROCESS IN FIVE STEPS

Analysis of data

Focus group interviews with district officials

Concluding and strategic planning workshop at provincial level

Village workshops

Formation and preparation of the governance assessment team

1. **Formation and preparation (three weeks)** of the governance assessment team – NPA authority (mandate); the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (methodology and support); and local NGO (adaptation to local context and neutral facilitation) – and the team planning process and document review (e.g. International Union for Conservation of Nature (IUCN) Guidelines **Governance of Protected Areas: From understanding to action.** Development of tools, interview questionnaire and methodology.

2. **Village workshops (one week):** five workshops with selected participants from several villages (elders, women, etc.) at village cluster level to gather data/villagers' perspectives and assess the situation through group interviews and partici-

›› 4.1 Governance assessment in Hin Nam No NPA – for equitable and effective management

patory mapping; problem tree exercise and SWOT (strengths–weaknesses–opportunities–threats) analysis.

3. **Focus group interviews with district officials (one day)**: interview questionnaires and questionnaire for the (annual) good governance assessment at district level (derived from suggested indicators presented in annex 3 of the IUCN Guidelines and adapted to a METT – Management Effectiveness Tracking Tool – format).

4. Analysis of data (two weeks)

GOVERNANCE ASSESSMENT RESULTS AND SUBSEQUENT INTERVENTIONS

Benefit sharing in law enforcement

Delegation of authority to local people

Outcome governance assessment (Feb 2014)

- Unclear delegation of decision making/implementation (authority to villages)
- Governance system is ad hoc and top-down, with lack of benefit sharing
- Lack of skills and capacity; lack of involvement by women
- Unclear zonation of Hin Nam No into manageable units per guardian village
- Local rules exist but are unknown or not implemented by outsiders
- Willingness of guardian villages/village rangers to be involved in Hin Nam No management
- Law enforcement system is unclear, slow and ineffective

Proposed intervention, progress so far (Mar 2017)

- Tasks delegated to villagers through co-management bylaws
- Development and implementation of a co-mgmt plan, participatory planning/reporting and equitable revenue sharing mechanisms with local communities
- Gender-sensitive capacity development plans
- Participatory zonation and mapping of trails, park boundary and controlled-use zones
- Support for participatory development of use regulations and dissemination of co-mgmt bylaws
- Monthly participatory monitoring and patrolling based on SMART, co-mgmt bylaws and ranger protocols
- Rapid and effective response through joint law enforcement by villagers and co-mgmt agencies

Cost-effective biodiversity monitoring and patrolling (USD 50 per km^2/year)

Capacity development and empowerment of local people

Decentralised governance with inclusion of local knowledge

Access and resource use rights

5. Concluding and strategic planning workshop at provincial level (three days)

- Knowledge, understanding and sharing of results of governance assessment (village, village cluster and district level)
- Sharing experiences with political institutions (National Academy of Politics and Public Administration, NAPPA
- Identification of key bottlenecks and development of a strategic action plan
- Promotion of a collaborative governance approach via community-based solutions
- Interventions proposed by the provincial authorities

›› GOVERNANCE ASSESSMENT ANALYSIS AND LESSONS LEARNED

The results from the participatory governance assessment tool (who, how) and the Association of Southeast Asian Nations (ASEAN) Heritage Park management effectiveness self-assessment tool (what) led to acceptance of the need for more effective and equitable management of the Hin Nam No NPA.

First of all, a governance assessment brings stakeholders together to receive guidance on a shared goal. The evidence of successful implementation and the impact achieved is that more PA staff are local people, capacity development/empowerment of guardian villages and village rangers has been provided and supported, co-management committees have been set up and co-management agreements have been prepared and signed by all the authorities involved. Access and resource rights for local people are clear, understandable and respected. Poaching fines and other revenues from park-related activities are shared with local people. This approach is widely seen as a pilot participatory model for Laos's national protected areas, with the delegation of authority to local villagers, which can be extended to other areas. Several study tours to Hin Nam No NPA and a training of trainers course have already been organised, and some PAs have started replicating certain parts of the model.

›› IMPACT

- ❖ Species conservation
- ❖ Benefits for village service providers
- ❖ Improved management: increase of 15% in its Good Governance score and 13% in its Management Effectiveness score over two years (2014 – 2016)
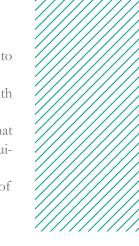
›› 4.1 Governance assessment in Hin Nam No NPA – for equitable and effective management

›› ENABLING FACTORS THAT LEAD TO SUCCESS

❖ The right people (champions) do the governance assessment (open to change).
❖ The governance assessment guidelines are adapted to the local situation with the help of a local facilitator.
❖ The governance assessment conducted leads to the acknowledgement that resources are limited and to the creation of a vision to effectively and equitably manage the NPA through shared governance.
❖ Connectivity of local people to the land makes them eager to be part of conservation.
❖ 'Good governance' is broken down into understandable pieces.
❖ Bottom-up piloting of good governance recommendations.

›› FURTHER READING

de Koning, M. et al. (2017): **Collaborative Governance of Protected Areas: Success Factors and Prospects for Hin Nam No National Protected Area, Central Laos.** Conservation and Society 15(1): 87 – 99, 2017.

de Koning, M. (2015): **Additional local manpower improves protected area management effectiveness.** In: Panorama Solutions for a Healthy Planet.

Lang, B. et.al. (2017): **Experiences and added value of participatory governance assessments of protected areas in Bangladesh, Laos and the Philippines.** E-poster. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)/Sector Network Natural Resources and Rural Development, Asia.

Franks, P., Booker, F. (2018) **Governance Assessment for Protected and Conserved Areas (GAPA) – Early experience of a multi-stakeholder methodology for enhancing equity and effectiveness.** International Institute for Environment and Development (IIED).

4.2 EXPERIENCES AND LESSONS LEARNED FROM THE APPLICATION OF METT IN GERMAN TECHNICAL COOPERATION PROJECTS

›› BACKGROUND

German technical cooperation projects that have used – or supported the introduction of – the **Management Effectiveness Tracking Tool (METT)** to assist partners in enhancing protected area management effectiveness (PAME) are shown below (Table 1).

Table 1. Projects and programmes supporting METT application to evaluate PAME

PROJECT/ PROGRAMME TITLE	COUNTRY (TERM)	AREA(S)	PROJECT OBJECTIVE	COMMENTS
Sustainable management of natural resources – GESOREN	Ecuador (2008 – 2013)	Siete Iglesias Municipal Ecological Conservation Area and Tinajillas–Río Gualaceño Forest and Vegetation Cover Area	Local people in the programme regions apply strategies and methods for sustainable natural resources management and increase their income.	PA-related indicator: monitoring results from 300,000 ha in at least two PAs supported by the programme show an improvement in the ecological situation of at least 10 points. METT was only used in some of the participating PAs.
Development of the Taï and Comoé nature conservation and economic areas in Côte d'Ivoire – PROFIAB I and II	Côte d'Ivoire (2013 – 2016 and 2016 – 2019)	Taï National Park (PNT) and Comoé National Park (PNC)	The park authorities and people living on the periphery of the parks have improved protection, the sustainability of ecosystem services and regulated economic use.	An increase in annual METT scores for the two parks is one of the project's indicators.
Protected Area Management Enhancement in the Philippines – PAME	Philippines (2013 – 2017)	64 existing and around 100 newly established protected areas	Improved protection and management of Key Biodiversity Areas is achieved in the Philippines.	Relevant indicators are improvement in the management effectiveness of 60 national PAs by at least 30 % on average and achievement of management effectiveness scores of 20 % on average in 100 PAs newly established with project support.
Biodiversity and Climate Change Project – BCCP (GIZ and ASEAN Centre for Biodiversity)	Ten countries in South-East Asia (2015 – 2019)	30 ASEAN Heritage Parks (various PA management categories)	As the body mandated to advise ASEAN member states on regional biodiversity and climate change policies and strategies, the ASEAN Centre for Biodiversity is increasingly involved in the ASEAN integration process.	Part of wider support to the ASEAN Centre for Biodiversity

›› 4.2 Experiences and lessons learned from the application of METT in German technical cooperation projects

›› WHAT NEEDS WAS METT INTENDED TO ADDRESS?

Generally, PA agencies and development projects use METT and other PAME assessment methods to assess the current state of PAME, to direct and monitor their interventions, to strengthen PA management and to document their achievements in this field:

❖ The GESOREN programme (Ecuador) used METT to inform and monitor activities aimed at improving management of two municipal PAs in Ecuador. In particular, the method was used in conjunction with a land use and land cover study to understand the initial management effectiveness of these areas, to identify high-priority areas for improvement, to direct and adapt measures aimed at achieving this and to analyse their impact.

❖ The PAME project (Philippines) formulated a central objective in PAME terms: it aimed to improve the management effectiveness of 60 existing national protected areas by at least 30%, in addition to establishing 100 new protected areas in Key Biodiversity Areas and bringing their management effectiveness up to at least 20% on average.

❖ In Taï and Comoé National Parks, (Côte d'Ivoire), METT was used to inform the implementation and revision of management and development plans, to indicate management performance to the national trust fund for protected areas and to inform periodic reporting for UNESCO World Heritage sites and for benchmarking within the national network of PAs. In addition, the project itself used METT scores as one of its outcome indicators.

❖ In the BCCP, adapted METT assessments were conducted as part of a wider assessment of 30 ASEAN Heritage Parks in order to identify their current state as well as challenges and opportunities faced by them, to identify widely applicable good practices and to formulate common regional strategic directions on the conservation and sustainable use of these PAs.

Beyond these specific needs, the PA agencies involved in these projects were interested in launching and institutionalising PAME because it responded to their commitments under the Convention on Biological Diversity, its Programme of Work on Protected Areas and its Strategic Plan 2011-2020, specifically Aichi Target 11.

›› 4.2 Experiences and lessons learned from the application of METT in German technical cooperation projects

›› WHAT PRACTICAL STEPS WERE TAKEN TO SUPPORT THE USE OF METT?

The GESOREN programme (Ecuador) proposed PAME assessments as a routine step to inform, guide and monitor its interventions in participating PAs. The programme contracted experienced facilitators who helped convene local PA staff as well as government representatives and civil society actors and conduct the assessment workshops. These were meticulously documented. In subsequent assessment runs, PA staff increasingly used the method independently.

The PROFIAB programme (Côte d'Ivoire) used METT in the same way. However, once an experienced facilitator had introduced the tool, PA staff of the Taï National Park quickly used it on their own. METT was scaled up within the national PA network by using experienced facilitators from PAs.

The PAME programme (Philippines) differed from the other projects in that it had a much wider focus (60 existing and 100 new PAs). The project partnership followed a careful stepwise process to develop and implement its PAME assessment. METT was only chosen after comparison with another locally developed PAME method, which had previously been widely used for the marine realm. Inspired by the identified advantages of that method, the METT indicators were adapted with the addition of more precise criteria to reduce the scope for variability in scoring. Six national consultant teams were contracted and trained to facilitate the assessments in 60 PAs. These were conducted in two steps: first, the consultants collected supporting documents and individual scoring results typically from 20 members of PA management boards. Then, the consultants shared the individual scoring results and their views based upon the document review and facilitated a consensus score for each indicator. As variability in scoring was still observed, a single independent consultant was contracted to review all scores and systematically recommend scores based only on available documentary evidence. These became the project's baseline scores for the 60 existing PAs to be enhanced against which further progress could later be measured.

During the BCCP for the ASEAN Heritage Parks, METT was chosen and adapted based on a desk-top study and used in two ways. Questionnaires were sent to all ASEAN parks (with a 57% return rate). In addition, they were used as a basis for on-the-ground, in-depth facilitated appraisals in five selected PAs. The results were analysed to identify common issues, opportunities and good practice in all parks. Some comparisons across areas – similar to the ones Rapid Assessment and Prioritisation of Protected Area Management (RAPPAM) is usually used for – were also drawn. This was a one-off appraisal also involving other document analysis and field inspections (in the five selected PAs). It did not address changes over time.
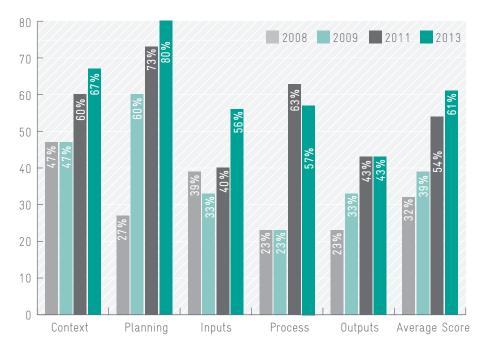
›› 4.2 Experiences and lessons learned from the application of METT in German technical cooperation projects

›› RESULTS AND IMPACTS

The GESOREN programme managed to introduce PAME – and particularly METT in those areas where it was applied – into the routine management cycle of the participating PAs. The method clearly showed advances in management effectiveness in all aspects according to the IUCN WCPA (World Commission on Protected Areas) PAME framework, which could be attributed to programme interventions (Figure 1). METT further helped managers and local authorities identify critical future directions for PAME improvement, including better management planning, implementation and financing, increased personnel, better participation, communication and inter-institutional cooperation. It was particularly effective as a basis for a collective critical self-evaluation and collective reflection on PA management, which helped PA staff and stakeholders to develop a joint understanding of a given area and its priorities. This contributed to better ownership, orientation, coordination and collaboration in PA management.

Figure 1. METT results from the Tinajillas–Río Gualaceño Forest and Vegetation Cover Area, 2008–2013 **Source:** Limón Indanza municipality – GIZ 2013.

The initial results of a METT assessment in the PAME programme (Philippines) helped design a capacity building programme and financial subsidies to enhance the management effectiveness of participating PAs. The project trained over 17,000 participants from PA agencies, local government and management partners. As a result, the management effectiveness of 64 existing PAs increased from an average rating of 34% to 50% towards the end of the project. The METT method detected improvements in all aspects of management effectiveness. It was also instrumental in justifying increases in staff numbers and resources for law enforcement and conservation.

In the case of Taï and Comoé National Parks (Côte d'Ivoire), METT results demonstrated improvements in all aspects of management effectiveness, according to the IUCN WCPA PAME framework, over a period of three years.

Lower scores in specific management issues were used to prioritise specific activities in annual operational planning. In the interest of alignment with partner agencies' monitoring instruments and because of the programme's specific objective to improve PA management, changes in METT scores were attributed with caution to project interventions and thereby used to measure achievement of the outcome indicator.

The adapted METT assessments conducted by the BCCP enabled the ASEAN Centre for Biodiversity to prioritise threats and management constraints that affect all 30 ASEAN Heritage Parks, to differentiate – with some caution – between more and less effective PAs, to compile a list of good practices which could be applied more widely and to formulate 25 strategic directions for its future support to the ASEAN Heritage Park network.

›› ENABLING FACTORS

- ❖ Successful PAME assessment requires a desire to improve PA management as well as a culture of transparency and adaptive management on the part of the participating institutions.
- ❖ A certain degree of institutional continuity and memory is necessary to pursue and measure PAME improvements in the long term. Therefore, it is necessary to incentivise experienced staff to stay in their PAs and to introduce new staff to past and ongoing PAME assessments with their results and follow-up activities.
- ❖ METT data and information needs are generally easy to satisfy, but exceptions exist in relation to some indicators. PAs that already have systems for data collection and management will find METT assessments easier.

›› LESSONS LEARNED/COMMENTS/RECOMMENDATIONS

A number of important lessons have been learned through the application of METT across these German technical cooperation projects:

- ❖ Irrespectively of the specific methodology employed, PAME assessments are useful, particularly to support PA planning and the prioritisation of actions. The adaptive management culture in which PAME assessments are embedded and the way in which the results are used are as important as the specific method chosen.
- ❖ PAME results achieve the strongest impact if shared broadly.
- ❖ PAME needs to be institutionalised at the PA or PA system level to facilitate periodic reassessments and thereby achieve optimal and sustainable results. This can be supported by including PAME in the PA budgeting process and anchoring it in standard PA procedures and staff training.

›› 4.2 Experiences and lessons learned from the application of METT in German technical cooperation projects

❖ Local government and other community representatives need to be closely involved in both the PAME assessments and in the design and implementation of measures to improve effectiveness. A multi-institutional and multi-disciplinary perspective contributes to assessment quality.

❖ METT has proven to be a simple, easy and cost-effective (both in financial and workload terms) PAME assessment methodology, which is also compatible with the IUCN WCPA PAME framework and other specific methodologies. As it is replicable, it can be used to track progress in improving PAME over time and to document achievements.

❖ It takes time for the conservation outcomes of improved PAME to become measurable, but this is a key outcome which needs to be monitored. Since METT does not detect changes in biodiversity status or provide detailed information about threats, these need to be monitored separately.

❖ METT is a relatively superficial assessment method, which cannot be used to analyse trends in PAME in depth. At the same time, users need to look beyond the specific scores and use assessments to analyse functional relationships to the extent possible. In the analysis, the information from METT must be complemented with information from other tools or methods.

❖ METT results can be communicated graphically in various intuitive ways, such as radar plots.

❖ METT assessments provide most – and the most conclusive – information if they are conducted face-to-face during site visits, rather than by mailing questionnaires to respondents and analysing the responses. This is not only because of the often limited return rate, but also because appraisal questions can be misunderstood and evaluation categories used inconsistently. Furthermore, any additional information generated by discussions that does not directly respond to any of the questionnaire's questions might be missed when using METT remotely.

❖ Special caution is needed when using METT scores to compare PAs with each other, rather than comparing scores over time for individual PAs. Some appraisal categories do not apply equally to all areas and might skew average scores if they are not pre-excluded from analysis. Since METT does not use objectively verifiable indicators, there is also the danger of subjective bias.

❖ In this respect, care also has to be taken when different language versions of the METT tool are used. The English and the French versions, for example, sometimes differ considerably. For the francophone context, it is therefore important i) to develop, from the outset, an accurate French translation of the tool based on the English version or ii) to apply the original French version but to refer to the English version in case of ambiguity over specific documentation.

›› 4.2 Experiences and lessons learned from the application of METT in German technical cooperation projects

›› REFERENCES

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4.3 EXPERIENCES AND LESSONS LEARNED FROM THE APPLICATION OF SMART IN GERMAN TECHNICAL COOPERATION PROJECTS

›› BACKGROUND

▶ Projects that have supported the introduction of the **Spatial Monitoring and Reporting Tool (SMART)** are shown in the table below together with their objectives

PROJECT TITLE	COUNTRY (TERM)	AREAS	PROJECT OBJECTIVE	COMMENTS
Management of the Sundarbans Mangrove Forests for Biodiversity Conservation and Increased Adaptation to Climate Change (SMP)	Bangladesh (2015–2019)	Sundarbans Mangrove Forests	Government agencies at the national and local level responsible for the management of the Sundarbans Mangrove Forests (SMFs) and co-management structures have implemented mechanisms that improve the management of the SMFs.	› 6,000 km^2 of contiguous mangrove forest with globally important biodiversity. Parts listed as UNESCO World Heritage Site.
Integrated nature conservation and sustainable resource management in the Hin Nam No region	Laos (2010–2018)	Hin Nam No National Protected Area	The management authority and local communities conserve the biodiversity of the Hin Nam No NPA through a mutually agreed co-management approach.	PA of 862 km^2 with significant staffing and information shortages, due to lack of funding. Tentatively listed as UNESCO World Heritage Site.
Conservation and sustainable use of forest biodiversity and ecosystem services in Viet Nam	Viet Nam (2014–2017)	Piloted in Bai Tu Long and Bidoup–Nui Ba National Parks; Pu Luong Nature Reserve	Prerequisites for conservation and sustainable use of forest biodiversity and ecosystem services are created at the central level.	Eight other national parks and nature reserves applied SMART with support from GIZ shortly after the pilot phase.
Development of the Taï and Comoé nature conservation and economic areas in Côte d'Ivoire – PROFIAB I and II (GIZ)	Côte d'Ivoire (2013–2016 and 2016–2019)	Taï National Park (PNT) and Comoé National Park (PNC)	The park agencies and people living on the periphery of the parks have improved protection, the sustainability of ecosystem services and regulated economic use of the parks.	Both national parks (3,300 and 11,400 km^2) are UNESCO World Heritage Sites. The project has an additional value chain-oriented objective.

›› WHAT NEEDS WAS SMART INTENDED TO ADDRESS?

SMART was originally designed to help PA agencies to better monitor, evaluate and adaptively manage patrolling activities. While in some of the projects it was introduced primarily for this purpose, others also used it to support general monitoring and adaptive management:

❖ In Viet Nam and Bangladesh, the projects piloted SMART to strengthen law enforcement and monitoring. In the Sundarbans, it addressed a need to summarise data from patrol teams and generate information for PA management. In the three Vietnamese pilot sites, SMART introduction initially responded to the need for monitoring and planning patrols by forest rangers. In the upscaling process, the scope of use of SMART has been gradually expanded to include contract-based community forest protection groups and the collection of information on wildlife sightings or forest processes.

❖ In Laos, SMART was brought in to help set up a community ranger system for better spatial monitoring of threats and wildlife. One specific objective, from 2017, was to replace periodic expert missions by external experts with continuous monitoring efforts by village rangers. SMART was also intended to enable the Hin Nam No NPA administration to better integrate information from trail mapping, community rangers and scientific monitoring.

❖ In Côte d'Ivoire, the entry point was a desire to revitalise PA monitoring and surveillance systems after a thorough evaluation of the surveillance strategy of Taï National Park (PNT) in 2014. This had shown that PNT surveillance was effective in terms of quality but needed to be extended over a larger area. Given the need for an efficient management and monitoring tool for this purpose and the fact that SMART became a standard tool in the management of natural UNESCO World Heritage Sites, the stakeholders opted for the use of SMART to enhance monitoring efficiency in both Taï and Comoé National Parks.

›› WHAT PRACTICAL STEPS WERE TAKEN TO SUPPORT THE USE OF SMART?

The way in which SMART was introduced differed depending on the intended purpose and circumstances. It was particularly well-documented for the Sundarbans. SMART introduction was facilitated by cooperation between the project and the Wildlife Conservation Society (WCS):

1. Forest Department (BFD) established a SMART Technical Working Group consisting of BFD staff and partners and a SMART enforcement committee for the interpretation of SMART patrol reports and management decisions.
2. A standardised approach to data collection/processing, operating procedures (SMART OPs) and a patrolling handbook were prepared to guide patrolling. These now provide a consistent framework for enforcement and monitoring.

3. Training curricula were developed, and training of trainers, basic training and more advanced specialist training (e.g. on data collection with CyberTracker for frontline staff and on SMART software, data management and reporting for mid-level staff) was conducted.

4. The newly trained patrol teams were mentored by trainers/experts for 91 days during patrols.

Building on this experience, the BFD and its partners have drawn up guidance for the introduction of SMART in additional PAs. The development of a national SMART Strategy to enable application across Bangladesh is now being considered by the BFD.

A similar approach to the one used in Bangladesh was taken in Viet Nam. In addition, a Vietnamese version of SMART was developed, making it more user-friendly for those who do not speak English.

In Hin Nam No (Laos), the introduction of SMART started with the redesigning of the database on which SMART is built to make it suitable not only for enforcement but also for wildlife monitoring. After testing, volunteers and rangers were trained to use the new database. In Côte d'Ivoire, three training modules on administration and user rights were developed. These targeted rangers, PA managers and monitoring experts as well as managers of the national protected area agency. Subsequently, the project supported an internal test of the system and on-the-job coaching of sector managers by the monitoring experts in the field.

›› RESULTS AND IMPACTS

In the Sundarbans (Bangladesh), the introduction of SMART involved 55 patrols lasting 10 days each, covering 59,172 km in 5,455 hours from January to August 2018. As a result, 6,109 sightings of 21 key wildlife species were made, 250 people were arrested, illegal items were seized and legal action was initiated. SMART has helped the BFD to better prioritise patrolling efforts and set standards for patrolling. This has improved enforcement of forest, wildlife and fishery laws and rules as well as monitoring of poaching, illegal fishing, etc. Ranger motivation has increased as they now feel that they are more effective. Senior managers were satisfied with the improved monitoring and evaluation of patrolling. Based on these results and impacts, the BFD is planning a broader rollout of SMART across terrestrial and possibly marine PAs.

In Hin Nam No National Protected Area (Laos), the use of SMART led to successful enforcement and monitoring, thereby creating positive incentives for cooperation between state agencies and villagers. Zoning was also improved. Adaptive PA management was generally improved because as better spatial information on threats and biodiversity status became available it was regularly shared with co-management stakeholders and used as a basis for joint decision-making. A positive feedback loop was established; providing information

to management created awareness at that level and resulted in further requests for information. This motivated community and government rangers as well as PA staff responsible for analysis and reporting to keep up their efforts.

The uptake of SMART across participating PAs in Viet Nam was strong. Besides the three PAs where SMART was originally piloted and the eight additional PAs directly involved in the project, another 16 are now making efforts to adopt SMART. In the project areas, SMART is used not only for data collection and documentation, but also for patrol planning (e.g. by focusing on hotspots where violations are most prevalent). It helps managers evaluate staff performance on an objective basis and has improved the quality of databases, particularly in terms of spatial data. Data are managed in a transparent and consistent manner. Reports that can be synthesised and exported with SMART inform monthly monitoring meetings and planning as well as managerial boards in some PAs.

Initially, 35 staff members from Comoé and Taï National Parks (Côte d'Ivoire) were trained in the use of SMART. There are annual SMART meetings and internal coaching of PA staff. Some PAs also use the online SMART platform. A manual on data transfer from mobile phones to a computer was produced. However, the SMART Connect functionality for automatic data transfer is not yet operational in PNT and PNC because hardware needs to be adapted for this purpose . Patrol data have been made available internally in a SMART database run by the PA agency and are summarised in monthly, quarterly and annual reports. The use of SMART is now widespread throughout the national PA network in Côte d'Ivoire. The programme's overall conclusion is that SMART has been widely implemented but that the quality of SMART data and their use in adapting management still varies largely within the PA network.

›› 4.3 Experiences and lessons learned from the application of SMART in German technical cooperation projects

›› ENABLING FACTORS

Some enabling factors relate to the external enabling environment:

❖ A key factor in the Sundarbans has been the desire and commitment of high-level authorities to improve management of the area. This was further aided by clearly stated conservation priorities and an understanding of the biodiversity present and critical threats as well as an already existing adaptive management system at the site and system level.

❖ In any co-management setting where monitoring is part of shared responsibilities, government commitment needs to be matched by a commitment from the co-managing partners in order to make SMART introduction successful. In Hin Nam No (Laos), the interest in controlling village land against external intruders was an important prerequisite. In such a setting, SMART helps to provide a common understanding of the status of conservation among different stakeholders and a basis for joint evidence-based decision-making.

❖ SMART patrolling must be consistent with legal and regulatory provisions in force for surveillance and enforcement, particularly if it is to be introduced as widely as in Bangladesh or Viet Nam. If such a framework is not in place, one may need to be created.

❖ Clear mandates for rangers to enforce laws when they detect an infringement, such as those already in place in Laos prior to SMART introduction, have been an enabling factor.

❖ At the management level, enabling conditions have included effective leadership, understanding of patrol techniques, analytical skills for evaluating data and feedback given to rangers.

❖ Budgeting for SMART-supported patrolling (fuel, daily rations, accommodation, maintenance/replacement of data loggers and other equipment, etc.) by the responsible PA agencies will enable routine use and enhance impacts. This is a precondition for making project-supported SMART introduction sustainable in the long term.

❖ The added value of SMART patrolling and monitoring depends partly on PA size. Very small or relatively biodiversity-poor areas may not warrant the introduction of SMART.

The approach taken during SMART introduction proved as important as the enabling factors mentioned above:

❖ As the Sundarbans example illustrates, successful SMART introduction often involves more than the software. It needs to be approached as a broad, long-term reform of the culture, procedures and resourcing of patrolling, monitoring and adaptive management.

❖ In relation to the above, SMART introduction efforts that invest broadly in knowledge, understanding and competence for the whole range of actors from rangers to senior managers and that involve extensive training of

›› 4.3 Experiences and lessons learned from the application of SMART in German technical cooperation projects

trainers to make SMART capacity sustainable locally tend to be the most successful. For instance, an understanding by senior staff about how to use information generated by SMART patrols for decision-making unlocks its full potential and thereby yields positive feedbacks. Sound data management and vetting skills among technicians and middle managers need to be developed to maintain the system.

❖ Partnerships among actors involved in PA patrolling and monitoring (e.g. government agencies and community rangers) are needed for successful SMART implementation.

❖ SMART needs to be translated into national languages if it is to be widely used.

›› LESSONS LEARNED/COMMENTS/RECOMMENDATIONS

In general, SMART proved cost effective and was easily integrated into existing patrol schemes. The GIZ-supported projects also yielded the following lessons learned:

❖ Most sites use SMART primarily as a data collection tool; fewer use it for data analysis. Fewer still use it to guide meetings between rangers and managers, and only a few sites use it for planning or performance evaluation and incentives. There are great opportunities to strengthen SMART implementation by focusing on planning, evaluation and incentives.

❖ Several projects report a shift towards using SMART not just to monitor patrolling activities, but also to monitor the PA more generally in order to inform adaptive PA management.

❖ SMART can improve patrolling and monitoring effectiveness and efficiency, but limiting factors such as weak logistics support and resourcing shortages (e.g. ranger stations, fuel budget allocations, provision for rangers' basic needs, incentives, etc.) need to be addressed at the same time.

›› 4.3 Experiences and lessons learned from the application of SMART in German technical cooperation projects

❖ If a sound management (including patrolling) system and infrastructure are already in place, this enhances the chances of successful SMART use.

❖ If there are few rangers, it may be possible to teach community groups to conduct SMART patrols, as was done in Laos. The same applies to the staff of other government agencies.

❖ There are opportunities to enhance SMART use and outcomes through language updates, using SMART Connect, links to databases on enforcement, fixed poacher cameras, plug-ins for designing wildlife surveys (line transects, point counts), etc.

❖ Integrating SMART data and analysis into the framework of **Open Standards** processes to obtain valid indicators for monitoring threats and viability is an opportunity that is currently being piloted for Hin Nam No NPA in Laos.

❖ A trial and error approach during introduction is important. Tools and protocols to improve these aspects are currently being developed.

❖ Since in areas with shared governance systems it is paramount that all partners are able to participate in evidence-based decision-making, participatory processing and analysis of SMART data is important but can also be challenging.

❖ The issue of data security is not really addressed yet in SMART, which is rather sensitive in view of the data processed by the system. The network is working on solutions to this challenge, but user agencies also need to be aware of it.

❖ Since the resolution of monitoring data collected by SMART depends on species identification skills, among other factors, identification manuals should be produced where necessary.

›› FURTHER READING

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5

PROJECT case studies

5.1 INCLUSIVE PROCESSES OF CONSULTATION WITH INDIGENOUS COMMUNITIES TO UNDERPIN SUSTAINABLE DEVELOPMENT IN THE MESOAMERICAN BIOLOGICAL CORRIDOR

PROJECT TITLE	**Biodiversity conservation and local development in the Mesoamerican Biological Corridor**
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRIES:	Honduras, Nicaragua
OVERALL TERM:	2013 – 2018
LEAD EXECUTING AGENCIES:	Central American Commission for Environment and Development (CCAD)

›› PROJECT OBJECTIVE

Local stakeholders in the core zone of the Mesoamerican Biological Corridor have improved the management of their territories.

›› CONTEXT

The forests on both sides of the border between Honduras and Nicaragua are among the most biodiverse areas in the world. They form the core zone of the Mesoamerican Biological Corridor and are home to various indigenous peoples. Unchecked logging, forest fires and clearance of forest land to make way for agriculture and livestock farming – facilitated by corruption, political influence, unresolved land tenure issues and drug-related crime etc. – are causing progressive deforestation. This is constraining not only the key ecological functions of the forest, but also the resources on which the lives and livelihoods of the (mostly indigenous) rural population depend.

In both countries, the indigenous territories of the project region are located in or close to protected areas: the Bosawás Biosphere Reserve in Nicaragua and the Río Plátano and Tawahka Asangni biosphere reserves and Patuca National Park in Honduras.

In Nicaragua, difficult political circumstances meant that the project had to be temporarily suspended, hence it was only able to instigate sporadic local initiatives. The remarks below therefore relate chiefly to Honduras.

›› 5.1 Inclusive processes of consultation with indigenous communities to underpin sustainable development in the mesoamerican biological corridor

›› CHALLENGES

In Honduras the relationship between indigenous organisations and the government institutions responsible for the protected areas was difficult and fraught with conflict. Neither side had sufficient financial, organisational and technical capacities to participate in processes of constructive negotiation.

Often the actors involved also lacked the will to engage in such processes. The idea of protected areas, for instance, was rejected by most of the indigenous actors as a Western concept. The only relevant issue as far as they were concerned was land title. There was no common understanding of the purpose of the protected areas and how to manage them, either among the indigenous peoples, or between them and the responsible national agency for forest and nature conservation (Instituto Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre – ICF, Honduras). There were no joint structures for governance and management.

›› APPROACH

› THE CONSULTATION PROCESS – FREE, PRIOR AND INFORMED CONSENT (FPIC)

During the project appraisal phase the indigenous communities demanded a consultation process. Both GIZ and the governments promised to deliver this. However, time constraints meant that the process could only be partially launched during the appraisal phase. Based on ILO 169, an agreement was therefore reached between GIZ and the indigenous peoples, and between GIZ and BMZ, to implement a consultation process when the project was launched. This meant that in the project offer, two out of three results indicators at the level of objectives were formulated in general terms only so as to provide broad guidance. It was envisaged that they would be defined in specific detail through the consultation process, once the project was launched.

This process was conducted in the four indigenous project areas in Nicaragua and Honduras with the aim of obtaining the indigenous communities' free, prior and informed consent (**FPIC**) for the project. A total of 24 meetings with over 2,000 people were organised. In each case, the first step here was to obtain basic 'approval' for the project to commence work in the indigenous territories, provided that evaluation and coordination mechanisms involving the traditional structures of the indigenous peoples were in place.

After that, issues of importance to the indigenous communities were identified and discussed. To structure the 191 topics identified, these were assigned to the project's three areas of activity (promotion of economic alterntives in the protected areas, capacity development for the indigenous peoples and

INTRODUCTION | NAVIGATION | TOOLS | EXPERIENCES | ›› PROJECTS | SOURCES

186
›› 5.1 Inclusive processes of consultation with indigenous communities to underpin sustainable development
in the mesoamerican biological corridor

their organisations, and promoting and establishing local and binational consultation and coordination mechanisms). In a further participatory process, the topics were prioritised and the project activities resulting from them were defined. Similarly, objectives indicators for quality of life were specified in line with the indigenous worldview.

The topics that went beyond the scope of the project (a total of 335 are listed), and for which the indigenous communities requested external support, were forwarded to relevant institutions. The indigenous communities in Honduras sought to use the opportunity provided by the consultation process as a 'megaphone' through which to communicate their most important needs to the government and other actors (land title, education, health etc.). Since this was the first channel through which the indigenous communities had voiced their needs to the government, this was an indication that they placed a very high degree of trust in the project.

› GOVERNANCE STRUCTURES

In conjunction with the third area of activity, which involved creating consultation and coordination mechanisms, the project promoted dialogue between government agencies and indigenous umbrella organisations – particularly in Honduras. It also focused on mainstreaming and designing coordination mechanisms for joint management of the protected areas. The trust established among the indigenous communities through the inclusive consultation process created an enabling environment for the two sides to grow closer together. An international workshop conducted by the project at the outset on the topic of indigenous communities and protected areas in Honduras, which included examples of co-management in Colombia, acted as a catalyst in the process of open dialogue between the indigenous communities and the responsible government institutions.

Towards the end of the project, the national forest and nature conservation agency and the umbrella organisations of the various indigenous peoples in the project region in Honduras signed declarations of intent concerning the co-management of the protected areas in question. Concerning processes for consulting indigenous communities (**FPIC**) in general, and the amendment of forestry legislation, basic ideas were jointly discussed and subsequently fed into the parliamentary legislative process by the responsible bodies. The amendment of forestry legislation is designed to incorporate indigenous values and rights, and thus for instance enable forests to be communally owned instead of being either government-owned or privately owned as was the case to date, and establish an indigenous forest standard. This will make it possible to transfer to private structures some of the sovereign tasks of forest management, such as granting permits for logging for private purposes (e.g. house construction), which those affected would otherwise have to apply for at the forest management offices, which are usually very far away.

›› 5.1 Inclusive processes of consultation with indigenous communities to underpin sustainable development in the mesoamerican biological corridor

Due to the low presence of state structures in the remote and sometimes poorly accessible project region in both countries, promoting local governance structures was essential. Together with the local indigenous population, maps were drawn up for six Miskito territories. These maps formed the basis for development planning and rules of use in the indigenous territories aligned with the principles of sustainability and the objectives of the biological corridor. This in turn supported participatory, stakeholder-owned decision-making processes and structures for natural resource management on land in the Río Plátano Biosphere Reserve for which titles were recently awarded in favour of the indigenous communities.

› SUSTAINABLE ECONOMIC PROCESSES

As part of a development partnership with the private sector, the project supported the establishment of a sustainable value chain for the perfume ingredient liquidambar balsam, also known as styrax resin (introduction of minimum standards, sustainability standards, fair prices for producers, protection of indigenous rights, sustainable forest management etc.).

During the initial phase of this cooperation, the project came across the already highly specific draft produced by external consultants to the ICF for creating a national park on the territory of the Pech people, with which local actors were unfamiliar. However, a protected area in the national park category would have prohibited the extraction of styrax resin, thus violating the traditional rights of use enjoyed by the Pech people. There are also settlers for whom using water sources in the envisaged protected area is crucially important. The project responded by launching a consultation process, which led to the use of liquidambar at community level being declared an element of cultural heritage, and the 34,000-hectare forest area being designated the Montaña El Carbón Anthropological Reserve (rather than a national park). This is the first indigenous protected area in Honduras that allows nature conservation to be combined with the protection of indigenous rights and traditional practices under the co-management of the national forestry administration and the Pech. Together with the local population a plan was drawn up for the sustainable management of styrax resin on 19,500 hectares of forest land.

INTRODUCTION | NAVIGATION | TOOLS | EXPERIENCES | ›› PROJECTS | SOURCES

188

›› 5.1 Inclusive processes of consultation with indigenous communities to underpin sustainable development in the mesoamerican biological corridor

›› LESSONS LEARNED

- ❖ Implementing the complex consultation process and the planning events based on it led to the target group clearly identifying with the project and, over the course of time, to a solid foundation of trust between German development cooperation activities and the indigenous peoples. This point is crucial in implementing the project in a setting which is otherwise characterised by mistrust.

- ❖ The consultation process (which also involved government representatives) also paved the way for promoting dialogue between indigenous peoples and government agencies. This was only possible because the project was seen as an impartial moderator (with no agenda of its own) and was able to build trust.

- ❖ An open consultation process can be a very enriching way of truly understanding the needs of the population.

- ❖ When preparing an inclusive consultation process, plans should allow sufficient resources and time.

- ❖ The issue of whether and to what extent indigenous leaders or organisations are mandated by the communities they represent needs to be addressed. Repeated consultations between indigenous leaders and their grass roots on specific points make a consultation process very cumbersome.

- ❖ The issues identified during the consultation process should during the process itself be clearly sorted into those which the project can address and those which clearly go beyond its scope. Otherwise there is a risk that the project may create expectations among the local population which cannot be met.

- ❖ Aligning state institutions and rules for forest management with the indigenous context, as for instance in the case of communal forest ownership made possible by the new forest standard, is an important factor in facilitating cooperation with indigenous groups.

- ❖ Partly also as a result of the project activities, the indigenous groups recognised that developing management plans and entering into forest use agreements with government institutions provides a legal foundation on which to protect territories against illegal settlement, illegal sale and over-exploitation. Whether and how the local and indigenous structures are themselves able to curb environmental crime remains to be seen.

- ❖ Difficult political circumstances (such as those which arose in Nicaragua in this case) can jeopardise such a long participatory process. In many cases, the local population will then see the implementing institution in a negative light.

›› LITERATURE

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5.2 PRACTISING CO-MANAGEMENT IN THE HIN NAM NO NATIONAL PROTECTED AREA IN LAOS

PROJECT TITLE	**Integrated nature conservation and sustainable natural resource management in the Hin Nam No region, Laos** 🔗 🔗
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRY:	Lao PDR
OVERALL TERM:	2010 – 2018
LEAD EXECUTING AGENCIES:	Ministry of Natural Resources and Environment (MoNRE) up until March 2017 and Ministry of Agriculture and Forestry (MAF) from April 2017

›› PROJECT OBJECTIVE

The protected area management team and the local population work hand in hand to protect biodiversity in the Hin Nam No (HNN) National Protected Area (co-management approach).

›› CONTEXT

🔗 The 88,500-hectare **HNN** National Protected Area on the Viet Nam border was established in 1993. The unique karst landscape is one of the largest in the world and is tremendously important to biodiversity – forests, wetlands, limestone formations and cave systems offer many species a habitat, including a host of endemic flora and fauna.

The region is also situated in the country's poorest district. Around the protected area are 18 villages with some 8,000 inhabitants, many of whom belong to ethnic minorities. The mostly very poor population derives much of its food and household supplies from the natural resources in the HNN National Protected Area.

›› CHALLENGES

The HNN National Protected Area is managed at district level and its protection status is enshrined in law. The area is extremely difficult to access, the management team has only a small number of staff (just 9 to 12 employees initially) and very few financial and technical resources at its disposal, and sustainable funding has not been secured.

›› 5.2 Integrated nature conservation and sustainable natural resource management in the Hin Nam No region, Laos

The pressure on the protected area's resources (wood, non-timber forest products and wild animals) is high due to increasing demand, but mostly as a result of external parties (from Viet Nam and other Laotian regions) exploiting the area illegally. The economic alternatives for the local population are slim due to the karst landscape and the many unexploded bombs still present in the area.

With the help of several organisations, an initial management plan based on a co-management approach was developed in **2010.** However, it could not be implemented forcefully due to a lack of resources. Although awareness of the opportunities and the need for a participatory management approach was generally widespread, there was no common understanding of what an approach of this kind actually meant. Likewise, there was no common understanding among all the actors before the project began regarding the protection objectives and use regulations. The zoning carried out up to that point had not been based on legal requirements and had not considered the villages' traditional rights of use.

›› APPROACH

The project is based on co-management principles. Among other things, this allows the close relationship between the area and the people who spent years hiding in the caves there during the war to also be considered.

In 2013, a participatory **governance assessment process** ▶ was launched in an effort to establish a common understanding of the co-management concept and forge an effective partnership between the protected area administration and the local communities. In connection with this, the project also supported a process of evaluating the management effectiveness on the basis of a version of the **Management Effectiveness Tracking Tool (METT)** adapted to the local context. The evaluation based on questionnaires, in particular, is something that could be repeated annually as it is simple and cost-effective. All co-management partners are involved in the process and can voice their opinions in group discussions. Weaknesses can be identified and measures derived from this can be incorporated into the next plan of operations.

The governance assessment process uncovered what more needs to be done in order to develop an effective co-management approach:

›› PARTICIPATORY ZONING

The area underwent a process of re-zoning based on the knowledge of the locals and their customary rights.

›› 5.2 Integrated nature conservation and sustainable natural resource management in the Hin Nam No region, Laos

Maps were created with the villages using trail-mapping, GPS training and field surveys. The different use areas were plotted on the map – those for the local people's own needs (non-timber forest products, construction timber, hunting, fishing) and inaccessible areas and other areas which they would set aside for protecting biodiversity. This also led to the protected area being divided into totally protected zones and controlled use zones as required by law.

This process generated a great deal of understanding on both sides and showed the villagers the importance of their **knowledge.** The participatory process and the associated selection of main routes for regular monitoring laid the foundation for a clear agreement about the use areas and the responsibilities of the villages.

›› VILLAGE RANGERS – THE LOCAL POPULATION FURNISHING ADDITIONAL MANPOWER

Initially, the villages were looking for a few people with time, interest and knowledge of the area to appoint as potential future rangers. They were given further training to carry out the trail **mapping.** The village rangers (now 116) will be paid a performance-based fee for undertaking biomonitoring and patrols at a later stage.

It is important that there are additional rangers from outside the local area to punish violations of the law. Village rangers are not permitted to inform on, let alone arrest their neighbour. In the HNN National Protected Area, the village rangers are also accompanied by police or soldiers from the village to enable them to combat even well equipped poachers.

As the village rangers know the area like the back of their hand because of their past, they are also more willing to venture into difficult and remote

areas than external rangers are. The locals who are involved in managing the protected area in this way get an additional or alternative source of income and are a more efficient and cost-effective solution for the authority. Long-term funding does, however, need to be found for this.

›› MONITORING

The **SMART** ▶ instrument was used as a basis for collecting data in a way that is adapted to the local context (patrolling, area data, sighting species, poaching, etc.). The rangers and the park staff were trained in using this tool. As many of the rangers have only limited reading and writing skills, the method for entering data into the log was simplified and given a code. Trained park staff enter the data gathered into the database, analyse it and develop recommendations for the management.

Collecting data which feeds into the continued management of the area raises the awareness and boosts the motivation of the employees.

›› COLLABORATIVE MANAGEMENT AND GOVERNANCE STRUCTURES

The management structure of the HNN National Protected Area with its technical units was established in 2013 with the help of the National University of Laos. This was the beginning of and the basis for creating the governance structure. The two structures are closely connected in this case.

Co-management committees were elected in all 18 villages. Their members are officially confirmed by the district governor, giving them a formal mandate (e.g. monitoring by village rangers). Regular communication ensures that feedback is given to the technical unit. There are also co-management committees at village-cluster and district level, where the representatives at village level (bottom-up) and those from higher positions (top-down) present their ideas. This gives all stakeholders the chance to express their needs and play a role in the decision-making process.

The clusters were abolished as part of an administrative review of the management structure in 2018. However, a new form of village representation at district level is now being discussed because being integrated into regular administrative legislation is vital for their continued existence.

›› CO-MANAGEMENT AGREEMENTS

The first drafts for agreements on use regulations and responsibilities for protection have been drawn up at village meetings in conjunction with an impartial moderator. A standardised co-management agreement was reached at a joint workshop. After various meetings and discussion panels, this agreement was officially approved by the district governor and shared with all 18 villages in the immediate vicinity of the park and with other surrounding villages, as well as with the authorities and rangers of the neighbouring Phong Nha-Ke Bang National Park in Viet Nam.

The system of these agreements also works well because the villages have a vested interest in keeping people from other villages away from the areas that only they can use. It creates a sense of ownership as it makes them proud to have the right and the duty to protect their areas from others. In order to clarify violations of rights of use between the villages and to firm up the regulations, providing external support (mediation) to the village authorities may be important.

›› LESSONS LEARNED

› REQUIREMENTS FOR CO-MANAGEMENT

* common understanding of the concept of co-management
* mutual trust between those involved
* impartial, participatory moderation
* voluntary and self-motivated participation
* the local population must be empowered to develop the necessary structures and organisations
* duties and tasks must be linked to rights and privileges
* motivation of the competent authorities – broadening the focus from a pure management function for the protected area to a platform for the integrated and sustainable development of the entire region has boosted motivation at district level to establish co-management committees.

› CO-MANAGEMENT AND CO-GOVERNANCE

* creates a clear leadership role and ownership in the local authority
* generates support among the village population for the implementation of the agreements
* can consolidate the ownership and commitment of the local population by integrating environmental education **measures**
* leads to more informed decisions by involving
* village rangers on village co-management committees
* technical units of the protected area administration on the district co-management committee

❖ has improved the annual participatory self-assessment of management effectiveness and good governance (better awareness of use regulations, higher level of information, more training, greater benefit for the villagers)

› CO-MANAGEMENT AND CO-GOVERNANCE NEEDS

❖ staying power
❖ cooperation with local organisations which will carry the process forward
❖ repeated self-reflection – by revising structures, zonings and use agreements, common understanding can be strengthened and changes can be made, where necessary.

› AS WELL AS

❖ **upscaling:** transferring lessons learned to other protected areas through training given by local organisations
❖ upscaling: incorporating lessons learned into ministerial decrees on protected area management

❖ the desired **UNESCO** World Heritage Site status (on the list of proposals since 2016) would be likely to increase national and international visibility (flagship project) and thus probably:
❖ mobilise financial resources
❖ implement tourism marketing more successfully
❖ mobilise and raise awareness among the different political levels for nature conservation issues and topics such as co-management.

›› FURTHER READING

Mirjam de Koning et al. 2017: **Collaborative Governance of Protected Areas: Success Factors and Prospects for Hin Nam No National Protected Area, Central Laos.** In: Conservation and Society 15(1): 87–99, 2017.

Ministry of Natural Resources and Environment Laos (2015) **Hin Nam No National Protected Area Co-Management Plan (2016-2020).** Vientiane, Laos.

GIZ 2016: **Co-Management. Integration of local knowledge in park management. Training and Lessons Learned Guide 2.**

GIZ 2015: **Good Governance Training Field Manual for Co-Management Committees of Hin Nam No National Protected Area**

5.3 A BOTTOM-UP APPROACH WITH HORIZONTAL COLLABORATION FOR TRI-NATIONAL COORDINATION IN THE SELVA MAYA

PROJECT TITLE	**Conservation and sustainable use of the Selva Maya**
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRIES:	Belize, Guatemala, Mexico
OVERALL TERM:	2011 – 2019
LEAD EXECUTING AGENCIES:	Central American Commission for Environment and Development (CCAD)

›› PROJECT OBJECTIVE

Key government and civil society actors carry out coordinated measures for the protection and sustainable management of biodiversity and natural resources in the Selva Maya.

›› CONTEXT

The Selva Maya, which extends from Mexico's southern border across Belize and into northern Guatemala, is Mesoamerica's largest forest area. Its ecosystems, which range from dry forests to evergreen rainforests, are home to an extraordinary diversity of endemic species, some of which are endangered. Of the 100,000 km² of forest, more than 42,000 km² are now in a protected area, of which there are over 19 in different categories that apply various governance models (ranging from national parks to biosphere reserves).

The region was inhabited by the Mayas more than a thousand years ago, which is why many important historical and cultural sites can be found here. Today the forest is under enormous pressure due to the fact that it is inhabited by some 600,000 people, who belong to a wide variety of ethnic groups. Population growth and the increasing demand for agricultural produce are causing the agricultural frontier to advance (extensive grazing practised by large-scale farmers, as well as small-scale agriculture and livestock farming by the local population, most of whom are poor). Forest fires, illegal logging, trade in flora and fauna, unsustainable agriculture and oil production are interfering with ecosystems and protected areas, and the forest is becoming increasingly fragmented. Moreover, the impacts of climate change are now palpable. These include longer dry seasons and fewer watering points for animals.

›› 5.3 A bottom-up approach with horizontal collaboration for tri-national coordination in the Selva Maya

›› CHALLENGES

Responsibility for protection of the forest and the sustainable development of the Selva Maya region rests with the three countries concerned and their respective government agencies for protected area management, along with other public authorities such as those concerned with forestry and agriculture. Other actors operating in the region include various institutions such as local governments and non-governmental and civil society organisations.

The actors in the region share a sound understanding of the protection goals and rules governing forest use in the protected areas themselves. Outside the region, on the other hand, views often vary widely. Various rules apply for instance to the use of transition zones, ranging from large-scale maize plantations to sustainable agriculture practised on small plots. Similarly, outside the protected areas there is often a lack of certainty regarding land use rights. In conjunction with pronounced social inequality this leads to conflicts within the rural population. Consequently, in most cases pressure on the protected areas comes from outside.

The protected area authorities lack the human and financial capacities to develop and effectively implement protective measures. Constant cuts in funding create difficulties, particularly with regard to fighting forest fires. At the national level, sector ministries do not possess sufficient operational capabilities for inter-sectoral coordination and consultation, and policies and programmes often conflict with each other. At the regional level there is a lack of joint strategies for coordinated protection of the Selva Maya, hence activities are often confined to single countries and one-off interventions. There is also a lack of legal frameworks for cross-border cooperation in protected area management. The key challenge for long-term sustainable natural resource management in the Selva Maya is therefore coordination of the key governmental and civil society actors.

›› 5.3 A bottom-up approach with horizontal collaboration for tri-national coordination in the Selva Maya

›› APPROACH

The project is gradually implementing a multi-level approach. Key to its success is close coordination between the different levels and within the project team.

When the project was launched it focused initially on the micro level. By implementing specific local measures, it succeeded in building trust and openness, among both the local population and protected area staff. Gradually it then became possible to organise knowledge transfer by building horizontal links between protected area managers and user groups from the three countries, for instance, and to scale-up the project activities. A common denominator of this kind is key to performing any kind of work on a tri-national level.

› EFFECTIVE AND COLLABORATIVE MANAGEMENT OF THE PROTECTED AREAS

Effective protected area management as a key component of the response to pressure (caused by forest fires, illegal logging etc.) is only feasible if the public authorities, civil society and local communities work together.

An example – Fighting forest fires and strengthening volunteer fire departments
One of the greatest threats faced by the Selva Maya is forest fires, which are often caused by agricultural fires that get out of control. Establishing community-based early warning systems aims to reduce these fires by putting management and contingency plans in place. Involving the local population is fundamentally important here. First of all, most protected areas lack sufficient human and financial resources. Secondly, communities are able to respond much more rapidly because they are locally based. The project is supporting the capacity development of these volunteer fire departments, which now not only successfully fight fires within and outside of the protected areas, but also perform monitoring and patrol duties.

An example – Working together across borders by exchanging park rangers
By exchanging park rangers working in neighbouring protected areas, project actors have identified joint challenges and planned monitoring activities strategically. Joint workshops and patrols have standardised procedures and led to improved cooperation. Cross-border training activities in forest fire management, conducted jointly with the village officers representing the volunteer fire departments, have helped raise awareness and increase active participation in fighting forest fires. Preparing an annual cross-border plan for these additional joint activities was an important tool used to achieve this. The higher-level political backing expressed underlined the importance of training, for instance, thus boosting participation by rangers and villagers.

› SUSTAINABLE INCOME-GENERATING ALTERNATIVES

Working in conjunction with the local population, the project developed various options for sustainable natural resource management. Where there is no local population, or where local communities are unable to generate a profit from sustainable forest management, illegal loggers for instance or people seeking quick profits will have an easy time of it.

An example – Honey and ramon nuts
The project supported the development of local user group capacities to sustainably manage non-wood forest products, such as honey and ramon nuts (also known as Maya nuts), the promotion of value chains and certification of products. Supported by the project, over 750 people have acquired knowledge and skills in the fields of processing, food hygiene, accounting and marketing, which will enable them to work in small en-

terprises and generate added value from forest conservation. Over 3,000 families are benefiting from this.

The honey producers around one of the protected areas have become part of a volunteer fire department for this protected area, and thus have multidimensional links. On the one hand, they support the protected area authority with monitoring, control and forest fire-fighting activities. On the other hand, they benefit from the existence of the forest through their beekeeping activities.

An example – Forest concessions for local communities
In the community forest concessions in the biosphere reserve in Guatemala, the different communities are permitted to sustainably manage wood and non-wood forest products (leaves for the flower market, chicle, ramon nuts etc.)– albeit subject to tight restrictions and on the basis of management plans. Among other things, the project is advising on the ramon nut value chain and on management of the concessions.

›› 5.3 A bottom-up approach with horizontal collaboration for tri-national coordination in the Selva Maya

› ENVIRONMENTAL GOVERNANCE IN THE SELVA MAYA REGION

Without joint efforts by all stakeholders, long-term protection of the Selva Maya is inconceivable. To achieve this, coordination mechanisms must be introduced at the local, regional and international levels.

Cross-border cooperation between park rangers (exchange, joint activities, training, patrols etc.) and exchange between user groups (honey, ramon nuts etc.) has led to a sense of commonality and what might be termed 'corporate branding' (**'We are Selva Maya'**), which has paved the way for improved coordination across the three countries. This led to coordination among the directors of the protected areas, who then joined forces to form the tri-national Selva Maya operational coordination group (Grupo Operativo de Coordinación de la Selva Maya – GOC). To also strengthen transboundary cooperation at the strategic level the tri-national Grupo Estratégico de Cooperación de la Selva Maya (GEC) was established, in which the directors of the nature conservation authorities of the three countries intend to develop a long-term strategy to protect the Selva Maya, for example.
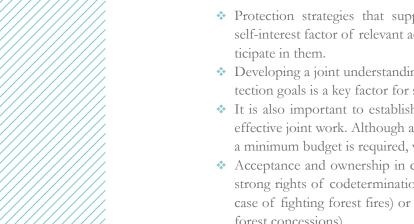
›› LESSONS LEARNED

❖ A multi-level approach and a bottom-up structure for regional cooperation are key to transboundary protection. Local actors can then feed successful activities upwards to the next level, which means they can always be scaled up. This also reduces dependency on personnel changes at higher political levels, e.g. as a result of elections.

❖ To support this approach, it is important that the project maintains a presence in all three countries (through the project offices) at locations close to the protected areas and the relevant public agencies. This makes implementation more efficient and effective compared to management from central locations (capital city, or only one project office).

❖ It is also important here that the lessons learned from work at the local level are fed into country-wide work by the national experts. Closely linking these three levels gives the project credibility and weight at the tri-national level.

❖ The three countries that share the Selva Maya differ widely, as do their institutions. The project therefore had to address the different needs in order to gradually win over the stakeholders for transboundary cooperation. This meant that different activities were often supported in each of the countries, and that the project pursued different ways of working with partners with regard to planning and joint implementation. Accordingly, few tri-national activities took place, particularly in the initial years.

❖ It is also important to involve remote villages in regional cooperation, for instance by sharing lessons learned (e.g. organising reciprocal visits by farmers so that they can share their experience with marketing honey or nuts).

❖ Protection strategies that support sustainable management increase the self-interest factor of relevant actors, thus making them more willing to participate in them.

❖ Developing a joint understanding of environmental conditions and the protection goals is a key factor for success.

❖ It is also important to establish sound management structures that enable effective joint work. Although a lot of the work is done on a voluntary basis a minimum budget is required, which is not always available in all cases.

❖ Acceptance and ownership in communities is strengthened by giving them strong rights of codetermination, either through co-management (as in the case of fighting forest fires) or autonomous management (as in the case of forest concessions).

❖ It is important to facilitate a change in mindset among all stakeholders so that they see the government not as a body that issues prohibitions (for instance by designating a protected area), but one that creates opportunities to generate income sustainably. This will create a positive link between people and the natural environment, and make them willing to work to preserve it.

❖ Through their local knowledge and information sharing, motivated park rangers who tackle the challenges jointly with their peers help develop an effective protection strategy.

❖ When different projects in the same region work together with the same partners on the same topics, it is important to involve the partners in joint planning early on in order to persuade them of the benefits of effective coordination so that they provide the proactive support needed for cooperation.

❖ In order to protect the forest in the long term, it will be very important to ensure that the concessions, which people will have to reapply for in the future, remain at the local level. Forest concessionaires who come from outside often have no vested interest in preserving the forest in the long term.

❖ A formalisation of cooperation at the tri-national level, e.g. through an agreement, would boost the sustainability of the activities supported by the project, and strengthen future cooperation.

5.4 PRESERVING BIODIVERSITY, SHARING RESPONSIBILITY – TRANS-BOUNDARY ECOSYSTEM MANAGEMENT IN A SETTING OF MULTIPLE JURISDICTIONS, MANDATES AND INTERESTS IN SOUTH-EAST EUROPE

PROJECT TITLE	**Conservation and sustainable use of biodiversity at Lakes Prespa, Ohrid and Shkodra/Skadar**
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRIES:	Albania, North Macedonia and Montenegro
OVERALL TERM:	2012 – 2020
LEAD EXECUTING AGENCIES:	Ministries responsible for environment and nature conservation in Albania, North Macedonia and Montenegro

›› PROJECT OBJECTIVE

The overall objective of the project is: 'The lakes' natural resources are managed on a transboundary basis and in compliance with EU environmental and biodiversity protection targets'. In order to achieve this, the project focuses on protected areas (PAs) as instruments for biodiversity conservation as well as other mutually re-enforcing interventions:

❖ institutional strengthening of regional organisations relevant to the transboundary management of lakes and watersheds;
❖ supporting lake-wide fisheries management in accordance with European standards and regulations; and
❖ initiating lake-wide monitoring programmes in compliance with the EU Water Framework Directive (WFD) and nature conservation legislation.

Such a multi-pronged approach focusing on the larger landscape or ecosystem level is common for PA-related projects in the context of technical development cooperation. Local PA agencies participated in some of these interventions, e.g. in fisheries management and in establishing the conservation status of species and habitats of common interest to riparian countries. With regard to PAs in a narrower sense, the project aimed to establish strict protection zones at each lake, with a view to developing species action plans, and to build general management capacity.

›› INITIAL SITUATION WITH REGARD TO PA GOVERNANCE AND MANAGEMENT

The forests on both sides of the border between Honduras and Nicaragua The lakes are exceptionally rich in biodiversity and endemism and therefore an important part of European natural heritage.

›› 5.4 Preserving biodiversity, sharing responsibility – Transboundary ecosystem management in a setting of multiple jurisdictions, mandates and interests in South–East Europe

Complex and overlapping patchworks of nationally and international-ly designated PAs cover the Ohrid and Prespa lakes and their surroundings, including the transboundary Ohrid-Prespa UNESCO Biosphere Reserve (Albania and North Macedonia), Prespa National Park and Ohrid Protect-ed Landscape in Albania and Galičica National Park in North Macedonia (which includes the islands of Prespa and the Natural and Cultural Herit-age of the Ohrid Region under consideration for UNESCO World Heritage nomination). In the case of Lake Prespa, Greek territories are also included. The Albanian part of Lake Shkodra/Skadar is a Protected Landscape and the Montenegrin part a National Park.

All the riparian countries are members of the Drin Core Group (DCG), the precursor to a Drin River Basin Commission covering the three lake sub-basins. However, the potential for coordinated transboundary governance to protect these ecosystems has not yet been fully met. This has compromised sustainable water and natural resources management in line with relevant EU directives. As a consequence, the lakes have been increasingly affected by threats and pressures related to agriculture, pollution from sewage systems, overfishing, tourism and the development of associated infrastructure, particularly along the shorelines.

›› CHALLENGES TO SUCCESSFUL PA GOVERNANCE AND MANAGEMENT

The project had to overcome a number of challenges with regard to effective PA governance and management, which directly relate to identified success factors for PAs:

❖ **Broad ownership of conservation objectives:** while all stakeholders committed to the project's objective to strengthen transboundary resources management in line with relevant EU directives, the same cannot be said, for example, for the specific objective to strengthen and/or establish strict protection of areas or species. Concerns on the part of local resource users about potential use limitations were shared by some government represent-atives, resulting in different perspectives on the purpose and (future) use of these areas.

❖ **Common understanding of management objectives for the lake eco-systems and rules for their use:** a multiplicity of different interests and re-lated organisational mandates affected the lake ecosystems, with each sector operating primarily according to its own objectives and rules, e.g. fisheries, water and sanitation, agriculture and tourism development, but without much consideration of interlinkages between different uses and objectives. There were also differences in understanding between government institutions and NGOs. Even where agreement on management objectives for individual PAs was reached, this was not necessarily sufficient for successful PA manage-ment since objectives were often not aligned with those established for the parts of the lakes and their wider catchment areas not under protection.

INTRODUCTION | NAVIGATION | TOOLS | EXPERIENCES | ›› PROJECTS | SOURCES

203

›› 5.4 Preserving biodiversity, sharing responsibility – Transboundary ecosystem management in a setting of multiple jurisdictions, mandates and interests in South-East Europe

❖ **Clearly demarcated PA boundaries and internal zonation:** challenges in this regard were not so much the lack of demarcation but rather overlapping designations and insufficient mechanisms for transboundary cooperation. Well-justified internal zones within PAs were also partly lacking.

❖ **Effective and equitable governance setups and management:** the PAs at the three lakes are predominantly under state governance. Some management plans were out of date or ineffective in terms of providing practical guidance. This may have contributed to conflicts between conservation on the one hand and (infrastructure) development and resource use interests on the other.

❖ **Sustainable financing:** national governments, financial assistance projects and, more recently, cooperation with Greece and the Prespa Ohrid Nature Trust all contribute to financing PAs in the region. However, financing remains a constraint to effective PA management and monitoring. The financial situation of PAs differs from one lake to another, with the Albanian part of Lake Shkodra/Skadar, for example, facing particular challenges.

❖ **Staff capacity:** the availability of trained staff was pivotal to successful interventions (e.g. related to monitoring or specific conservation actions), highlighting the importance of this success factor.

Other success factors, such as the need for legally established protection regimes in existing PAs, were by and large met at the three lakes.

›› PROJECT APPROACH

The project adopted a broad approach aimed at developing expertise and strengthening inter-ministerial and transboundary cooperation, thereby supporting ministries and downstream authorities responsible for nature conservation, water management and fisheries in their efforts to implement the EU Water Framework Directive and EU nature conservation legislation. All interventions, including those not specifically aimed at improving the functioning of PAs, were designed to contribute to improving the conservation status of the lakes.

The overall intervention fields broadly correspond to the success factors identified for PAs and related challenges:

❖ By cooperating with a multiplicity of partners, the project fostered *a sense of shared responsibility* among environmental ministries, PA agencies, fisheries authorities and fishing associations, research institutions, nature conservation NGOs and municipalities for improved cooperation, better biodiversity management and more effective monitoring at transboundary, national and local levels.

❖ Based on a shared commitment by partners to work towards and comply with the EU environmental framework (*acquis communautaire*), the project facilitated dialogue between ministries responsible for environment and bio-

diversity conservation[1], water management and fisheries and their subordinate agencies, NGOs and municipalities as well as resource users in order to develop a **joint understanding of concrete conservation objectives and ways to reconcile different uses.** To this end, institutions were supported in setting up regional technical working groups (TWGs) on the WFD, biodiversity conservation and fisheries.

❖ The TWGs – along with the Drin Core Group – were systematically used to leverage alignment among multiple conservation and resources management agendas and initiatives both within and across lake sub-basins.

❖ The approach aimed to achieve **a participatory governance** setup, particularly with regard to local resource users (e.g. fishers), who were involved in the formulation of fisheries agreements, and conservation NGOs, which strongly contributed to the TWGs.

❖ Surveys and monitoring activities (e.g. fish spawning areas) and the mapping of lakeshore structures and habitats were conducted to create a sound basis for the **delimitation of strict protection zones** within PAs. As local municipalities build on this information, PAs will more effectively protect the ecological functioning and services of the lakes, particularly in their shore zones.

❖ While the project did not engage in PA management planning directly, it did build capacity for biodiversity monitoring – with technical backstopping for project partners such as EuroNatur[2] – as a key prerequisite for adaptive PA management. It used species action planning to design conservation measures for several bat species and the Dalmatian pelican. This contributed to an overall strengthening of the **capacities for monitoring and conservation management** of PA administrations and their partners.

Few **methods and tools** included in the toolbox were used. The context of EU integration meant that the focus was on EU instruments rather than globally applicable tools and methods. Another reason was that biodiversity conservation was approached as a cross-cutting issue by this project.

In order to diversify PA governance and introduce co-management of entire PAs or of certain resources (e.g. fish), the IUCN WCPA Guidelines **Governance of Protected Areas: From understanding to action** (Borrini-Feyerabend et al. 2013) were consulted.

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[1] Namely, the Albanian Ministry of Environment (now Ministry of Tourism and Environment), the North Macedonian Ministry of Environment and Physical Planning and the Montenegrin Ministry of Sustainable Development and Tourism

[2] EuroNatur – Stiftung Europäisches Naturerbe (European Nature Heritage Fund)

›› RESULTS, IMPACTS AND LESSONS LEARNED

The results of all the interventions contributed to more coordinated and effective ecosystem management and to a more enabling environment for PA governance and management at the three lakes:

❖ Support for regional cooperation between the riparian countries involved PA agencies and contributed to better resources management. For example, high-level consensus and joint understanding among countries was facilitated, including discussion of bilateral agreements on transboundary collaboration and resources management. Furthermore, a fisheries agreement was drafted for Lake Shkodra/Skadar (Albania and Montenegro), which is expected to be signed in the near future.

❖ Transboundary TWGs provide a forum for regional and transboundary cooperation, spanning all lakes and acting as platforms for knowledge exchange and learning. The TWGs have overseen implementation of joint monitoring programmes in compliance with the EU WFD and nature conservation legislation and maintain close links with the DCG. They also proposed measures for using natural resources sustainably, protecting biodiversity and improving the ecological status of the lakes. Effective implementation of these measures will contribute to improving water quality and the ecological status of the three lake ecosystems.

❖ As a result, momentum for cooperation between government institutions and civil society on biodiversity monitoring has been created, and participatory PA governance has been strengthened.

Some impacts will, of course, take more time to fully materialise. Regarding PA governance and management, the project achieved the following direct results:

❖ Critical bat habitats and pressures at Lake Shkodra/Skadar were identified and action plans drafted, as a basis for improved conservation management plans (Albania and Montenegro).

›› 5.4 Preserving biodiversity, sharing responsibility – Transboundary ecosystem management in a setting of multiple jurisdictions, mandates and interests in South-East Europe

❖ Management of the core breeding zone for Dalmatian pelicans at Lake Skadar (Montenegro) has improved, leading to increased breeding success of this charismatic yet vulnerable flagship species.

❖ Monitoring and conservation schemes for 18 species of flora and fauna (including nine Natura 2000 species[3]) and two Natura 2000 habitats have been launched.

❖ Public awareness of nature conservation was increased, e.g. through high media coverage of project activities and other events, such as UN International Day for Biological Diversity, World Wetlands Day and Biodiversity Summer Schools.

Furthermore, the project has generated some important lessons learned:

❖ Up to 2017, much effort had been put into conducting surveys and developing monitoring capacity, as a prerequisite for successful PA management. During the current phase, emphasis has shifted towards developing tangible mechanisms to use the information generated to inform decision-making and management.

❖ There is a need to institutionalise frameworks for cross-sectoral and transboundary cooperation, such as the DCG and Lake Commissions, in order to make cooperation sustainable and effective. This is another main direction of the current phase.

❖ In PAs subject to infrastructure development and diverging resource-use interests, it is crucial to bring those who have a strong influence on conservation success but potentially conflicting interests to the table. This may include ministries in charge of agriculture, fisheries, finance and infrastructure development as well as businesses.

❖ In order to make PAs successful in complex stakeholder environments, it is important to understand both the official and the hidden agendas of the various actors. It is equally important to foster dialogue between competing stakeholders at an early stage and at an informal level in order to avoid entrenched positions later on.

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3 Namely, species listed in the annexes of the EU Birds and Habitats Directives.

5.5 SYSTEM-LEVEL CAPACITY DEVELOPMENT IN PERU TO HELP SAFEGUARD NATIONAL NATURAL CAPITAL

PROJECT TITLE	**Contribution to the environmental objectives of Peru (ProAmbiente II)**
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRY:	Peru
OVERALL TERM:	April 2017 to March 2021
LEAD EXECUTING AGENCIES:	Ministry of Environment (Ministerio del Ambiente – MINAM)

›› PROJECT OBJECTIVE

The implementation of political goals is improved in the areas of environmental governance and management, the conservation and sustainable use of biodiversity, and sustainable forest management.

›› CONTEXT

Peru is a nation of more than 30 million inhabitants and has a territory of 1,285,000 km². Its identity can be explained by its tremendous cultural, biological and geographical diversity, something which makes it one of the world's most megadiverse countries. The National Biodiversity Strategy (2021) promotes biodiversity and ecosystems as an essential part of the country's natural capital. This capital has historically provided the basis and sustenance for social, cultural and economic development.

The management of protected areas is considered to be a key part of sustaining biodiversity and ecosystem services and fostering sustainable development in the country, including climate change mitigation measures. Nevertheless, mobilising the required financial, human and institutional resources remains a challenge. As a subordinate agency of the Ministry of Environment, the National Service of Protected Natural Areas (Servicio Nacional de Áreas Naturales Protegidas por el Estado, SERNANP) is the governing body for the management of the National System of Natural Areas Protected by the State (Sistema Nacional de Áreas Naturales Protegidas por el Estado, SINANPE). Established in 1990, SINANPE currently comprises 76 nationally administered protected areas. Complementing SINANPE and working under the same legal protection framework, regional governments and civil society manage regional and private conservation areas respectively (these voluntary conservation efforts are recognised by the national government and, in the latter case, managed by individual landowners or their representatives). SINANPE has experienced steady growth

(the number of areas under national administration has risen from 40 in 2003 to 76 in 2018). At the same time, conditions for effective management are improving, as can be observed by the fact that, while in 2003 only 33 protected areas were staffed and 17 had master plans for their management, in 2015 61 were staffed and 41 had master plans (OECD 2016). The implementation of SINANPE is financed primarily through public funds and revenue generation from tourism. Financing is supplemented by international funds which are mostly channelled and partly managed through the Fund for the Promotion of Protected Natural Areas of Peru (Fondo de Promoción de las Áreas Naturales Protegidas del Perú, PROFONANPE) and private funds, for instance, from private carbon markets.

›› MAIN CHALLENGES

Peru has been experiencing significant economic growth for over two decades now. Ecosystems face growing pressure from large-scale infrastructure, hydroelectric and mining projects, expansion of the agricultural frontier, unplanned urbanisation, deforestation and climate change. All of these developments threaten the flow of nature´s benefits to society and undermine what could be the foundations of solid long-term growth. Thus, the management of biodiversity and ecosystem services inside and outside protected areas and the development of an interconnected network of core areas, buffer zones and corridors are key to balancing development needs and nature conservation. The main challenges to protected area management can be summarised under the following topics:

1. **The creation of effective and equitable governance and management structures, especially inter-institutional coordination and cooperation, including clearly demarcated protected area and zone boundaries, remains a challenge.**

   ❖ Peru's biodiversity is unique, but most of it is situated in large protected areas that are highly inaccessible. This makes it difficult to ensure adequate monitoring. There is a lack of control and monitoring capacities to generate management-relevant information on the degree of risk to protected areas and the effective enforcement of environmental regulations in buffer zones. Moreover, the process of adequately demarcating PA boundaries is very costly.

   ❖ Improvements in the quality of management plans for protected areas and a clear strategic orientation – taking into account the links with other development plans – are only slowly taking hold. Many protected areas in the system have developed and been implemented in diverse and non-systematic ways, without following a logical, planned sequence.

   ❖ The roles that each level and sector of government have to play in the ongoing decentralisation process are yet to be fully clarified and defined. For example, the competencies of regional governments are often un-

clear, and they have very limited resources and structures for carrying out effective work as development actors. Besides managing Regional Conservation Areas, the regions have also assumed greater responsibility under the process of decentralisation for territorial planning and environmental and natural resource management.

2. **Despite the expansion of SINANPE, SERNANP still faces significant shortages of staff, equipment, infrastructure and other resources and capacities for guaranteeing the long-term conservation and effective management of protected areas.**

   ❖ There are no formal education programmes for the country's park rangers and protected area managers, and job profiles and required qualifications are insufficiently defined. Most employees have technical expertise, for example in biology, but few management and communication skills. The institutional capacity development strategy and related measures do not meet the stringent requirements for protected area planners and managers in the system.
   ❖ Information and knowledge management systems need to be further adapted and optimised.

3. **Funding insecurity is among the biggest challenges to effective conservation. In the case of SINANPE, long-term financing of all costs incurred is not secured.**

   ❖ Despite significant increases in annual budget appropriations (from USD 2.2 million to approximately USD 17 million between 2009 and 2016), the resources provided for effective protected area management have not kept pace with the growth of the protected area system (GEF 2017). Further investments, also on the part of regional governments and the private sector, are needed in order to ensure the long-term viability and coverage of the running costs for SINANPE as a whole.
   ❖ Financial planning for protected areas is not always sufficiently linked to conservation outcomes and performance benchmarks, while financial administration capacities are poor in many cases. Strategic conservation planning and long-term financial planning are insufficiently integrated and development of financial mechanisms to supplement the public budget is limited (GEF 2017). Additional potential for reducing management costs through participatory and collaborative mechanisms, such as inter-institutional and cross-sectoral cooperation/budget articulation, conservation agreements, public- private partnerships and management contracts, remains untapped.
   ❖ Tourism is considered a major driver of revenue generation, yet the potential of tourism for enhancing protected areas is yet to be exploited. According to a study (MINAM, 2010), tourism in the country generates USD 3.5 billion each year, of which 80% is linked to 11 protected areas. The promotion of basic tourism infrastructure (such as environmental information centres, hiking trails) and tourism services can provide signif-

icant impetus for development and also contribute to the creation of jobs in the park administration and surrounding area. The granting of usage rights plays an important role in this context.

›› HISTORY OF COOPERATION AND APPROACHES

Peru and Germany have a longstanding history of cooperation, and the conservation and sustainable use of biodiversity (inside and outside protected areas) has always been an important element in this cooperation relationship. In the last two decades, support for SINANPE, especially SERNANP, regional governments and other stakeholders of protected area management in the country has been channelled principally through relatively large environmental programmes, with broad thematic approaches and a large number of partner institutions. Essentially, the advisory approach for technical cooperation in protected area management has evolved over time from providing support to single protected areas towards employing a systemic multi-level and multi-partner approach following programme building in the green sector of German cooperation to support the consolidation of the national system SINANPE. The characteristics and focal areas of the advisory approaches, adopted in response to the challenges identified in the previous section, in the different phases can be summarised as follows:

1. **Strengthening of subnational conservation systems and mainstreaming of protected area planning in zoning and regional planning processes. Focus on policies and strategic planning at regional level.**

   ❖ Providing support for the development of strategies and tools for identifying priority conservation areas in the context of land-use zoning and land-use planning at subnational level (e.g. gap analysis, GIS tools for connectivity and ecological network modelling).

›› 5.5 System-level capacity development in Peru to help safeguard national natural capital

❖ Advising regional and local governments on the establishment of regional protected area systems.
❖ Implementing capacity development measures for establishing and managing local and regional protected areas (development of a toolbox).
❖ Developing innovative financing instruments and mechanisms, such as payments for ecosystem services.

2. **Consolidation of SINANPE, including procedures and processes of protected area management and promotion of public investment. Focus on cross-sectoral policy coordination, procedures and budget.**

❖ Providing policy advice on strengthening regulation of the National System of Public Investments (SNIP) for investments in biodiversity conservation and protected area management to increase the self-financing share.
❖ Strengthening regional participation in the national budgetary programme (Programa Presupuestal 057) for biodiversity conservation and sustainable use of natural resources.
❖ Offering advice to regional governments on including investment in biodiversity conservation in regional development planning. Strengthening the regional planning committees and the regional environmental commission and supporting the National Centre of Strategic Planning (CEPLAN) with environmental topics for the preparation of the Concerted Regional Development Plan (Plan de Desarrollo Regional Concertado).
❖ Providing advice and coaching to SERNANP and regional governments on creating public investment projects for biodiversity conservation compatible with the regional development plan.
❖ Developing technical guidelines for identifying funding strategies, capacity development for preparing project proposals and improving approval procedures.
❖ Supporting PROFONANPE in the process of gaining Green Climate Fund accreditation.
❖ Providing advice on organisational development for enhancing and accelerating key management procedures by means of clarifying mandates, roles and functions between institutions and developing software tools to facilitate access to information. Offering support for mainstreaming SINANPE in the National System of Environmental Management (Sistema Nacional de Gestión Ambiental, SNGA), especially linking it to the National System of Environmental Impact Assessment (SEIA) for the effective application of tools such as the environmental impact assessment. Providing assistance with defining quality criteria standards for the technical opinions of SERNANP and using capacity development measures to optimise the issuance of technical opinions on environmental procedures requested of SERNANP. Offering support for the development of an exemplary concept for establishing a biosphere reserve.
❖ Developing capacity for integrating an ecosystem services approach in protected area management planning.

3. **Optimisation of core management processes of PAs in SINANPE. Focus on system support and optimisation (current phase).**

   ❖ Strengthening governance of and access to protected areas and promoting the sharing of their benefits, for example, by supporting analysis and improvement of the process for awarding tourism concessions in PAs and the sustainable use of natural resources in buffer zones.
   ❖ Further supporting the promotion of public investments in natural infrastructure related to protected areas.
   ❖ Enhancing the information system for the process of granting usage rights.

›› LESSONS LEARNED

   ❖ The alignment of advisory processes within the Peruvian institutional landscape and regulatory frameworks with the logic of the state's functional systems, such as SINANPE, is of great importance for sustained success.
   ❖ The enhancement of any conservation tool, such as protected areas, through development cooperation must follow the explicit and implicit policy guidelines of the relevant sector at national level. The fact that it has been identified as a local technical need might not be enough, since, without a sufficient legal framework to support it, the sustainability of the advisory services provided is fragile.
   ❖ Developing the capacity of SERNANP as the governing body of protected areas to coordinate and articulate matters with other sectors and stakeholder groups is key to achieving a shared understanding and ways and means of conserving the natural capital that sustains social, cultural and economic development.
   ❖ The national policy for modernising public administration promotes an approach of co-operative and participatory steering in SERNANP. This has allowed more effective implementation in contrast to the former system of hierarchical control.
   ❖ The impact of technical advisory services is increased when issues are addressed at system level, such as in the discussion and implementation of guidelines for PA master plan development in SINANPE, rather than at site level.
   ❖ Combining capacity and organisational development within technical advisory support makes it possible to achieve highly effective outcomes with political and policy advice.

5.6 PROMOTION OF PROTECTED AREAS ON THE BASIS OF COLLABORATION BETWEEN SMALLHOLDERS, PARK AUTHORITIES AND AGRO-INDUSTRY: THE EXAMPLE OF CÔTE D'IVOIRE

PROJECT TITLE	**Development of the Taï and Comoé nature conservation and economic areas (PROFIAB)**
COMMISIONED BY:	German Federal Ministry for Economic Cooperation and Development (BMZ)
COUNTRY:	Côte d'Ivoire
OVERALL TERM:	2013 – 2020 (PROFIAB I and II)
LEAD EXECUTING AGENCIES:	Ministry of Agriculture and Rural Development and other implementing partners

›› PROJECT OBJECTIVE

Rural economic development and biodiversity programme: The rural population increases its income from agriculture significantly and in particular in environmentally sustainable ways, while conditions for the conservation of biodiversity in the protected areas are also improved.

Objective of the value chains component: Stakeholders in the promoted value chains employ production, processing and marketing methods that boost incomes, have no adverse impacts on biodiversity and are environmentally sustainable.

Objective of the biodiversity component: The park management authorities and the population living on the periphery of the parks have improved the protection, the sustainability of ecosystem services and the regulated economic use of the Taï and Comoé national parks and the adjoining zones.

›› CONTEXT

The Taï National Park in the south-west of Côte d'Ivoire and Comoé National Park in the north-east are both UNESCO World Heritage Sites; each forms the core zone of the biosphere reserve of the same name. The Taï National Park, which covers an area of 5,500 km², is the last major intact rainforest in West Africa, providing a haven for many threatened species. The Comoé National Park is one of the largest protected areas in West Africa. Extending over an area of 11,500 km², it harbours ecosystems from savannahs to dry forests with high species diversity.

In the wake of the political unrest at the start of the millennium, the national parks were increasingly targeted by poachers and gold diggers; the impacts of this exploitation are still visible. Both protected areas have also come under significant pressure as a result of population growth, migration, illegal land use,

INTRODUCTION   NAVIGATION   TOOLS   EXPERIENCES   ›› PROJECTS   SOURCES

214

›› 5.6 Promotion of protected areas on the basis of collaboration between smallholders, park authorities and agro-industry: The example of Côte d'Ivoire

the expansion of export-oriented agricultural production, livestock farming and inappropriate agricultural practices – problems that cannot be adequately addressed by the local park management bodies on their own.

The ecosystems of the biosphere reserves provide the basis for agriculture in the region. Both parks help to improve the local microclimate and the regulation of water and thus help safeguard agricultural production in the vicinity of the parks. Palm oil and rubber are grown around the Taï National Park and about 15% of the world's cacao is produced in this area. The stable microclimate secures the production activities and incomes of nearly 200,000 smallholders and their families. Despite this, 40% of the local population lives below the poverty line.

From 2002 onwards, the division of the country induced by political conflict severely restricted management of the Comoé National Park. This led to poaching, gold digging and intensive use of water and grazing resources by herders that had such a detrimental impact on the area that in 2003 UNESCO placed the park on the list of World Heritage Sites in Danger. The expansion of cashew production is further exacerbating the pressure.

›› CHALLENGES

The agricultural sector, which is the country's chief source of income, uses and simultaneously jeopardises the ecosystem services provided by the national parks. The population and stakeholders in agricultural value chains have little incentive to participate in protecting the national parks. There is insufficient shared understanding of protection goals and usage regulations. The management capacities of the responsible protected area authorities are technically sufficient for the primary task of protection but not for development measures in the adjoining zones. Long-term financing of the protection of the two national parks has been provisionally secured from the Ivorian foundation for protected areas to meet the primary objective of protection. However, this cannot cover all the measures and investment required, such as environmental education and development activities in the peripheral zones.

›› APPROACH

› STRENGTHENING THE PARK AUTHORITIES AND IMPROVING MANAGEMENT AND GOVERNANCE STRUCTURES

Both for biosphere reserves as model regions for sustainable development and for national parks/World Heritage Sites, it is imperative that the pertinent protected area authorities and the responsible regional governments have a common vision for sustainable development. Each must be involved in the

INTRODUCTION | NAVIGATION | TOOLS | EXPERIENCES | ›› PROJECTS | SOURCES

215

›› 5.6 Promotion of protected areas on the basis of collaboration between smallholders, park authorities and agro-industry: The example of Côte d'Ivoire

formulation of the other's development strategies to ensure that the protected area becomes an integral part of the region.

The relevant local stakeholders must also be integrated in governance and management structures. Although the intersectoral park management committees formed have only a consultative role, they play a part in reviewing local agreements between the park authorities and local user groups on the management of natural resources in the economic area around the protected areas. This is to ensure that these agreements are subsequently observed. The involvement of local administrative bodies and the population has made a major contribution to the success of the now significantly improved management of the protected areas.

Another important factor in this regard was the strengthening of capacities within the protected area authorities. For example, park staff were trained in monitoring with **SMART** and provided with equipment. Particular attention is paid to poaching, illegal land takeovers and fire monitoring.

Thanks to these efforts, the Comoé Park is now significantly better protected and its ecosystems are slowly recovering. Consequently, Comoé has after 14 years been removed from the UNESCO list of World Heritage Sites in Danger.

› VALUE CHAINS AND PUBLIC-PRIVATE PARTNERSHIPS

A cornerstone of the project is support for poverty reduction by boosting income from sustainable agriculture in the areas around the periphery of the parks. As part of this approach, five value chains incorporating improved production methods have been promoted. With a focus on cacao, cassava (Taï) and cashews, onions and rice (Comoé), the project has initiated nine public-private partnership (PPP) measures with agro-industrial companies.

The local park management committees play a major part in this context. In contrast to the park authorities, the members of these committees, which include local authorities, have a mandate to develop the peripheral zones. They can therefore promote sustainable agricultural value chains in the peripheral zones and can help include private farms and agro-industrial businesses in the vicinity of the protected areas in the protection strategies.

› ASSESSING ECOSYSTEM SERVICES

The many different services that protected areas provide for people are fundamental to the livelihoods of the population of the areas surrounding the parks. Making the government and the private sector aware of the benefits of ecosystem services can help raise the necessary funds for conservation of the protected areas.

An **ecosystem services assessment** was conducted in the Taï National Park, triggered by the business plan's projection of a funding gap of 6.8 million euros for implementation of the management plan for 2014 – 2020. Important steps in this process were:

Defining the scope of the assessment: The concept and its relevance to the fundraising effort were presented at an initial stakeholder workshop. The workshop was also designed to bring stakeholders representing a wide range of interests on board to support the assessment. As a first step, working groups discussed the various ecosystem services in relation to their 'recipients'; the services considered included ecosystem services of public interest (government), those that affect economic activities (private sector) and those of interest to (international) donors in the nature conservation and development sector.

Various services were then selected for a more detailed study. Scenarios in the event of sufficient and of insufficient funding of the protected area authorities were also drawn up. Even a rough outline of this nature can foster a common understanding and highlight the urgency of protection measures.

Findings of the assessment: The assessment concentrated on three areas:
❖ Regional climate regulation for local households and agricultural production: Although quantifiable analysis was beyond the scope of the study, it can be assumed that large-scale tree-felling in the park would change the climate of the region and hence have a (negative) impact on agricultural production. More than one million people in the area depend on farming for their livelihood: within a radius of about 50 km of the park some 200,000 households cultivate cacao, coffee, palm oil and rubber, mainly for export.
❖ Water regulation and supply: Around half a million people benefit from the water resources regulated by the national park (river flows, retention basins, groundwater levels, etc.). The possibility of generating hydropower from rivers whose catchment area lies within the park is a further fundraising argument.
❖ Carbon sinks for global climate regulation: The value of the Taï Park as a carbon sink was calculated with the help of an assumed deforestation rate and the price for avoided deforestation agreed by stakeholders in the national REDD+ process as an appropriate 'value for carbon'.

›› 5.6 Promotion of protected areas on the basis of collaboration between smallholders, park authorities and agro–industry: The example of Côte d'Ivoire

Using the findings: Effective communication is essential in order to impart the findings to the various stakeholders. A range of materials was produced for this purpose. In particular, the 20-page summarising brochure, a plea for the conservation of nature and ecosystem services aimed at decision-makers, was widely used as an argumentation aid by policy-makers and managers, contributing to the following initiatives:

A specific plea was addressed to the private sector, focusing on individual issues: the value chains for cacao and coffee, rubber and palm oil and hydropower, and corporate social responsibility policy in the financial and telecommunication sectors. With regard to corporate social responsibility, this was directed particularly at companies that might be interested in supporting the 'flagship' park even though they have no direct connection with the area. The fundraising itself then concentrated primarily on the cacao sector. So far this has resulted in the Ivorian foundation for protected areas and the Ivorian park authority signing an agreement with the chocolate producer CEMOI and the project developer ECOTIERRA on developing zero-emission cacao production in the zone bordering the park. The Taï economic area is also a focus of the World Cocoa Foundation's Cocoa & Forests Initiative. The initiative, which was set up at the 23rd UN Climate Change Conference in 2017, brings together the two largest cacao-producing countries – Côte d'Ivoire and Ghana – and 32 leading cacao-processing companies.

The argumentation has also had an impact on applications and grants for climate financing, such as the award of 2 million US dollars to promote sustainable management of the Taï National Park as part of the World Bank's Strategic Climate Fund – Forest Investment Project (SCF-FIP) agreed in 2018. Furthermore, in 2018 the Carbon Fund of the Forest Carbon Partnership Facility (FCPF) agreed in principle to a proposal by Côte d'Ivoire that is designed to enable implementation of an emissions reduction programme document (ER-PD) in the Taï economic area and provides for the direct acquisition of emission certificates (Emissions Reduction Purchase Agreements, ERPAs) to the value of around 45 million euros between 2020 and 2024 for investments in the forestry sector.

›› LESSONS LEARNED

Assessment of ecosystem services can
- ❖ focus and shape communication on and the plea for the conservation of protected areas
- ❖ significantly raise awareness of nature conservation at the level of local stakeholders and relevant decision-makers if they are involved in the assessment process
- ❖ open up opportunities to mobilise additional financing for protected areas and the development of their peripheral zones.

›› 5.6 Promotion of protected areas on the basis of collaboration between smallholders, park authorities and agro-industry: The example of Côte d'Ivoire

International recognition can

❖ provide a significant incentive to improve the management of protected areas

❖ be vital to potential allocations of funds: the removal of the Comoé National Park from the list of UNESCO World Heritage Sites in Danger was an achievement at international level for the Ivorian Government and can help mobilise additional national budget funds for management of the park as well as attract external funding for an internationally recognised public good.

❖ highlight the importance of protected areas and enhance awareness of them in the private sector as well as elsewhere; this promotes local acceptance of the parks' protected status and boundaries and can give rise to on-site involvement in nature conservation by global economic players.

›› FURTHER READING

Augustin Berghöfer, Joshua Berger, Inza Koné, Ulrike Tröger, Hans Ulrich Caspary (2018): Ecosystem services for conservation finance: applying the TEEB stepwise approach in Côte d'Ivoire. Biodiversity and Conservation. Springer Nature B.V. 2018

Joshua Berger, Anna Deffner, Fabien Quetier, Florence Baptist, Prof. Inza Kone, Prof. Constant Yves Adou Yao (2015): **Résumé pour décideurs Evaluation de la valeur du Parc national de Taï. Evaluation des services écosystémiques du Parc national de Taï. Patrimoine mondial – Réserve de biosphère – Côte d'Ivoire**

GIZ (2016): In a nutshell. **CASE STUDY: Taï National Park sustains regional agriculture, Ivory Coast. Multiple PA benefits are key to livelihoods and help win co-finance from private sector. ValuES**

6

SOURCES of further information

6.1 ADDITIONAL TOOLKITS, KNOWLEDGE PLATFORMS AND FURTHER READING

›› TOOLKITS FOR MARINE PROTECTED AREAS (MPAS) AND WETLANDS

The IUCN Eastern African Regional Programme, together with WIOMSA, UNEP, WWF and CZMC supports MPA managers and practitioners in the Western Indian Ocean (WIO) with the toolkit **Managing Marine Protected Areas – A Toolkit for the Western Indian Ocean** (IUCN 2004). The toolkit provides a guide on various topics around management processes, conservation, sustainable use and key issues in the context of MPAs, including case study examples and further information.

🔗 **Print version** (accessed on 30 June 2020)
🔗 **Online version** (accessed on 30 June 2020)

🔗 Another toolkit developed by the Ramsar Convention Secretariat focuses on the management and monitoring, description, planning and evaluation of Ramsar Sites but it is also applicable to other wetlands. The **Ramsar Sites Management Toolkit** (Ramsar Convention Secretariat) therefore aims to provide simple guidance on the key steps in wetlands management planning. (Accessed on 30 June 2020)
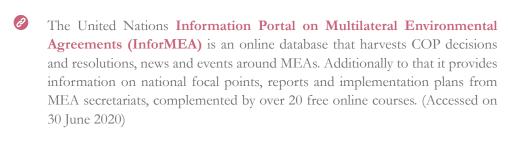
›› KNOWLEDGE AND LEARNING EXCHANGE

🔗 **PANORAMA – Solutions for a healthy planet – Portal on Protected Areas** (IUCN, GIZ, GRID-Arendal, Rare, IFOAM-Organics International) is a platform that shares best practice examples of inspiring, replicable solutions in the context of PAs and many other themes related to conservation and sustainable development. The partnership initiative offers practitioners the opportunity to share and reflect on their own experiences and to learn from other organizations across the globe, which deal with similar challenges. (Accessed on 30 June 2020)

›› FURTHER READING

🔗 The globally designed project **ValueES – Methods for integrating ecosystem services into policy, planning and practice** (BMU, IKI, GIZ, UFZ, CSF) aids decision-makers in the application of the concept of ecosystem services and promotes ecosystem-friendly measures and policies by providing instruments and training courses, technical advice, facilitating planning and knowledge sharing. The website offers in-depth information on a wide range of methods, tools and sources, which overlap with PA related topics, as well as case studies from various regions. (Accessed on 30 June 2020)

›› 6.1 Additional toolkits, knowledge platforms and further reading

The United Nations **Information Portal on Multilateral Environmental Agreements (InforMEA)** is an online database that harvests COP decisions and resolutions, news and events around MEAs. Additionally to that it provides information on national focal points, reports and implementation plans from MEA secretariats, complemented by over 20 free online courses. (Accessed on 30 June 2020)

A comprehensive collection of questions and answers about practical conservation as well as an assessment of the effectiveness of 1277 conservation interventions by international experts can be found in **What Works in Conservation** (Sutherland et al. 2018). It covers a lot of different subjects and ecosystems ranging from the conservation of amphibians, birds and primates to practices on peatlands, forests, farmlands and many more. The accompanying website describes each of the studies in detail.

Book (accessed on 30 June 2020)

Website (accessed on 30 June 2020)

William J. Sutherland, Lynn V. Dicks, Nancy Ockendon, Silviu O. Petrovan, Rebecca K. Smith (2018). **What Works in Conservation.**

Protected Area Governance and Management (Worboys et al. 2015) presents an extensive overview of the most essential topics related to PAs. The resource aims to promote capacity development in order to achieve a more effective and equitable management of PAs. (Accessed on 30 June 2020)

Graeme Worboys, Michael Lockwood, Ashish Kothari, Sue Feary, Ian Pulsford (2015). **Protected Area Governance and Management.**

The resource **Theory of Change. A thinking-action approach to navigate in the complexity of social change processes** (Retolaza 2011) published jointly by Hivos and UNDP can be used in addition to technical tools as a guide for taking social development and change processes in the planning of PAs into account, for example, to prevent social conflicts that can occur due to land-use changes.

Theory of Change (accessed on 30 June 2020)

6.2 OVERVIEW OVER PA-RELATED TRAINING OPPORTUNITIES AND RESOURCES

›› HIGHER EDUCATION

› MSc COURSES

Biosphere Reserves Management, Eberswalde University for Sustainable Development (Germany), accessed on 30 June 2020 at 🔗

Management of Protected Areas, University of Klagenfurt (Austria), accessed on 30 June 2020 at 🔗

Protected Area Management Major, James Cook University, Townsville/ Cairns (Australia), accessed on 30 June 2020 at 🔗

Sustainable Forest and Nature Management (SUFONAMA), Erasmus Mundus Programme of University of Copenhagen (Denmark), Bangor University (UK), University of Göttingen (Germany), Swedish University of Agricultural Sciences (Sweden) and University of Padova (Italy), accessed on 30 June 2020 at 🔗

Sustainable Resource Management, TUM School of Life Science Weihenstephan (Germany), accessed on 30 June 2020 at 🔗

Sustainable Tourism, Sustainability Management School, Gland (Switzerland), accessed on 30 June 2020 at 🔗

World Heritage Conservation, University College Dublin (Ireland), Online Course, accessed on 30 June 2020 at 🔗

World Heritage Studies, Brandenburg University of Technology Cottbus-Senftenberg (Germany), accessed on 30 June 2020 at 🔗

›› DEDICATED TRAINING INSTITUTIONS, INITIATIVES AND NETWORKS WHICH OFFER RELEVANT COURSES

› INTERNATIONAL

BIOPAMA project (IUCN): project with a strong capacity development (including training) focus on PAs in African, Caribbean and Pacific countries; has developed curricula and conducted trainings on many aspects of PA management and governance, accessed on 30 June 2020 at 🔗

›› 6.2 Overview over PA-related training opportunities and resources

Blue Solutions Project (GIZ, IUCN, Grid-Arendal, UN Environment): four different trainings (materials are open source, can be used for self-study, available in English, partly in French, Portuguese, Spanish, Vietnamese) for the marine realm, which can be PA relevant, accessed on 30 June 2020 at 🔗

❖ Financing Sustainable Management of Marine and Coastal Biodiversity
❖ Climate Change Adaptation in Marine and Coastal Areas
❖ Integrating Ecosystem Services into Marine and Coastal Development Planning
❖ Enabling ecosystem-based marine and coastal planning and management

Resources are provided in the subsection of each training and include training factsheets, participant handbooks, a trainer handbook and a cookbook for conveners.

CCNET Conservation Coaches Network: a global network of practitioners, coaches and trainers with the goal to support the implementation, learning and teaching of the Conservation Measures Partnership Open Standards (CMP OS), trainings focus on preparing new coaches, accessed on 30 June 2020 at 🔗

› EUROPE

Conservation Leadership Programme, FFI, BirdLife International, & WCS (mainly UK), accessed on 30 June 2020 at 🔗, (mainly project based learning for early career conservationists, not exclusive to PAs but highly relevant)

Environmental Education Centre for Zapovedniks Moscow (Russia), accessed on 30 June 2020 at 🔗, (PA training and capacity building centre with various courses and related activities in the Russian Federation and possibly neighbouring countries)

Europarc Grants, Alfred Toepfer Stiftung F.V.S. Hamburg (Germany), accessed on 30 June 2020 at 🔗, (mainly grants for learning internships in pan-European PAs for early-career conservationists, limited to pan-Europa)

European Parks Academy, University of Klagenfurt and World Commission on Protected Areas (IUCN/WCPA) (Austria), accessed on 30 June 2020 at 🔗, (advanced training for decision makers and persons responsible for PAs)

Klaus Toepfer Fellowship Programme, German Federal Agency for Nature Conservation, Isle of Vilm (Germany), accessed on 30 June 2020 at 🔗 , (for EECCA countries only, focus on general biodiversity conservation but high relevance to PAs)

NATUREGIO-BALKANS, Alfred Toepfer Stiftung F.V.S. Hamburg (Germany), accessed on 30 June 2020 at 🔗, (specific to Balkan countries)

›› 6.2 Overview over PA-related training opportunities and resources

› ASIA-PACIFIC

International Ranger Federation, Asquint NSW (Australia), accessed on 30 June 2020 at 🔗, (runs World Ranger Congress every three years, with strong learning elements on PAs)

Protected Area Learning and Research Collaboration (Australia), accessed on 30 June 2020 at 🔗, (network of research institutions with relevance to conservation and particularly PAs in the Asia, Pacific and Oceania region, with various relevant courses)

Wildlife Institute of India, Uttarakhand (India), accessed on 30 June 2020 at 🔗, (various courses on conservation and PAs with a geographic focus on India)

› AFRICA

Southern African Wildlife College (South Africa), accessed on 30 June 2020 at 🔗, (various courses on conservation and particularly PAs with a geographic focus on southern Africa)

›› E-LEARNING

Blue Solutions Project (GIZ, IUCN, Grid Arendal, UN Environment): Webinars on Marine Ecosystem Services, Community-Led MPA Management and Certification of Fisheries as part of the PANORAMA – Solutions for a Healthy Planet webinar series, accessed on 30 June 2020 at 🔗

CBD Secretariat: Programme of Work on Protected Areas (PoWPA) Curricula (19 online modules with certificates), Conservation Training, accessed on 30 June 2020 at 🔗

Conservation Measures Partnership (CMP) Open Standards Curriculum (15 online modules), Conservation Training, accessed on 30 June 2020 at 🔗

Coral Triangle MPA Curriculum (12 short online modules), Coral Triangle Center, Conservation Training, accessed on 1 July 2020 at 🔗

GIS curriculum (6 online modules), Conservation Training, accessed on 1 July 2020 at 🔗

InforMEA learning (over 20 free online courses on Multilateral Environmental Agreements), accessed on 1 July 2020 at 🔗

MOOC on Protected Areas Management (7 modules, English and French, open access; further courses on Ecological Monitoring, Law Enforcement and Species Conservation) IUCN and PAPACO, accessed on 1 July 2020 at 🔗

›› 6.2 Overview over PA-related training opportunities and resources

PA Law Capacity Development (12 modules, open access, in English some even in French and Spanish), IUCN, accessed on 1 July 2020 at 🔗

QGIS Tutorial for QGIS v3.0, Texas A&M University (USA), accessed on 1 July 2020 at 🔗

›› COURSE CURRICULA AND TRAINING MANUALS

BirdLife International, Fauna & Flora International (FFI), Tropical Biology Association (TBA), University of Cambridge (2016): Intrinsic. **Integrating Rights & Social Issues into Conservation. A trainer's Guide**. Accessed on 1 July 2020 at 🔗

FAO (2016): **Free Prior and Informed Consent. An indigenous peoples' right and good practice for local communities. Manual for project practitioners.** Accessed on 1 July 2020 at 🔗
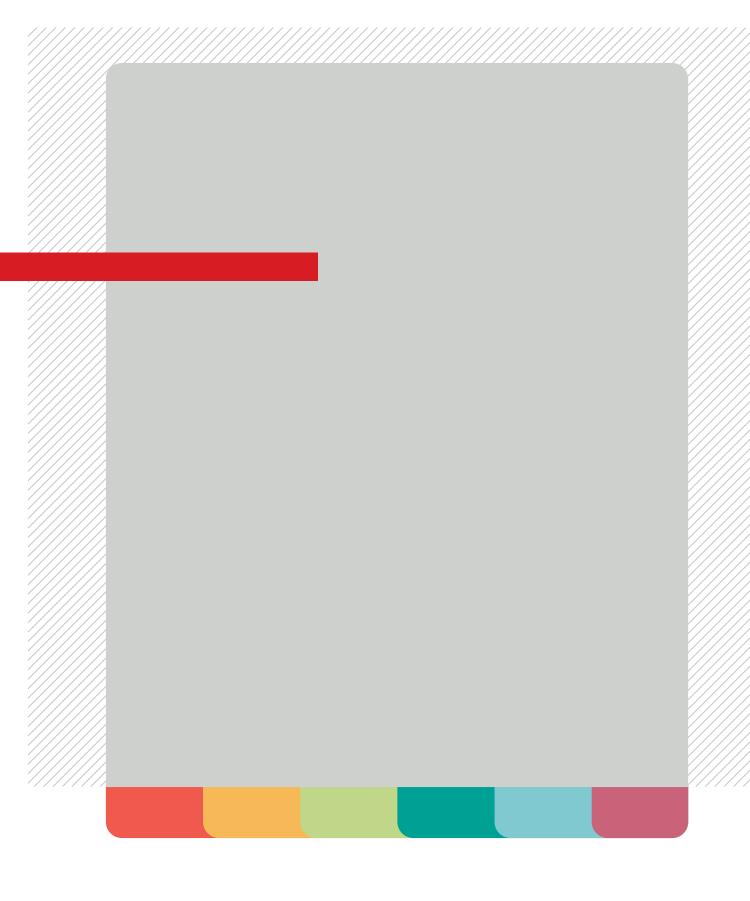
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WildTeam (2018): **Delivering Training Workshops for Wildlife Conservation v1.** WildTeam, Cornwall, UK. Accessed on 1 July 2020 at 🔗

Worah, S./RECOFTC (2008): **Participatory Management of Forests & Protected Areas – A Trainer's Manual.** Accessed on 1 July 2020 at 🔗

On behalf of

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