



Protected Areas Benefits Assessment Tool + (PA-BAT+)

A tool to assess local stakeholder perceptions of the flow of benefits from protected areas

Kasandra-Zorica Ivanić, Sue Stolton, Carolina Figueroa Arango and Nigel Dudley



Protected Area Technical Report Series No 4



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IUCN PROTECTED AREA DEFINITION, MANAGEMENT CATEGORIES AND GOVERNANCE TYPES

IUCN defines a protected area as:

A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

The definition is expanded by six management categories (one with a sub-division), summarized below.

Ia Strict nature reserve: Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values.

Ib Wilderness area: Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition.

II National park: Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.

III Natural monument or feature: Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove.

IV Habitat/species management area: Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category.

V Protected landscape or seascape: Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value; and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

VI Protected areas with sustainable use of natural resources: Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims.

The category should be based around the primary management objective(s), which should apply to at least three-quarters of the protected area – the 75 per cent rule.

The management categories are applied with a typology of governance types – a description of who holds authority and responsibility for the protected area. IUCN defines four governance types.

Type A. Governance by government: Federal or national ministry/agency in charge; sub-national ministry or agency in charge (e.g. at regional, provincial, municipal level); government-delegated management (e.g. to NGO).

Type B. Shared governance: Trans-boundary governance (formal and informal arrangements between two or more countries); collaborative governance (through various ways in which diverse actors and institutions work together); joint governance (pluralist board or other multi-party governing body).

Type C. Private governance: Conserved areas established and run by individual landowners; non-profit organisations (e.g. NGOs, universities) and for-profit organisations (e.g. corporate landowners).

Type D. Governance by Indigenous peoples and local communities: Indigenous peoples' conserved areas and territories - established and run by Indigenous peoples; community conserved areas – established and run by local communities.

For more information on the IUCN definition, categories and governance types see Dudley (2008). *Guidelines for applying protected area management categories*, which can be downloaded at: www.iucn.org/pa_categories

For more on governance types, see Borrini-Feyerabend, et al., (2013). *Governance of Protected Areas: From understanding to action*, which can be downloaded at <https://portals.iucn.org/library/node/29138>

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Foreword

As any expert in the field of conservation will tell you, the primary goal of a protected area is to maintain its natural values. Depending on the area in question these values range from endangered species and habitats to wider ecosystems that are under threat due to ever-expanding human influence.

If carefully planned and well managed, the protection of natural values can also provide a range of outcomes beyond biodiversity conservation, benefitting diverse stakeholders and supporting management of the protected area itself. These beneficial outcomes are commonly referred to as the provision of ecosystem services or, more recently, nature's contribution to people (Diaz et al., 2018). They range from maintaining the carbon storage of old growth forests and protecting wetlands performing an important function for water purification to providing opportunities for recreation and tourism while also supporting *in situ* conservation of agriculturally important fruit and crop varieties.

Never have I been more reminded of this dual role of protected areas than I was during my recent visit to Kenya. Touring the country's national parks, wildlife reserves and conservancies, it was immediately evident that, from the charismatic megafauna to the savannah landscapes, these areas played a crucial role in maintaining and protecting some of the world's most iconic natural values. Beyond that, however, the areas were also inherently interconnected with the lives of people within and around them with significant contributions – either materialised or potential – to different aspects of sustainability and well-being. Furthermore, it was obvious that the awareness of people of the protected area benefits directly correlated with their willingness to support the management of these areas, increasing conservation effectiveness. This was particularly the case when benefits translated into concrete contributions to people's well-being and livelihoods, for example in the form of employment, skills and education (e.g. training of rangers and wildlife guides) or revenue (e.g. sales of arts and crafts).

The above anecdotal evidence aside, the insights from research and reviews are indisputable; protected areas and the natural values they help to conserve can provide benefits for people and that, in turn, allows people to support conservation. Furthermore, if properly managed

and sustainably utilised, protected areas can deliver more than their fair share of benefits in return, even providing returns far above the level of investment needed to manage them. A recent review that built on the largest and most comprehensive socio-economic and environmental dataset assembled to date found consistent statistical evidence to suggest that protected areas can positively affect human well-being across the developing world (Naidoo et al., 2019). These findings support the numerous individual case studies and examples documented over the past decade from around the world that have identified and demonstrated benefits associated with protected areas, including for example by Kettunen and ten Brink in 2013.

As in the case of Kenya, engaging with diverse local stakeholders is the cornerstone for establishing a successful protected area management regime that provides for both biodiversity and people. However, too often this engagement is still focused on informing people about management rather than asking people for their opinions and seeking to involve them in conservation efforts in a way that creates ownership and, ideally, provides tangible benefits in return.

Since 2007, the Protected Areas Benefits Assessment Tool – or PA-BAT for short – has provided an important instrument to support the management of protected areas. It has done so through facilitating an approach to stakeholder engagement that genuinely involves local stakeholders in the discussion and assessment of values protected by, and benefits flowing from, protected areas and other area-based conservation initiatives. The application of PA-BAT has helped to pave the way towards adopting management regimes that treat local stakeholders as an integral, rather than external, part of the existence of protected areas.

The insights and lessons learned from Kenya and elsewhere in the world highlight the continued relevance of stakeholder involvement in protected area management, especially in an era when the conservation of nature is recognised to play an integral role in the delivery of the 2030 Sustainable Development Goals. This new version, the PA-BAT+ (the + indicating the level of participation envisaged in the implementation of the tool), provides a valuable and well-tested approach to doing so.

Marianne Kettunen

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Preface



PA-BAT+ training © Equilibrium Research

Protected areas need to balance a complicated range of practical and ethical issues; the most complicated of all being to balance ethical concerns for the survival of what we might call “wild nature” with ethical concerns for people who live in rich and highly diverse natural habitats. We have long believed that a proper understanding of the full range of values available from natural ecosystems, coupled with strong and varied governance structures and rule of law that ensures at the very least local participation in decision making, can result in protected areas that are good for both people and nature. The development of the tool described in this volume has been led by this belief – and the need to develop a simple way of increasing the understanding of how ecosystem values turn into benefits and how the distribution of these benefits flow from protected areas to stakeholders near and far, working with and based on the experiences and perceptions of local communities.

The Protected Areas Benefits Assessment Tool (PA-BAT) was developed initially in 2007 as a means of collecting information for *Safety Net: Protected Areas and Poverty Reduction* (Dudley et al., 2008), the fourth volume in the WWF and partners’ *Arguments for Protection* series. The tool aimed to identify some of the wider benefits that protected areas provide to human well-being and thus their contribution to poverty reduction. The idea was to move from an economic-based definition of absolute poverty, such as living on less than US\$1 per day as it was defined a decade ago, to a more sophisticated discussion focused on the elements of well-being. The tool was therefore designed with the more holistic definition of ‘well-being’ used to express the boundaries of poverty, based on the frameworks developed by the Organisation for Economic Co-operation and Development (OECD, 2001) and the UK’s Department for International Development (DFID, 1999). The tool was thus based on an interpretation of the five fundamental dimensions of well-being:

- ✓ **Subsistence:** non-economic benefits that contribute to well-being (e.g. health, nutrition, clean water and shelter)
- ✓ **Economic:** benefits that provide the ability to earn an income, to consume and to have assets
- ✓ **Cultural and spiritual:** pride in community, confidence, living culture, spiritual freedom, education
- ✓ **Environmental services:** role in environmental stability and provision of natural resources
- ✓ **Political:** relating to issues of governance and thus influence in decision-making processes

This first version of the PA-BAT was completed by researchers and practitioners (either protected area or WWF staff) as a desk-based study. The results of this limited implementation suggested that the tool might have wider application. In 2008, a version of the PA-BAT was published, and interest grew in using the tool to gather wider stakeholder input into the assessment of protected areas benefits. Specifically, the tool was used in 2009 by WWF in Turkey in the Küre Mountains National Park (KMNP) and its buffer zone (Bann, 2010; Stolton et al., 2015;). At the time, KMNP had no management plan, but the management had a strong focus on involving local communities in planning related to the national park and buffer zone. Also, protected area staff wanted to better understand the benefits of the park. The opportunity to use the tool in stakeholder meetings led to the development of a totally new method of implementation; the lessons from which, and subsequent applications, are brought together in this publication.

The quality of stakeholder participation is strongly dependent on the nature of the process. The revised version of the PA-BAT (Dudley & Stolton, 2009) was developed in line with best practice approaches to stakeholder involvement identified from a literature review of stakeholder participation in environmental management (Reed, 2008), which notes the need to ensure iterative and two-way learning between participants. **The main innovation of the revised PA-BAT was to develop an implementation process based on consensus-building as a way of initiating discussion around a topic, encouraging stakeholders to understand different opinions and to debate the assessment.**

Guidance on using the PA-BAT in stakeholder workshops was added as an appendix to the 2009 revised version. Since then, the tool has been used extensively in the Western Balkans region of Europe (58 protected areas in eight countries) and has been trialled and incorporated into the management assessment system for all government managed national protected areas in Colombia. Stakeholders in other countries, including Chile, Ethiopia and Alaska, USA have also used the tool. A simplified version of the tool is used as part of IUCN's World Heritage Outlook Methodology.

Experience from Europe, Latin America and elsewhere has shown the utility of the PA-BAT to assess the understanding of protected area benefits with local communities and other stakeholders in the field. At the same time, the need to understand protected area benefits has grown as has the calls for this information from national and international organisations like the Convention on Biological Diversity and initiatives such as the Sustainable Development Goals, with more demands from protected area professionals for simple tools to assess benefits. Rather than update the latest version of the tool (Dudley & Stolton, 2009), it was decided to develop **a new volume of technical guidance, bringing in new authors and examples from around the world and developing a PA-BAT+ tool which incorporates the experiences and lessons learned from over a decade of implementation; the plus (+) indicating the level of participation envisaged in the implementation of the tool.**

Given this focus on using the tool to gather information on benefits from local communities and other stakeholders, the main differences between the PA-BAT (Dudley & Stolton, 2009) and the PA-BAT+ presented here are:

1. The PA-BAT+ has been developed for use in workshops with local communities and other stakeholders living in or near protected areas (or in any other type of area-based conservation site).
2. Using day-long or half-day workshops means that the complexity of data on individual benefits outlined in the datasheets of the 2009 PA-BAT has been simplified in the PA-BAT+, with the focus moving to gathering information from local people rather than the detailed data suggested in the 2009 version.

It should be noted that the original PA-BAT (Dudley & Stolton, 2009) is still relevant for collecting information on protected area benefits in a range of circumstances and can provide the basis for adaptation.

**Sue Stolton, Equilibrium Research
Nigel Dudley, Equilibrium Research and IUCN WCPA
Natural Solutions Specialist Group**

Executive summary

As the protected area estate continues to expand and the threats to biodiversity multiply, the resources required to manage and protect these areas effectively are also increasing. It is acknowledged that protected areas are under-resourced in part because there is not a full understanding of their multiple benefits. To maintain and where necessary expand area-based conservation there is a need to demonstrate its wider uses and appeal.

The Protected Areas Benefits Assessment Tool+ (PA-BAT+) aims to collate and assess information about the overall benefits from conservation and protection in protected areas. It can also be used in other area-based conservation sites. This technical guidance focuses on the use of the tool to assess local stakeholders' perceptions of these benefits and the flow of these benefits to stakeholders. This is based around an implementation process which relies on consensus-building as a way of developing discussion around a topic, encouraging stakeholders to understand different opinions and to debate the assessment.

The original PA-BAT was conceived as part of the WWF International project 'Arguments for Protection'. First developed in 2007 the tool was designed as a series of assessment forms around 24 possible ecosystem values from protected areas that could produce benefits (economic and non-economic) to a range of stakeholders.

As implementation of the tool has increased it has developed to include a refined stakeholder workshop approach, use of mapping and visualisation techniques, a specially designed data management and analysis tool and integration into wider protected area assessment systems. The PA-BAT+ (the +

being added to distinguish this version of the tool, which involves a detailed explanation of the implementation process) has evolved into a unique methodology for protected area practitioners who wish to collect quantitative and qualitative information from stakeholders on the range and spread of protected areas benefits across stakeholder groups. The tool takes a human rights-based approach (e.g. ensuring equal rights, involvement of marginalised groups such as ethnic minority groups, young people, elderly people and ensuring gender balance).

The PA-BAT+ has multiple aims including to:

- Reach a common understanding of the ecosystem values and benefits of the protected area
- Learn how stakeholders perceive ecosystem values and benefits (both economic and non-economic)
- Discuss issues of common interest
- Assess where local communities see potential for further sustainable development of benefits
- Enable collaboration in the future among stakeholders and protected area managers
- Aid sustainable management of protected area resources
- Help identify and inform potential funding mechanisms for protected areas and stakeholders.

This technical guidance provides a quick overview of why understanding the benefits from protected areas is important, provides a detailed guide to using the PA-BAT+ and explains how to understand and use the results. Seven case studies outline different uses and adaptations of the tool in Croatia, Colombia, Turkey, Myanmar, USA and Ethiopia, as well as describing the use of the tool across natural World Heritage sites.

Acknowledgements

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dedication to obtain the best results during its implementation. We would like to thank the German Federal Agency for Nature Conservation (Bundesamt für Naturschutz – BfN) International Academy for Nature Conservation for hosting the Authors during a week's workshop to brainstorm and outline the contents of the publication. We would also like to thank the two expert reviewers of this document Kate Schreckenber, King's College London, and Rachel Neugarten, Cornell University, for their wisdom, experience and wise words which helped us refine and rework the document. Thanks also to Kathy MacKinnon and Craig Groves of IUCN WCPA and Trevor Sandwith of IUCN Global Protected Areas Programme for their comments on the final draft and to Caroline Snow for her proof-reading skill.

Glossary

Benefit: refers here to an ecosystem value that provides direct gains or advantages to stakeholders, which could be in terms of money earned, or subsistence resources collected, or less tangible gains such as spiritual peace or mental well-being or climate stabilisation.

Biophysical measurement: measures physical changes that take place over a period of time related to a specific indicator and using an accepted measurement procedure. This provides statistically reliable data that can form the basis for measuring impact and change (Sette, 2008).

Civil society organisations (CSO): non-governmental organisations and institutions often referred to as the 'third sector' of society, distinct from government and business.

Dis-benefit: is an actual consequence of a project / management practice which is perceived to be negative by one or more stakeholders.

Direct use: the immediate uses we make of ecosystem services. Examples in this context might be catching and selling fish whose populations are maintained within marine protected areas. Direct uses often refer to some kind of harvesting and are often provisioning services.

Ecosystem services: the benefits provided by ecosystems that contribute to human life.

Ecosystem value: in this context protected areas (as defined by IUCN in Dudley, 2008) have a range of ecosystem service and cultural values. Some of these may produce benefits if they provide direct gains or advantages to stakeholders (see definition of benefits above).

Indirect use: more diffuse benefits, often affecting a large number of people and sometimes including populations far from the origin of the resource. They tend to be non-consumptive benefits and are often regulating services. Indirect use tends to include such benefits as clean water from a forested watershed or disaster risk reduction from coastal protection and soil stabilisation. Although indirect use benefits have important economic and welfare consequences, they are relatively more difficult to express in economic terms and more difficult still to link with particular beneficiaries.

Indigenous and traditional people: defined by the United Nations (UN) as "The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure

which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant." (Working definition adopted by the UN Working Group on Indigenous Peoples; source: https://www.iucn.org/sites/dev/files/iucn-glossary-of-definitions_march2018_en.pdf).

Local people/community: a group of individuals and interested parties sharing the same territory. Moreover, they are involved in different but related aspects of living together. In this case, local community refers to inhabitants from the territory of the protected area and its vicinity.

Local business: in this context, this would usually mean a locally owned business providing goods with an economic value to the local / regional community. When completing the PA-BAT+, it is likely that many participants will be local communities who are also running businesses. Participants in workshops should be encouraged to consider both their personal (e.g. local community) and business (e.g. running a local food or tourism operation) perceptions of the protected area.

Local community engagement: refers here to opportunities to share experiences and sustainable practices with the wider community.

Permitted: in this context permitted means that the exploitation of the resource from the protected area does not break the law. This can include situations where it is legally sanctioned, possibly by a permit or licensing system (e.g. collection of non-timber forest products), or not addressed through the legal system and therefore effectively sanctioned (e.g. recharge of groundwater resources from within the protected area). Although it is recognised that illegal use can and does take place in protected areas, and that in some cases it could be argued that this is ethically justified (e.g. illegal use by communities that have been forcibly displaced by protected areas), it is not the aim of the current assessment system to measure these illegal uses.

Protected area (PA): defined by IUCN as: "A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008).

Rights holders: the goods that a person or group may acquire based on prerogatives, opportunities, property or social custom (source: https://www.iucn.org/sites/dev/files/iucn-glossary-of-definitions_march2018_en.pdf).

Subsistence: relates to production (e.g. small-scale agriculture, local honey collection, etc.) at a level sufficient only for a family's own use or consumption, without any surplus

for trade. Subsistence collection can be a matter of social choice (e.g. mushroom or berry collecting as a leisure activity that also produces food), a vital element of nutritional intake (e.g. fishing, hunting) or necessary for general well-being (e.g. water, fuelwood, building material).

Stakeholders: in this context are considered to be any individuals who can affect the protected area's performance or who are affected by the achievement of the protected area's objectives (Freeman, 1984). In the text the term stakeholder is assumed thus to include rights-holders, protected area authorities and any other interested party.

Well-being: a good or satisfactory condition of existence characterised by health, happiness, a safe environment, etc.

1.1 Understanding ecosystem services

The PA-BAT+ takes as its starting point a widely recognised framework for ecosystem services and related goods (Millennium Ecosystem Assessment, 2005) as applied to protected areas (see Figure 1 and Box 1), and uses this as a basis for developing a tool for exploring local communities' perceptions of benefits and the flow of benefits from protected areas.

The relationship between protected areas and people living in or near them remains complex; with rights holders' and stakeholders' attitudes ranging from support of protected areas to outright resistance. There has been an increasing focus on governance of protected areas, in particular in relation to achieving the Convention on Biological Diversity (CBD) target of equitable management in the 2010-2020 Aichi Biodiversity Targets. Such international direction is a good step towards ensuring better social and conservation outcomes, but this needs to be supported by more action on the ground.

The CBD voluntary guidance on effective governance models for management of protected areas (CBD, 2018) defines the concept of equity, one of the elements of good governance. The guidance breaks down equity into three dimensions: recognition, procedure and distribution: *recognition* being the acknowledgement of and respect for the rights and the diversity of identities, values, knowledge systems and institutions of rights holders and stakeholders; *procedure* refers to the inclusiveness of rule- and decision-making; and *distribution* implies that costs and benefits resulting from the management of protected areas must be equitably shared among different actors. The PA-BAT+ is firmly embedded within these concepts. It starts by recognising local people's perceptions as the first and foremost step in understanding the role a protected areas, or any other area-based conservation site, in terms of the provision of benefits and their distribution (see section 1.4 for discussion on the focus on benefits and other tools that look at costs). One of the primary uses of the assessment results is to encourage greater involvement of local people in decision making and to recognise their role in informing management and ensuring equity in management.

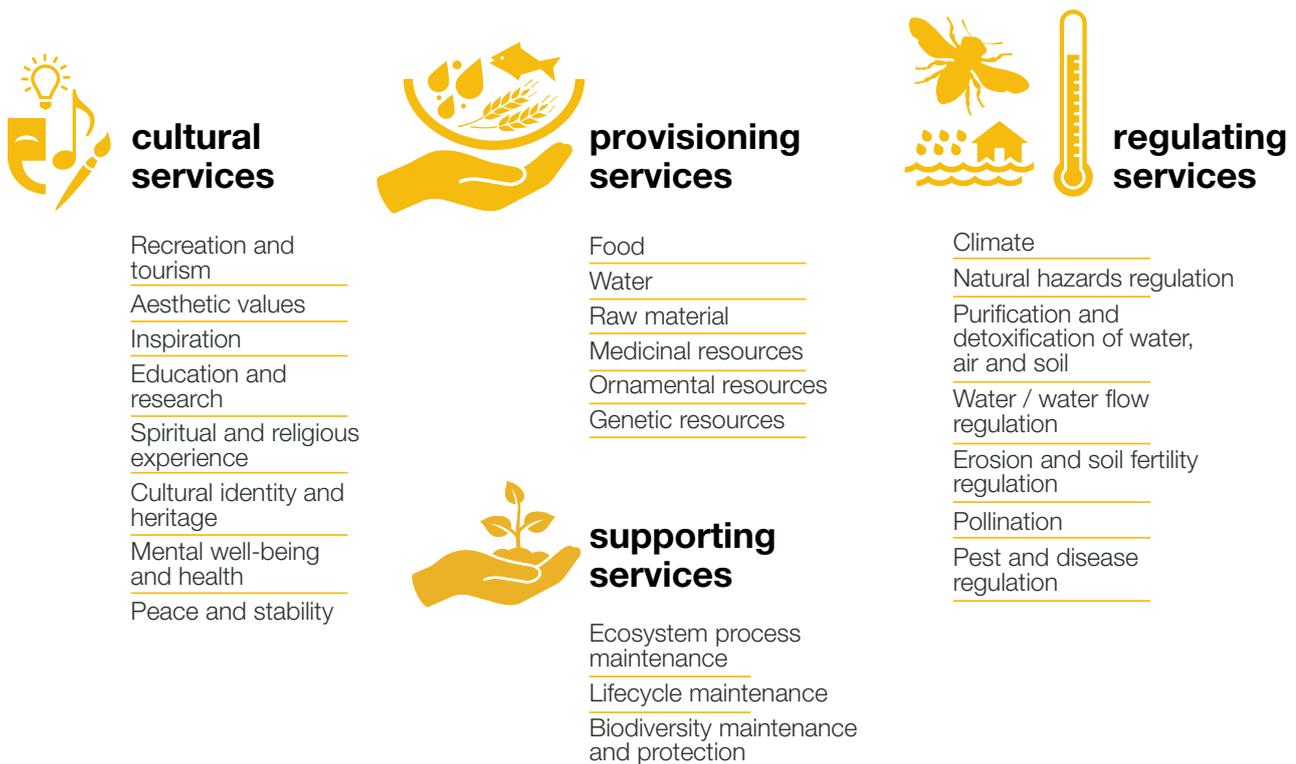


Figure 1: **Ecosystem services and related goods (adapted from multiple sources including the Millennium Ecosystem Assessment, 2005)**

Box 1

Ecosystem services and related goods from protected areas

(adapted from Stolton et al., 2015)

Provisioning services: ecosystems' ability to provide resources

1. Food provisioning
2. Water provisioning
3. Provisioning of raw material (e.g. timber, fibre, etc.)
4. Provisioning of medicinal resources / biochemicals (e.g. natural (often traditional) medicines, cosmetics, pharmaceuticals, etc.)
5. Provisioning of ornamental resources
6. Provisioning of genetic resources

Regulating services: ecosystems' beneficial regulatory processes

7. Climate regulation
8. Natural hazards regulation
9. Purification and detoxification of water, air and soil
10. Water / water flow regulation
11. Erosion and soil fertility regulation
12. Pollination
13. Pest and disease regulation

Cultural services: ecosystems' non-material benefits

14. Opportunities for recreation and tourism
15. Aesthetic values
16. Inspiration for the arts
17. Information for education and research
18. Spiritual and religious experience
19. Cultural identity and heritage
20. Mental well-being and health
21. Peace and stability

Supporting services: services necessary for the provision of all other ecosystem services

22. Ecosystem process maintenance (e.g. soil formation, nutrient cycling, primary production, etc.)
23. Lifecycle maintenance (e.g. nursery habitats, seed dispersal, species interactions, etc.)
24. Biodiversity maintenance and protection (e.g. genetic, species and habitat diversity)

Whilst recognizing that rights holders and stakeholders are regarded as two different groups, to avoid endless repetition here we use the term stakeholder to encompass both (also see glossary).

1.2 Understanding the role of protected areas in providing ecosystem services

As the protected area estate continues to expand and the threats to biodiversity multiply, the resources required to manage and protect these areas effectively are also increasing. It is acknowledged that protected areas are under-resourced (Mansourian & Dudley, 2008; Lindsey et al., 2018) in part because there is not a full understanding of their multiple benefits (Balmford et al., 2002). To maintain and where necessary expand the protected area network there is a need to demonstrate its wider uses and appeal. Further, it is generally not enough to simply show that these benefits exist; they need to stack up economically and socially as well. This need was recognised explicitly in the CBD's *Programme of Work on Protected Areas*, for example in paragraph 3.1.2: "Conduct national-level assessments of the contributions of protected areas, considering as appropriate environmental services, to the country's economy and culture...". More recently the role of protected areas and the Sustainable Development Goals (SDGs) was highlighted in the decisions of the 13th CBD Conference of Parties (COP) including a call for the: "*Mainstreaming of protected areas and other effective area-based conservation measures across sectors*

to contribute, inter alia, to the Sustainable Development Goals and as natural solutions to combat climate change" (see Table 1). In 2017, the IUCN World Commission on Protected Areas provided an analysis of how protected areas could contribute to each of the SDGs and some of the implications for protected area management (Dudley et al., 2017a). A selection of important links is outlined in Table 1. Finally, at COP 14, Annex II of the decision which focused on protected areas called for the "*assessment and monitoring of economic and sociocultural costs and benefits associated with the establishment and management of protected areas, and avoid, mitigate or compensate for costs while enhancing and equitably distributing benefits"* (CBD, 2018).

1.3 A range of tools to assess ecosystem services

The PA-BAT+, of course, is not the only tool available for assessing ecosystem services. Benefits can be assessed at three levels: qualitative, quantitative and monetary (Kettunen & ten Brink, 2013). Qualitative valuation, such as the PA-BAT+, focuses on benefits of protected areas; for example, by describing the role of a protected area in supporting local culture and identity. Quantitative indicators of benefits focus on numerical data including, for example, number of visitors to an area or the quantity of carbon stored in a protected area. Monetary valuation focuses on capturing or reflecting the different benefits in monetary terms; for example, by calculating the revenue generated by visitors or defining the value of carbon storage. Only a limited number of benefits can be captured through monetary indicators. IUCN WCPA has

Table 1: Major contributions of protected areas to the SDGs (Source: adapted from Dudley et al., 2017a)

SDG		Contribution of protected areas
1	No poverty	Using protected areas as a means of providing jobs and subsistence benefits, particularly for poor people, often in rural areas with few other income-generating opportunities.
2	Zero hunger	Providing basic supporting services such as soil production and stabilisation of water supplies, conserving crop and livestock wild relatives critical for agricultural breeding; maintaining populations of hunted wild species, particularly stabilising fish populations.
3	Good health and well-being for people	Promoting the role of protected areas as green gyms and places for treatment of those with mental health and addiction issues.
4	Quality education	Utilising protected areas, particularly those near urban centres, to provide basic knowledge of ecosystem functioning, and to address nature-deficit problems in people of all ages.
6	Clean water and sanitation	Protecting water towers, cloud forests and forested catchments for their water services.
11	Sustainable cities and communities	Incorporating protected areas as buffers for cities, both as important urban and peri-urban green space for recreation and access to nature and using protected areas to provide mitigation of and adaptation to climate change, including cooling and absorption for flood water.
13	Climate action	Ensuring that natural ecosystems in protected areas provide mitigation of and adaptation to climate change, strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
14	Life below water	Making the wider case for marine protected areas (MPAs) as providers of sustainable fishing, through provision of fishery protection, nurseries and breeding grounds; of coastal protection and carbon storage. Increasing the number, size and effective management of a global MPA system, including in the high seas.
15	Life on land	Ensuring the conservation of terrestrial and freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands.

produced best practice guidelines which provide a comprehensive overview of the available methods, including the PA-BAT, and their appropriate application (Neugarten et al., 2018).

1.4 Introduction to the PA-BAT+

The PA-BAT+ has been developed for use in all protected areas (i.e. in all IUCN management categories and governance types) and in any biome. It can also be used in other sites dedicated to area-based conservation which do not meet the definition of a protected area, such as other effective conservation measures (IUCN, 2019). The tool outlined in this manual describes a method of engaging the local community and other relevant stakeholders in a workshop to discuss the benefits provided by a specific protected area, to assess the type of benefit (economic or non-economic/subsistence) and to identify who they think benefits most, ranging from local to global stakeholders. The implementation process is based on consensus-building to ensure discussion around protected areas' values, encouraging stakeholders to understand different opinions and to debate the assessment results.

At its simplest, the tool can be regarded as an aide memoire to help think logically about the types of benefits, who benefits and by how much, where local communities perceive potential benefits and the degree to which particular benefits are linked to protection strategies. If repeated over time, it can also help to identify if and by how much these benefits are changing.

The PA-BAT+ focuses on assessing legal benefits as a basis for informing both the management of protected areas and other stakeholders on the benefits that individual protected

areas provide. The use of the tool and the implementation of results also need to be informed by the conservation objectives of the area being assessed. This focus on legal benefits is practical, the PA-BAT+ is a simple to use and quick to implement tool, i.e. the simpler the purpose, the easier it is to implement. It also ensures that benefits, and potential benefits, are based on legal resource use which can be managed sustainably (even if this is not currently the case). Protected areas are, however, often used for illegal activities that people can benefit from, such as poaching or illegal collection of resources such as timber, and dis-benefits when livelihoods are impacted by conservation management, such as when an area once protected is no longer open to grazing or forestry. These wider management issues can, and should, be assessed by a range of tools developed for conservation managers (e.g. Franks et al., 2018).

The PA-BAT+ has multiple aims, which are summarised in Figure 2, including:

- To reach a common understanding of the ecosystem values and benefits of the protected area
- To learn how stakeholders perceive ecosystem values and benefits (both economic and non-economic)
- To discuss issues of common interest
- To assess where local communities see potential for further sustainable development of benefits
- To enable collaboration in the future among stakeholders and protected area managers
- To aid sustainable management of protected area resources
- To help identify and inform potential funding mechanisms for protected areas and stakeholders.

Key elements of the PA-BAT+ are that it:

- Lists and characterises an individual protected area's values
- Creates dialogue among stakeholders in a local context

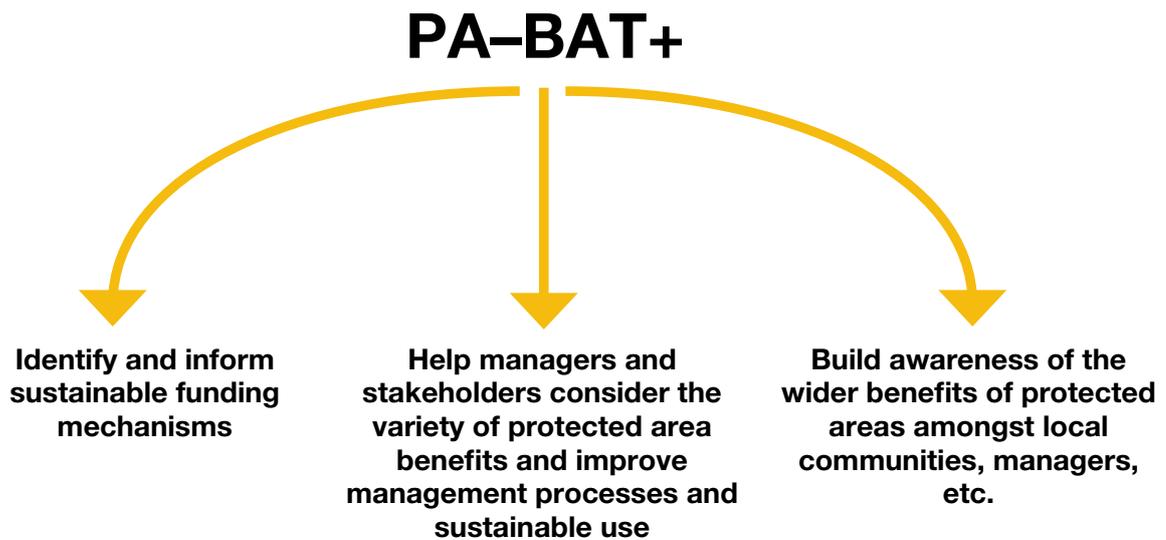


Figure 2: **Summary of major aims of the PA-BAT+**

- Focuses the assessment on legal/allowed activities which contribute to overall conservation goals, but includes debate on wider uses
- Encourages knowledge creation and sharing
- Captures people's opinions and perceptions of the ecosystem values that surround them
- Measures the flow of benefits among different stakeholders
- Reviews both economic and non-economic/subsistence benefits
- Gathers perception of stakeholders on potential to increase benefits from the protected area
- Combines stakeholder opinion with expert input through a validation process
- Produces tangible results which can be used in advocacy, communication and planning
- Is easy to implement, flexible and adaptable to meet the needs of the specific area

The type of protected area management will impact how the tool is used and the results from the assessment. Two issues in particular are worth noting:

- **Zoning:** Many protected areas are zoned, and sometimes these zones have different management prescriptions. This is particularly the case where core and buffer zones are identified and managed differently. In such cases, the benefits to stakeholders from these areas may be very different, if for example sustainable resource use is allowed in the buffer but not the core zone. In these cases, the additional step of mapping some benefits may be useful (see section 2.4.8) and clarity is needed on the different areas being discussed when assessing the benefits.
- **Level of benefits:** It is important that protected areas are not judged by the number and importance of benefits; the

type of values and whether these are beneficial will depend on the specific area and its management objectives. For example, strict nature reserves (IUCN Category I) may have important regulating services but are unlikely to have many provisioning services, whilst protected landscapes (IUCN Category V) may have a very long list of benefits. The understanding of benefits from protected areas is also a developing field of knowledge, and areas may have benefits which are as yet not fully known or appreciated.

1.5 Why use the PA-BAT+?

The PA-BAT+ enables:

- Stakeholders to understand benefits of the protected areas, network with other resource users and make direct contact with protected area management.
- Protected area management to gather direct and valuable data from stakeholders on their perceptions of benefits of the protected area/s being managed.

The PA-BAT+ is essentially a data collecting tool, which uses workshops both to collect information from local stakeholders and to provide a learning forum for stakeholders and protected area managers on a range of issues related to the benefits provided by a specific protected area. The tool can be used directly by a protected area management agency, funding agencies or by non-governmental organizations (NGOs) etc. The tool is freely available for use by any institution.

PA-BAT+ results can be used in many ways (see section 3) ranging from development of or in the revision of management planning (e.g. see example from Croatia in Ivanić, 2017) to planning new approaches to funding.

1.6 When to use the PA-BAT+

Carrying out a PA-BAT+ exercise can contribute to protected area management in many ways (see Box 2), including:

- To improve relationships with local stakeholders or to strengthen these relationships
- To update management plans or during the initial phase of developing management plans
- To contribute to the development of interpretation and education programmes
- To help improve management effectiveness (Hockings et al., 2006)
- As a contribution to rural development projects (e.g. communicating the role of protected areas, linking nature conservation and development, adding value to local resources, overcoming 'market failures', strengthening local capacity, facilitating stakeholder involvement in protected area management)
- To help develop business plans and marketing strategies for a specific set of goods or services from which financial benefits can be sustainably gained
- As a starting point to identify major benefits for further research.

1.7 What do you need to use the PA-BAT+

A facilitator completes the PA-BAT+ during a day-long workshop through group discussions with local communities, local organisations, protected area managers, NGO staff and other stakeholders. Once facilitators are familiar with the methodology, it is relatively quick to use (1-2 days preparation, 1-day workshop, 1-2 days write up), with costs associated to staff time (2-3 people per workshop, travel and workshop expenses). Full details of what is required to implement the PA-BAT+ are provided in Section 2.

Box 2

Why was the PA-BAT+ used in the Western Balkans region?

Section 4.1 provides more details on the implementation of the PA-BAT in the Western Balkans, but in brief the main reasons the tool was used were to understand the:

- Protected area values being used in the region (non-economic and economic)
- Flow of economic benefits (to business, government, local communities)
- Potential benefits perceived by stakeholders
- Main drivers for protected area development and degradation
- To help address communication gaps between local communities and protected area managers
- To collect stories, local knowledge and encourage networking.

Part 2

The PA-BAT+ methodology

The PA-BAT+ methodology and how it is implemented is discussed in detail. Additional guidance on use is provided in the case studies in section 4 and in Appendix 2.

2.1 The methodology

The PA-BAT+ (Box 3) consists of three main generic elements (discussed in more detail below) from which a custom-made tool can be developed for use in an individual protected area:

- **Benefits:** A list of benefits likely to come from the protected area
- **Flow of benefits:** A list of stakeholders who could receive the benefits
- **Value of benefits:** The assessment of each benefit and who it flows to against the assessment criteria of economic, non-economic (e.g. subsistence, aesthetic, cultural or religious benefit) and potential benefit.

• Benefits

There are 29 questions in the PA-BAT+ benefits table (Table 2) based around the ecosystem services and related goods identified in Box 1. This generic list can be adapted to suit the area/region (e.g. depending on the biomes, legislation, existence of local communities in the protected area etc.) being assessed (see section 2.3). Detailed guidance on these questions and their assessment is given in Appendix 2.

• Flow of benefits

The PA-BAT+ distinguishes between the flows of benefits to different stakeholders. Potential stakeholders are listed in Table 3. This is not an exclusive list and stakeholders should be chosen to reflect local circumstances (see section 2.3), for example, whether indigenous people live in the area, whether local civil society organisations (CSOs) are important and so on and by the aims of the workshop.

• Value of benefits

The assessment of each benefit and who it flows to is made against seven assessment criteria:

1. minor
2. major non-economic benefit
3. minor
4. major economic benefit
5. potential economic
6. non-economic benefit (e.g. does the area have values which could provide benefits in the future or are there current benefits which could be expanded, increased, etc.)
7. no benefit.

Assessment criteria for each question and a sample of the four most commonly assessed stakeholder groups are suggested in the detailed guidance on PA-BAT+ questions and stakeholder responses (see Appendix 2). This is provided for guidance only and should be refined in the adaptation process (see 2.3).

Table 2: **The PA-BAT+ benefits assessment questions**

1. Is the area an important source of food from wild game?
2. Is the area important for honey production?
3. Is the area important for wild food plants and fungi provisioning?
4. Is the area an important source of food from fish and other aquatic animals?
5. Is the area important for agriculture/ agroforestry?
6. Is the area important for livestock?
7. Is the area important for water provision and flow?
8. Is the area important for maintaining water quality?
9. Is the area an important resource for pollination of nearby crops?
10. Is the area important for recreation and tourism?
11. Is the area important for the management and removal of timber?
12. Is the area important for raw materials other than timber?
13. Is the area important for medicinal resources?
14. Is the area important for supplying ornamental resources?
15. Is the area important for genetic material resources?
16. Can the area contribute to climate change mitigation?
17. Is the area important for flood prevention?
18. Is the area important for spiritual or religious values?
19. Is the area important for mental well-being and health?
20. Is the area important for inspiring artistic outputs?
21. Does the area have cultural and historical values?
22. Is the area important for peace and stability?
23. Is the area important for jobs associated with biodiversity maintenance and protection (e.g. working in the protected area)?
24. Is the area important for education?
25. Is the area valued for nature conservation?
26. Is the area important for knowledge generation?
27. Is the area important for aesthetic values?
28. Is the area important for soil maintenance?
29. Does the area help mitigate pest and disease?



Completing the PA-BAT in Durmitor National Park, Montenegro © Equilibrium Research

Box 3

Quick overview of the PA-BAT+

Objective: The PA-BAT+ aims to collate information on the full range of current and potential benefits of individual protected areas. It has been designed for use in workshops to identify the importance of benefits (both subsistence / non-economic and economic) to a range of stakeholders.

Benefits: The PA-BAT+ assesses legal resource use and the resulting benefits that could accrue and is thus not a tool for the assessment of overall resource use, which

would include illegal use. Discussion, but not an assessment, of informal or illegal use in the PA-BAT+ assessments process is recorded in the workshop report.

Use in single or multiple areas: The tool is intended for use in workshops focusing on one area at a time. However, as the PA-BAT+ is a standard typology of ecosystem values and benefits, the results from multiple workshops can be aggregated to provide an overview of a portfolio of protected areas (e.g. regional groups, national systems, or biome groups).

2.1.1 Overview of outputs

The tool has four main outputs (discussed later in this section).

- 1. The assessment:** which is made in a half/full day workshop of stakeholders local to or closely involved with the protected area. Each benefit is discussed and assessed against the assessment criteria. Participants are asked to agree between them, with the assistance of the facilitator. The assessment (using the assessment criteria outlined above) and the results are recorded on a PowerPoint template or on paper, ensuring the results are immediately visible to participants in a transparent process.
- 2. Workshop report:** to record the discussion, any disagreements and the context around which the assessment was made. Illegal activities are also noted.
- 3. Basic data:** on the protected area and assessment for record keeping. Protected areas using the PA-BAT+ should complete a data sheet such as the one provided in Appendix 1.
- 4. Workshop evaluation:** to get feedback from participants on the implementation process and use of the results.

Table 3: **The PA-BAT+ stakeholder list**

Possible stakeholders include:

- ✓ Indigenous/ traditional people living, either permanently or temporarily, in the protected area
- ✓ Local communities living, either permanently or temporarily, in the protected area
- ✓ Indigenous/ traditional / local communities living, either permanently or temporarily, near the protected area, this can include people living in other countries when the protected area is located near national boundaries
- ✓ CSOs including local groupings of people living in/near the area, including NGOs, local associations (e.g. beekeepers, hunters, fishers, etc.)
- ✓ Businesses, including national and international businesses both within the protected area, such as those linked to tourism, and those industries that rely on resources from a protected area, such as water resources that supply hydro-electric power to the wider population
- ✓ National population
- ✓ Government: local, regional or national

2.2 Preparing to use the PA-BAT+

Getting the right people involved, both in terms of those running the PA-BAT+ and those taking part in the assessment workshop, preparing adequately and running workshops effectively and efficiently are all critical steps in the successful implementation of the PA-BAT+. Each step in the implementation process is outlined below.

2.2.1 Setting up an implementation team

Running PA-BAT+ workshops requires at least two people with a background in protected areas, facilitation and writing skills. Running workshops is hard work and requires social abilities to moderate and to deal with possible conflicts between participants. When carrying out an assessment for the first time, the implementation team will need to spend time reviewing the contents of this guidance, talking to other people who have used the PA-BAT+ and perhaps running a few pre-workshop PA-BAT+ tests (see 2.4.3) with colleagues to ensure they fully understand the process and requirements (see below). The PA-BAT+ team should be as neutral as possible in the context of the ideas being discussed at the workshop, and it is recommended that protected area staff do not conduct the PA-BAT+ workshop to maintain neutrality of the process.

Hints and tips: local person or small business

Most assessments are likely to include local communities and business as stakeholders in the assessment. There is not usually the capacity to break down business into multiple groups (given that each additional stakeholder equates to multiple additional assessments across the benefits being assessed) but there can clearly be overlaps where local communities also run local businesses. In Croatia in the Western Balkans study the facilitator suggested where an employer had staff to carry out the task (e.g. a small hotel with reception and cleaning staff), the enterprise should be considered a business, whereas small seasonal bed and breakfast operations where no staff beyond family members are involved would not be seen as a business. Thus, when tourism benefits were assessed, benefits to local communities included seasonal, small-scale, family run tourist accommodation, whilst small hotels were counted as businesses. The same criterion could be used for businesses related to small-scale crafts, honey production or other activities.

**Hints and tips:
Visualisation of results**

If there is enough funding, a third person can be hired in the PA-BAT+ team to support the workshop with visual reporting, for example with cartoons and illustrations summarising discussions. Participants and site managers appreciate this type of reporting because it is easy to read and creates an efficient way to remember the discussions during the workshop.



Visualisation of Colombian workshop findings
by Karen Behar © Equilibrium Research

2.2.2 Getting support for the process

An official letter of support from the governance institution in charge of the area’s management is usually the first step in setting up a PA-BAT+ exercise, especially if it is within a centralised protected area governance system. If the assessment is being run by an organisation not based in the protected area, it is helpful to nominate a local focal point to ensure smooth communication, workshop planning and to take part in the workshop. Nomination of a focal point for the PA-BAT+ is particularly useful if assessments are going to be carried out in multiple areas in one country or jurisdiction. This kind of involvement can also help secure the sustainability of the process and encourage the use of the findings in developing/improving sustainable resource use, practical management and project development.

2.2.3 Planning implementation and how to use the results

It is also important to consider early in the implementation process *who* will be using the information and in *what* type of decision-making process. Initially, this involves identifying the target audiences for information about, and conclusions drawn from, the PA-BAT+ and the messages that will resonate with them. These are likely to be the individuals or groups who have the ability to influence the management, policy or public funding /support to achieve protected area objectives. More information on this is given in section 2.7.

2.3 Adapting the PA-BAT+

The tool presented here aims to be inclusive of all protected areas and other area-based conservation sites globally in terms of biomes or management. Therefore, it will need to be adapted to local use (e.g. marine questions need to be removed for a terrestrial protected area and *vice versa*, relevant stakeholder groups need to be identified depending on whether indigenous people are present in the area). The local context will therefore drive changes in the tool.

Processes involved in adapting the tool for site use include:

1. Remove any benefits questions (see Table 2) which are not applicable to the site (e.g. remove coastal benefits for land-locked sites).
2. Identify any additional benefits that are relevant and ensure any resource use being assessed is legal. (Note: benefits which are not legal can still be discussed in the workshop and documented in the workshop write-up but should not actually be assessed).
3. Identify any issues with the assessment of benefits from different management zones within the protected area or between a core and buffer zone if both areas are being assessed.
4. Adapt the stakeholder list (see Table 3) to identify which groups of stakeholders best reflect the flow of benefits.

Hints and tips: Adapting the PA-BAT+ to the local context

When WWF Colombia presented the PA-BAT+ to the National Parks Authority, there was immediate interest in using the tool as it provided a clear way to understand how people value local protected areas and their benefits. However, in order to prepare the first implementation, there were several meetings between both institutions aiming to understand how the tool works, translate the questions into Spanish and select an adequate language that could be clear for local stakeholders. This process was very valuable for all the parties because it encouraged empowerment of the tool and benefited a smooth implementation process. After testing the tool, the parties reaffirmed the utility of the tool and decided to include it in the toolbox for protected areas management. More information about the Colombian case can be found in Section 4.

Table 4: Example PA-BAT+ assessment template

Benefit	Local people living in the PA	Local people living near PA	National population	Civil society organisations	Business sector	Local government
Is the area an important resource for pollination of nearby crops?						

Table 5: Example of the completed PA-BAT+ assessment template

Benefit	Local people living in the PA	Local people living near PA	National population	Civil society organisations	Business sector	Local government
Is the area an important resource for pollination of nearby crops?	++ \$\$	\$		+	+ P+	

2.3.1 Preparing the assessment template

The PA-BAT+ methodology has been designed so that very little material needs translation into local languages. Once the benefits to be assessed and the stakeholders to whom these benefits flow have both been identified, a simple assessment template can be developed (see Table 4) against which the assessment is recorded using either a PowerPoint or paper template. The workshops then focus on discussing and assessing with the participants an assessment of the perceived importance of the benefits for each stakeholder group.

Once consensus is reached the results are recorded in a way that is visible and easily understandable to all participants using symbols such as:

- + = minor non-economic benefit
- ++ = major non-economic benefit
- \$ = minor economic benefit
- \$\$ = major economic benefit
- P\$ = potential economic benefit
- P+ = potential non-economic benefit
- Blank columns mean there is no benefit

A completed example could therefore look like the example given in Table 5.

2.3.2 A note on potential benefits

The main aim of the PA-BAT+ is to learn about and gather information from stakeholders on their perceived benefits, the importance of these benefits and the distribution of benefits among stakeholders. The main assessment aims to reflect the current situation, but in conversations during the workshop the prospects for developing benefits further are likely to arise and can be prompted by the facilitator if they do not. As noted above the PA-BAT+ is an assessment of legal benefits, and thus any developments should only be considered that are legal and are consistent with the conservation objectives of the area. Potential benefits can be either related to developing ecosystem values into benefits, for example the development of sustainable use of specific resources such as medicinal herbs, reeds for thatching, larger scale initiatives such as payments for ecosystem services delivery, or through memoranda of understanding for either subsistence (non-economic) or economic benefit, where they currently do not exist but where regulations around such use and conservation objectives' allow sustainable resource use. Potential can also be identified for benefits which are assessed as already existing, but which can be further developed. Potential should be assessed against each stakeholder group.



Introducing ecosystem values of protected areas to stakeholders at a workshop in Lonjsko Polje Nature Park, Croatia © WWF Adria

2.4 The PA-BAT+ workshops

The PA-BAT+ methodology is based on the successful running of site-based, one-day workshops. Ensuring these workshops are as effective as possible will take planning and preparation.

2.4.1 Pre-workshop planning

- **Understanding the context:** If the assessment is being carried out by a team of people who are not based in the area it is important that the workshop facilitator, and ideally the whole team, understand as much as possible about the protected area before running the workshop. This can include talking with the local focal point on the area's values, legal use and local context, and reading relevant documents about the area (e.g. management plan, annual work plans), gathering basic data on the area (see suggested datasheet in Appendix 1) and if possible visiting the area before the workshop. It is also important to build awareness of possible local tensions or conflicts regarding the use of natural resources in advance of the workshop.
- **Inviting participants:** Decide with the local focal points which stakeholders should be invited to the workshop (see Box 4 for suggestions) and which person or organisations the invitations should come from (e.g. sometimes it might be better for the invitation to come from a local organisation working in the area than the protected area management, if the organisation is better known or respected). Take a human rights-based approach (e.g. ensuring equal rights, involvement of marginalised groups such as ethnic minority groups, young people, elderly people, ensure a gender balance) and ideally develop criteria for stakeholders' involvement (Lovren et al., 2017). Invitations can be made personally, but the meeting should also be open to all participants and notice of meetings can be made over a variety of communication channels (email, telephone, local radio and newspaper, public notice board, door to door visits in remote areas, via religious entities or through local organisations dealing with hunting, fishing or tourism). This is a crucial step in the methodology as the results of the workshop depend on the people present. Ideally, participants should be as diverse as possible with at

Box 4

Who to invite

Examples include:

- Stakeholders located within or around the protected area
- Community-based organisations (e.g. farmers' cooperatives, hunting or fishing associations, beekeepers, etc.)
- Specific social groups that tend to be marginalised in decision-making processes (e.g. women, ethnic minorities, youth, older people)
- NGOs and other special-interest groups (conservation organisations, local history groups, other organisations etc)
- Private-sector organisations, for-profit and not-for-profit
- Government officials
- Groups/organisations from the public sector (state agencies and expert institutions including nature conservation institutes)
- Research institutions
- Education institutions at a range of educational levels
- Regional development agencies
- Municipal administration or local councils
- If appropriate, protected area staff

least two participants from each stakeholder group being assessed. The ideal number of participants which can be managed by one facilitator is between 20 and 30 people; if more participants are likely to take part then more support staff will be needed. It is important to invite as representative a mix of people as possible, and to ensure that it is not just the 'supporters' of the area who are invited but a wide range of stakeholders, as this is an opportunity to improve and create new channels of communication with people who are wary of or opposed to the protected area. Participants should also include, for example, representatives of national and local government, environmental organisations, political parties, research institutions, etc.

It is important to have an honest conversation with protected area managers and other local organisations to check the degree to which that presence could positively or negatively influence contributions of other stakeholders.

2.4.2 Workshop practicalities

To ensure wide participation and successful implementation, several practical issues should be taken into account:

- **Timing:** The date and time of the workshop needs to reflect local conditions with considerations including weather (do not choose a time of year when travel is difficult) and seasonal activities (avoid major harvesting times or the tourism season). If several assessments are being made over a network of protected areas, then plan the workshops according to their proximity (e.g. two PA-BAT+ workshops over four days in one region).
- **Language:** The PA-BAT+ has been designed for use in local languages with very little translation of material required. However, there may be rare cases where multiple languages are used in an area. In this case a translator or multiple workshops may be required to ensure full participation in the assessment.
- **Venue:** Ideally, the workshop should be held in or close to the protected area. Good venues include local schools, community centres, protected areas offices/visitor centres or local cultural centres. Local hotels or restaurants can also be good venues and may not charge for workshop space if food is ordered.
- **Food:** If possible, link the food offered at the workshop with local benefits. When ordering local food, two or more quotes should be sought in order to avoid nepotism. The workshop can present a good opportunity to present local food and other local products such as souvenirs or local crafts. (Invitations to the workshop can include a request to bring local crafts or foods if this is deemed appropriate.) This allows participants to see what other members of the local community are doing. It may also be useful to bring or present local products from other protected areas to inspire stakeholders to start similar initiatives.

2.4.3 Pre-workshop test

Good preparation gives credibility to the workshop (see Box 5). When doing PA-BAT+ workshops for the first time, organizers should consider conducting a ‘trial run’. In Colombia, the trial run was facilitated by WWF Colombia and National Parks, staff from both organisations played the role of different local stakeholders. As well as testing the application of the methodology the testing allowed Parks staff to think about the opinions of stakeholders and then compare these to reality once the actual assessment workshops took place. These exercises will enable the facilitators to gain familiarity with the tool, the questions, how to explain the benefits, and how to moderate a conversation among different types of stakeholders. This is also a good way to test the best language to use to explain the benefits, to ask questions according to the local context and to check time management during the PA-BAT+ session. The test can be carried out with colleagues or friends by using a role-play approach to simulate workshop conditions.

Box 5

Workshop requirements checklist

1. Projector and computer for projecting results of assessment (facilitators should check in advance if everything is working and save the presentation on USB and computer in case of computer problems; in places with unreliable power check if generator is working, or have a paper version of the assessment prepared – see case study from Colombia for ideas on how this can be developed)
2. Sound system if required
3. Additional computer for taking minutes as the basis of the workshop report
4. Copies of the agenda (see Box 6)
5. List of participants or a pre-prepared form to pass around where participants can provide their details
6. List of ecosystem values and benefits that will be assessed at the workshop
7. Name badges for participants if people are likely to be meeting for the first time
8. Printed copies of participants’ feedback questionnaire (see Box 7)

Other items can include:

9. Maps of the area to be used in the assessment (see 2.4.8)
10. Information about the area (e.g. leaflets, booklets)
11. Local products and souvenirs

use of resources

Resource: _____



Local people living inside the protected area	Local people living near the protected area	National and local non-governmental organizations	National population	Government	Industry	Global community

Generic PowerPoint template for PA-BAT+ assessment © WWF



Nombre del beneficio: _____

						
Campesinos	Comunidades indígenas fuera del AP	Entidades del gobierno	Organizaciones de la sociedad civil	Gremios o sectores económicos	Academia	Población nacional

Paper template of the PA-BAT+ assessment prepared for Alto Fragua Indi Wasi Natural Park, Colombia © Equilibrium Research

2.4.4 Conducting the workshops

Ideally, facilitators should arrive at least one day before the workshop, talk to local communities and visit important sites in the protected area to get an overview and to see what facilities are present or lacking. If time allows, it is worth doing a short example of a benefit assessment with the site managers, so that they have an idea about the workshop and can later compare their perceptions with other stakeholders' perceptions (this could be combined with the pre-workshop test mentioned above).

Set up the venue in advance; seating arrangements should not be intimidating or reinforce inequity (e.g. seating groups in a circle, allowing participants to feel comfortable to talk). An agenda, participants' feedback questionnaire, list of ecosystem values and benefits being assessed, paper and a pen should be left on each chair if appropriate (see Box 5 for additional suggestions).

2.4.5 Timing and agendas

The first assessment questions (see Table 2, page 8) can take longer as participants want to share their experiences, problems and concerns at the beginning of the workshop (this is particularly the case in protected areas which provide limited opportunity for stakeholder engagement). However, in general when workshops operate smoothly, experience indicates that the assessment of each question takes about 10–15 minutes. The order of the benefits being assessed suggested in Table 2 has been developed through trial and practice. It is usually better to start the workshop with a series of benefits which people can understand easily and have opinions and experience of.

Hints and tips: Introducing the workshop

Introductions should include the following key messages:

- The workshop is not about assessing the management of the area, but about local perceptions of the benefits.
- It should be noted that results are for individual protected areas.
- Why this information is being gathered and how the information will be used should be made clear. This is likely to be project-specific, but speakers should take care not to build expectation of outputs that are long-term or unlikely to be realised.
- Emphasise the issue of equality and that all stakeholders (including the protected area manager/ staff if present) have the right to share opinions.
- Ask for consent regarding use of names, pictures etc (see Section 2.4.6).

Box 6

Indicative workshop agenda

1. **Welcome:** From local mayor, protected area manager, or other representative on the purpose of the workshop (10 min)
2. **Introduction to the team:** Facilitators and team members (5 min)
3. **Introduction to participants:** The facilitator should ask the participants to introduce themselves with information such as: name, where they live, job, role, and interest in the protected area. An 'icebreaking' question is also good, such as asking for one feature of the protected areas which is particularly important to them. This is a good time to pass around the participant form to capture the details of all those attending (10–30 min depending on numbers)
4. **Introduction to the workshop:** The facilitator should explain the workshop objectives, present the agenda, methodology and expectations (10-15min)
5. **Assessment:** The facilitator leads the assessment, introducing each benefit and engaging in discussion and assessment (around 10–15 min per benefit, although note that the first one or two benefits may take longer)
6. **Conclusion:** Check if any benefits have been missed during the assessment
7. **Participants' feedback questionnaire:** See Box 7

2.4.6 Participants' permission

It is important to know who has attended the workshop either by asking participants to check their names off a prepared list or by recording attendance. When writing up workshop reports of the PA-BAT+, it is typical to include participants' names – but in some contexts, permission should be sought before participant names are used or shared. It is useful for reporting results also to understand the gender balance and even get an idea of age groups represented at the workshop; but again, permission should be sought to report on this type of information.

It is generally a good idea to take lots of photographs of the workshop for future reporting and feedback, but it is important to ask participants at the start of the workshop if they give consent for their photograph to be taken and used to illustrate materials such as workshop and project reports. The same applies if the workshop is being recorded or videoed.

2.4.7 Facilitator's guidance

The quality of the PA-BAT+ assessment and outcomes rely heavily on the skill of the facilitator to run an effective workshop. The primary instrument of the assessment, the assessment template, must be made visible to all participants, and thus reduce any perceived facilitator or rapporteur bias. The way that benefits are introduced and discussion about the benefits are both important to ensure the validity and credibility of the results. Because the PA-BAT+ methodology is based on

Hints and tips: Changing roles

To help keep the workshop dynamic and to mitigate facilitator fatigue the roles of facilitator and rapporteur can be interchanged during the workshop (e.g. swap facilitation and rapporteur roles at breaks or after lunch).

a standardised assessment of a range of benefits, the process can seem repetitive and there is a potential for participant fatigue. It is therefore important for the facilitation to be as engaging and enjoyable as possible. The guidance below draws from the experience of facilitators who have carried out PA-BAT+ exercises.

- **Timing:** The PA-BAT+ has been developed to be immediately interactive with little introduction needed. Assessing all possible benefits is nonetheless time-consuming and ensuring that the discussion keeps moving is a key task for the facilitator. Time management can be assisted by:
 - o When adapting the PA-BAT+ (see above) bear in mind the timing of the event; the number of stakeholder groups chosen to assess the flow of benefits is a major determinant of the length of time needed for the workshop and thus care should be taken to not include too many, particularly in areas which have a large number of benefits to be assessed.
 - o Preparing a list of benefits at the start of the workshop so that people can see the benefits that will be discussed. It may be appropriate to ask participants to identify their most important (e.g. top five or six) benefits and discuss these first in case time runs out. In this case the facilitator should ask people to review the list of benefits at the start of the workshop (this can be done while people arrive, etc.).
- **Comprehension:** It is important to use simple language and to adapt the language used according to the audience. Ensuring participants understand the benefits being discussed can be helped by:
 - o Preparing examples of good practice relating to the benefits being assessed. Presentations and facilitation must be in the language local communities use. Ideally examples should be from the area, and participants can be asked to introduce them briefly.
 - o When people introduce themselves at the start of the workshop, the facilitator should take note of people's jobs and interest, so during the discussion they can be asked directly for their opinions to help start discussions.
 - o If using PowerPoint to introduce and record the assessment, one slide can be prepared introducing images of the benefit being discussed (again ideally from the protected area).
- **Enabling consensus:** The objective of the assessment is to reach a consensus, so all participants agree on the value that they give to a specific benefit for each stakeholder group. This means that everyone in the workshop should have a say on their perception about the value for each stakeholder group; in a larger group or when discussing

Hints and tips: Being a good facilitator

- Respect the time agreed in the agenda
- Respect each other
- Do not interrupt participants unless absolutely necessary
- Encourage everyone in the room to take part – and try to ensure one or two people do not dominate the discussion
- Talk with the shy stakeholders during the breaks to get their opinions and ideally encourage them to talk
- Ensure neutral facilitation (note the PA-BAT+ includes a verification process, see section 2.5.3, where anything clearly inaccurate can be amended)
- Prepare well, for example use a set of 'prompts/notecards' with facts, experience, etc. on each benefit to help generate discussion if needed
- Hand out the participants' feedback questionnaire (see Box 7) and ensure that people fill it in before leaving.

For more advice on facilitation see Wilkinson, 2004; Durham et al., 2014; Baker & Smith, 2014; Schwarz, 2016.



Facilitator (Carolina Figueroa Arango) with her pre-prepared prompt notes © Equilibrium Research

a particularly important benefit this may take some time. When the beneficiaries are in the room then the discussion of benefits can be initially directed to these users (e.g. hunting question to hunters, fishing to fisherfolk, tourism to tourism businesses or organisations, etc.) and then the discussion should be opened to the entire audience. In some cases, it may be difficult to reach consensus; this should be noted by the rapporteur. Where issues are less known it may also be appropriate to ask participants to discuss their level of confidence in their assessment, which again should be noted in the write-up of the results. It can be useful to start the group off with an 'easy' question, where results are likely to be clear and uncontroversial, to get the process going (see section 2.4.5).

- **Legal and illegal use:** As noted, the PA-BAT+ assesses legal resource use in an area. When it comes to the explanation of legal and illegal uses before each benefit, it is recommended that the protected area focal point, manager or a member of staff explains briefly (two to three minutes) the legal situation of the benefit use in the area. The facilitator can also discuss this if fully briefed of the local situation.
- **Assessing benefits:** Understanding what we mean by “benefit” is difficult and everyone is likely to have different concepts of the magnitude of a benefit. The PA-BAT+ uses the simplest formulation of minor and major value, because working to achieve stakeholder consensus on a more nuanced scale would be very time consuming and difficult. However, even agreeing on the difference between minor and major can be challenging and each country and protected area context is different. Facilitators can help participants make these distinctions by developing some guidance on how to distinguish between minor and major values. These can include:
 1. Number of families in the protected area (i.e. living in and around), which can help assess the proportion of the local population benefitting from a particular benefit
 2. Local employment (e.g. percentage of farmers, foresters, fishers, etc.)
 3. Percentages of users and non-users
 4. Number of societies (e.g. fisher organisations/groups, hunting groups, sports associations, etc.) connected to the benefit and the proportion of the local population that are members
 5. Number of people employed in specific areas (proportion of population, primary/secondary/tertiary income, indirect influence on the community – family members positively affected because one or more family members are employed in that sector)

Appendix 2 includes more detailed guidance on this issue.

Hints and tips: Provide enough time for participants to meet each other and talk during the breaks

The discussions between participants during the PA-BAT+ workshops are as important as the assessment and its results. The PA-BAT+ workshops provide an opportunity for exchanging information and knowledge. This leads to a better understanding of the role, ecosystem values and benefits of protected areas. Participants can also create contacts, swap ideas and develop joint initiatives for development.

2.4.8 Recording results

One of the most important elements of the PA-BAT+ is to ensure the results are visible by being projected on a PowerPoint or by using cards that can be pinned up on an assessment template where participants can see them. The rapporteur should take detailed minutes which should be developed into a comprehensive workshop report covering the discussion. The rapporteur should also record the assessment results on a prepared table or Excel spreadsheet. It is also useful to take pictures of each complete benefit assessment as a backup.

Three additional ways to record results if funds and capacity allow are:

- **Mapping:** if available, large (e.g. A3) maps of the protected area being assessed (or several maps for large areas) can be pinned up in the workshop room. Participants can be asked to locate important sites for some of the benefits (e.g. major water sources, sacred sites, tourism sites, etc.). This can be a useful exercise when the assessment is, for example, being carried out as part of a management planning exercise. However, this exercise should not detract from the main assessment. It is thus suggested that any type of mapping is kept quite informal and participants are asked to view maps during breaks. Colour-coded stickers placed on the map are usually sufficient to identify sites. When maps are used a member of staff from the project running the PA-BAT+ or from the protected area should be posted by the maps to engage with local communities viewing the map. As with all other elements of the PA-BAT+, participants should be asked if they are happy to share this type of spatial information more widely (see 2.4.6).
- **Drawings:** if there is enough funding, the PA-BAT+ team can hire a person to help to create a visual story about each benefit. This visual story should summarise different participant interventions and their thoughts regarding each specific benefit (see section 2.2.1).
- **Recording:** if possible, a digital sound or video recording can also be made so any issues relating to the results can be checked in the future (see 2.4.6 regarding permission).



Local people identifying place-based benefits on Alto Fragua Indi Wasi Natural Park, Colombia © Equilibrium Research

Box 7

Participants' feedback questionnaire (Please circle your responses to the questions below)

1. How would you grade the workshop quality and content? From 1 = low to 5 = highest
 1 2 3 4 5
2. How would you grade the facilitation? From 1 = low to 5 = highest
 1 2 3 4 5
3. Did the workshop meet your expectations?
 Above expectations Yes
 Yes, partially No
4. How did you find the workshop format? Please circle the responses you agree with:
 Innovative Allowed good participation
 Did not allow participation Interesting
 Boring Rushed Hard to understand
5. Have you been invited to participate in other events organised by the protected area?
 Yes No
6. What benefits can you use to improve your income in the future? Benefits related to:
 a) Food (agriculture, forestry, medicinal plants, fishing)
 b) Tourism, recreation and culture
 c) Education and research
 d) Other:
7. Have you made new acquaintances?
 a) 0 b) <5 c) 5-10 d) >10
8. Have you made new acquaintances at the workshop that you can cooperate with in the future?
 Yes No
9. Which of the benefits did you find to be important that you did not know before?

10. Please add any suggestions / or comments.

Have you made new acquaintances?

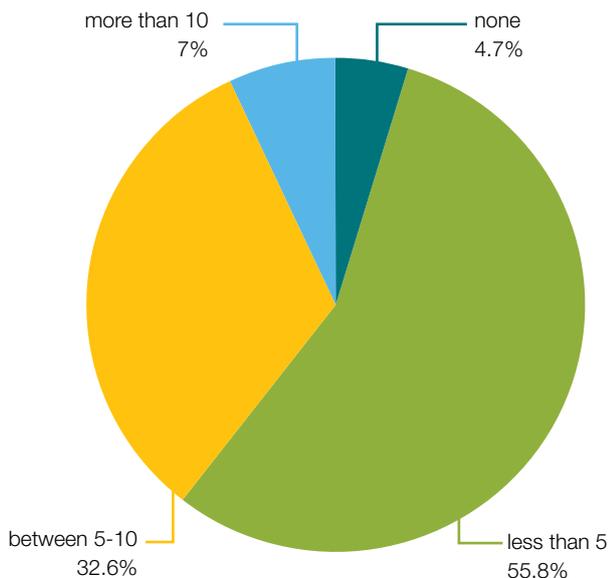


Figure 3: Responses to question number 7 in the Participants' feedback questionnaire from the 44 participants who completed the questionnaire from five Montenegrin national parks.

2.4.9 Workshop feedback

It is always a good practice to get feedback from participants about workshops and incorporate the results in planning future PA-BAT+ workshops. The simplest way to do this is to develop a short questionnaire and print copies before the workshop. A generic feedback questionnaire is provided in Box 7. This should be adapted to the local context. It is a good idea to circulate the questionnaire during break periods rather than at the end, to ensure all participants complete the questionnaire.

The results of the workshop (see figure 3 as an example) and the feedback should be communicated to the participants. The way this is done depends on the local context, but can include briefing at local stakeholder meetings, newsletters, public notices, local media articles/interviews, etc. Participant details should have been collected at the start of the workshop and gender analysis could be part of the feedback (see 2.4.6 re permission to share information).

2.4.10 Summary of indicative budget for undertaking a PA-BAT+ workshop

The PA-BAT+ is an efficient and inexpensive process to run. Indicative budget items for a site-based workshop are detailed in Table 6. Usually the implementation of the PA-BAT+ will be part of a wider project which will also need a fully planned budget to cover analysis and dissemination of results, follow-up actions, interventions and so on.

Table 6: Indicative budget items required for conducting a site-based PA-BAT+ workshop

Task	Time	Budget item
One-off tasks		
<p>Understand and adapt methodology</p> <p>The generic methodology given here will need adapting to fit the area being assessed; this will depend on the context and the legal uses of the benefits at the site where the workshop is taking place. This process requires meetings (via email/telephone calls/video calls) with local stakeholders, in particular with protected area managers.</p>	Up to one week of time over one or two months	PA-BAT+ team members plus translation costs if required
<p>Develop workshop</p> <p>Materials:</p> <ul style="list-style-type: none"> • Agenda and list of benefits being assessed. • PowerPoint: the workshop requires the preparation of a PowerPoint presentation containing a short explanation of the process, methodology and all the questions that will be asked in the workshop. Each question is presented in an individual slide ideally with photographs evoking the benefit in the local context. • If PowerPoint is not available, draw up the table with local stakeholder groups and prepare multiple copies of the signs being used to record the assessment (+, ++, \$, \$\$, P+, P\$), so that these can be attached manually. • Maps: can be used so that participants are able to locate themselves and the natural area during the workshop. • Copies of participants' feedback questionnaire. 	1–2 weeks	Materials: printing/ photocopying agenda, benefits to be assessed sheet, participants' feedback questionnaire plus staff time to prepare these
<p>Review, validate and report on the results</p> <p>The costs associated with this step really depend on the objectives of the project and expected outcomes. Reports can be simple PPTs and/or word documents, peer reviewed papers or fully designed and widely disseminated publications.</p>	Varies depending on outputs planned	Varies depending on outputs, but will include staff time and could include design, printing and dissemination costs if reports are developed
Actions per site		
<p>Selection of the venue</p> <p>Developing the workshop requires agreement on dates, reservation of the venue and food (local producers if possible).</p>	1 day	There may be costs associated with the venue, power, hiring of equipment (projector)
<p>Invitations and confirmations</p> <p>Invitations or notice of the workshop should be prepared / sent one or two weeks before the confirmed date.</p>	1 day	Costs may relate to postage, making up of posters, etc. and staff time in letting participants know about the workshop
<p>Site preparations and holding workshop</p> <p>If the assessment is being conducted by an assessment team that is not from the local area, then it is important for them to be in the area one to two days before the workshop to talk with local protected area managers and other relevant stakeholders and to have a sense of the local social, environmental and political context. The workshops usually take a full day.</p>	2 - 3 days	Hotel, transport, meals
<p>Lunch and refreshments</p> <p>Lunch and tea/coffee should be provided to participants.</p>		Food (including coffee/tea breaks and lunch)
<p>Participants' costs</p> <p>Depending on the area (e.g. size, accessibility), additional budget may be needed to allow stakeholders to travel/attend the workshop (e.g. provide childcare so women can attend, transport so elderly, disabled or impoverished can attend).</p>		Transportation, childcare
<p>Translation</p> <p>Local language translation may be necessary, particularly if indigenous peoples are involved who don't speak the same language as other local communities.</p>		Local translator and equipment if necessary

2.5 Collecting and organising data

As with all assessment methodologies, carrying out the workshop is just the first step.

2.5.1 Initial feedback

It is a good practice to end the workshop with a quick overview of the results and a reminder of how the information will be used. In the following few days a rapid review of results is also useful – even when a long-term research programme is planned. Quick feedback to staff of protected areas and to participants is important.

2.5.2 Online system

Where multiple sites are being assessed, a web-based version of the PA-BAT+, tailor made or using a system like Google Forms, can be developed to store data from the workshops. This process was developed in the Western Balkans' implementation. Each PA-BAT+ local focal point was provided a username and password (Figure 4), so they could comment on the protected area benefit assessed and provide site data (see Appendix 1). The benefits of such an online format are that it is a user-friendly way to engage the PA-BAT+ focal points to contribute to the process and to have all the information related to protected area benefits available in one place (Figure 5).



Figure 4: Login interface into PA-BAT online form

Figure 5: Example of the PA-BAT online form in Croatian related to tourism



Andrea Štefan of WWF Adria reviewing the data gathered during the Western Balkans PA-BAT implementation © Equilibrium Research

2.5.3 Validation of data

The PA-BAT+ identifies a range of benefits – the awareness and understanding of which will depend on the area, participants present and resource use trends. For many participants, the concept of ecosystems regulating things, like clean water, will be new. Assessing the relative importance of these benefits may not therefore be particularly informed or accurate. In these cases, the assessment results are most useful for identifying communication and/or educational interventions rather than as the basis of valuations. In other cases, participants may be more familiar with these issues than protected area managers (e.g. if they are representatives from service sectors such as water providers, or academics working on issues related to ecosystem services, or local communities who understand the value of ecosystem services through long experience). In these cases, the PA-BAT+ workshop provides protected area managers and staff with the opportunity to interact with experts on key issues, learn from them and open a dialogue (if this process is not ongoing). The quality of the results will also depend on who attended the workshops. The users of the PA-BAT+ results should be aware of any limitations due to, for example, low turnout at workshops or lack of diverse stakeholders at workshops.

As a general rule, the results from the workshop should not be accepted unquestioningly and a combination of local and expert or scientific review generally results in more accurate results. It is therefore encouraged to develop a verification process for the assessment made at the workshops. A two-step process is suggested:

1. The workshop report is checked to ensure information on the assessment sheets has been recorded correctly.
2. The results are peer-reviewed by experts who know the area and understand the range of issues relating to benefits (or to specific benefits).

Reasons for adjusting the results can include emergence of additional data sources (e.g. journal papers or monitoring results) or expert review which identifies where information received at the workshop is clearly erroneous or where important information is lacking. Changes should be kept to a minimum and clearly recorded and reported to participants along with the justification for any revisions to ensure transparency.

This verification can be helped by asking participants to self-report their level of confidence in their assessment. This would be recorded in the workshop report and could also be a justification for undertaking further research on areas where confidence was low.

2.5.4 Setting up and using a database

The level of data analysis required from the results will depend on the reason for doing the PA-BAT+, the scale of the assessment and the plans for using and disseminating the results. Analysis over multiple sites will require more time and analytical processes than an assessment completed for a single area. Two examples of setting up databases are given in section 2.6.

2.5.5 Issues related to scores

The PA-BAT+ aims to collect information about a wide range of benefits that accrue in protected areas, and for these results to be used for purposes related to the management of these areas. Turning the assessment results (e.g. +, \$, P, etc.) into a numerical value will be necessary if the data is transferred into a database and if graphic representations (e.g. bar, spider charts, etc.) are required (see section 2.6). However, it is important that scores are not aggregated to an overall 'benefits' score for three reasons:

1. There is considerable overlap between the questions. For example, where legal and in line with conservation objectives, resource use benefits (e.g. medicinal plants, fisheries, timber and non-timber products) can be important benefits for local subsistence as well as for products which are sold to tourists, and indeed could be one of the main reasons for tourists to visit an area. Thus, one specific resource could be assessed as multiple benefits (e.g. fisheries for both local food production and tourism, if the area draws tourists due to its high value fishing and fish products).
2. Summing up all the results will likely result in more numerous benefits, or at least a wider range of benefits to a greater diversity of stakeholders, from multi-purpose reserves, so that protected areas managed as IUCN Category V and VI (which allow multiple uses) would be expected to produce quite different results to Categories I and II (strict nature reserves). An overall score could be easily confused with protected area effectiveness or sites with high scores seen as 'better' than sites with lower scores.
3. The science of ecosystem services and turning qualitative information into numerical figure is in its infancy and is likely to have substantial uncertainty and variability in any accompanying numerical values.

2.6 Organising and presenting the results

Each project team will decide how to use and present the results depending on their needs (see section 3). Below, two options are presented drawing on recent implementations of the PA-BAT+. The first focuses on a single area implementation and presentation, whilst the second example provides an overview of how to manage and use a large amount of data (over 22,000 data points) from a large multiple-area project.

2.6.1 Single area: Histograms and visual reporting

In Colombia, a simple system that translates results into histograms along with artwork (see section 2.7) prepared during the workshops was developed.

- Step 1 – transfer results to an Excel sheet:** Transfer the results into an Excel spreadsheet using the numerical value of 0.5 for every +, \$ or P recorded in the assessment; use the value 1 for every ++ and \$\$ and use the value 0 when there is no importance (see Figure 6).
- Step 2 – adding totals:** Per each variable (minor importance, major importance, etc.) count the total per benefit; do the same for the total per benefit per stakeholder group (see Figure 6). Repeat this procedure for all the benefits covered during the workshop.
- Step 3 – histogram benefits:** Using the totals, analyse the general results (e.g. the comparison between all the benefits and their importance). Figures 7 and 8 (overleaf) show the analysis for seven benefits but the list can be longer; this would depend on the number of benefits covered during the workshop.
- Step 4 – histogram analysis for stakeholders’ engagement with benefits:** It is also possible to analyse the results from a stakeholder perspective; this will reflect the level of stakeholders’ engagement with each benefit (Figures 9 and 10 – overleaf). Figure 11 (overleaf) reflects the general stakeholders’ engagement which takes the total line from Figure 9.

Question: Is the area important for recreation and tourism?	Stakeholder 1: Campesinos	Stakeholder 2: Government	Stakeholder 3: Civil society	Stakeholder 4: Economic sector	Stakeholder 5: Academia	Total
Minor importance (+)	0.5	0.5	0.5	0	0.5	2
Major importance (++)	0	0	0	1	0	1
Total general importance	0.5	0.5	0.5	1	0.5	3
Minor economic benefit (\$)	0.5	0	0	0	0.5	1
Major economic benefit (\$\$)	0	1	0	1	0	2
Total economic benefit	0.5	1	0	1	0.5	3
Potential economic benefit (P\$)	0.5	0.5	0	0.5	0	1.5
Potential non-economic benefit (P)	0.5	0.5	0.5	0.5	0.5	2.5
Total Potential	1	1	0.5	1	0.5	4
Total	2	2.5	1	3	1.5	10

Figure 6: Steps 1 and 2 of presenting the results for a single area

	Importance	Economic benefit	Potential
Climate regulation	3.5	2.5	2.5
Pollination	2	2.5	2
Water provision	3	2	2
Recreation and tourism	3	3	4
Education	2.5	1	2.5
Human health	2	2	2.5
Sacred sites	2	1.5	2.5

Figure 7: Step 3, example of general results per benefit for a single area

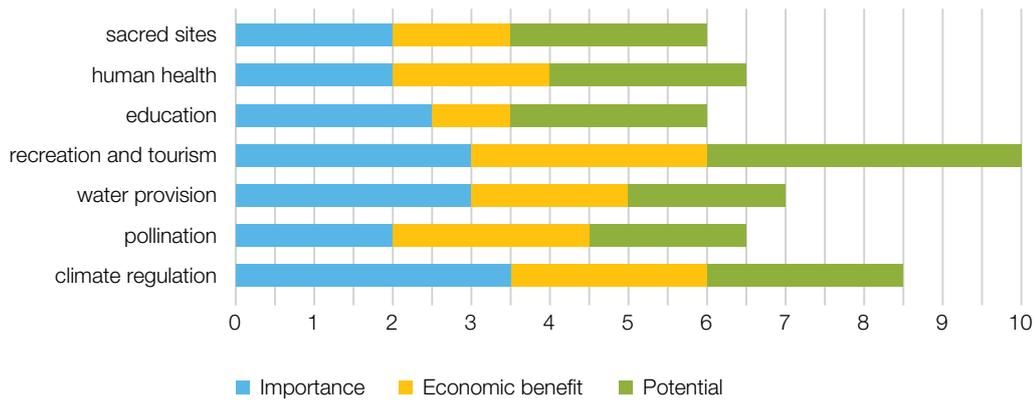


Figure 8: Step 3, example of general results per benefit for a single area presented as a histogram

	Stakeholder 1: Campesinos	Stakeholder 2: Government	Stakeholder 3: Civil society	Stakeholder 4: Economic sector	Stakeholder 5: Academia	Total
Climate regulation	2	2.5	1.5	2	0.5	8.5
Pollination	2	1	0.5	1.5	1.5	6.5
Water provision	2	1	1	2	1	7
Recreation and tourism	2	2.5	1	3	1.5	10
Education	1	1	1.5	1.5	1	6
Human health	2.5	1.5	0.5	1.5	0.5	6.5
Sacred sites	1.5	1	1	1.5	1	6
Total	13	10.5	7	13	7	50.5

Figure 9: Example of general results per stakeholder group for a single area

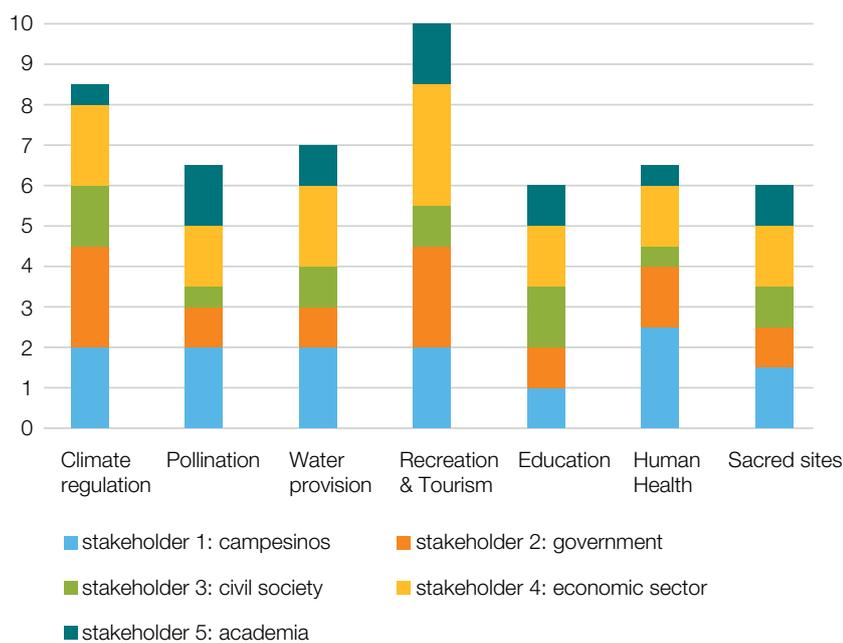


Figure 10: Stakeholders' engagement across a range of benefits for a single area

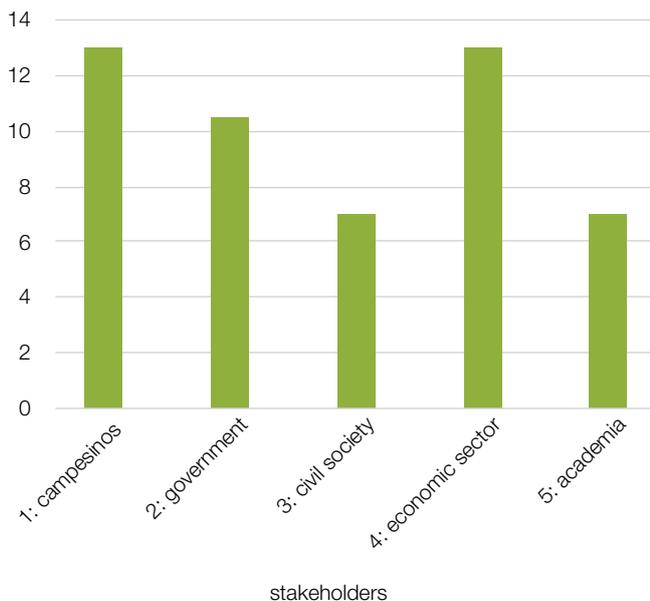


Figure 11: General stakeholders' engagement for a single area

2.6.2 Multiple sites: database development

Excel is the easiest and cheapest way to analyse large sets of information (see Figure 12). It was used to organise over 22,000 data points gathered from the Western Balkan countries. The type of Excel format used depends on the volume of data and analysis needed. A single Excel table with filters to extract data for analysis is the simplest option, however it can take a long time to identify the meaningful results and sort through information which is not needed for the analysis. Pivot tables are more suitable for large amounts of data. The discussion below outlines various options for larger PA-BAT+ datasets.

Excel file

All the data needs to be entered into Excel. Each benefit and beneficiary can be entered using a three-point scale: 0 = not important, 1 = important and 2 = very important. Current and potential benefits should be recorded separately. Data then can be summarised using filters by: country; protected area; importance of benefits – major, minor, economic, non-economic, potential; stakeholder group; and benefits.

Pivot tables

Pivot tables are an Excel feature that allows analysis of large, detailed datasets. This format allows data to be analysed and compared and conclusions and recommendations

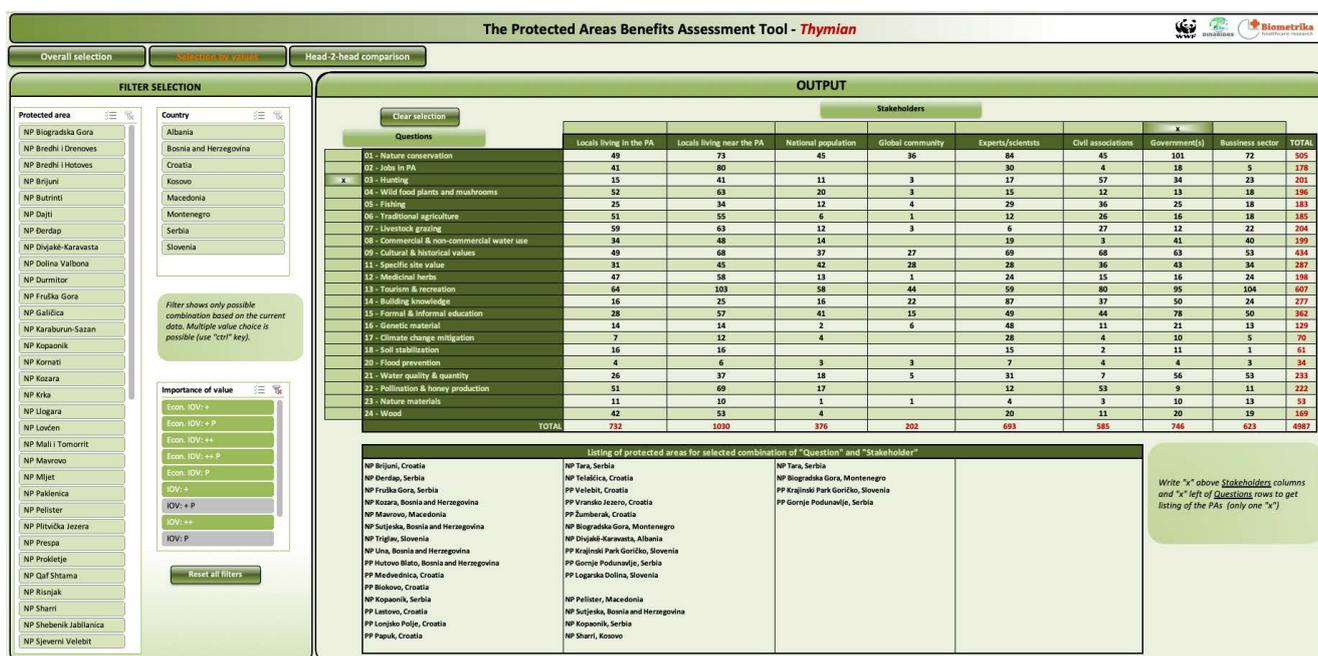


Figure 12: Pivot tables for the analysis of the regional PA-BAT results

produced. By selecting different filters, graphs, statistics and comparisons of various categories and types of benefits, potential benefits and the perceptions of different stakeholder groups can be made. In the Western Balkans, pivot tables were developed to separate the data into three sheets: all PA-BAT+ data which allowed a summary of overall responses (Figure 13); selection by benefits (Figure 14); and comparison of benefits (Figure 15). Each sheet consisted of filter and output sections. Filters/parameters used for the Western Balkans were:

- Protected area (58 areas)
- Country (8 countries)
- Question/protected area benefits (22 protected area benefits)
- Importance of benefits (11 options: Economic +, Economic +P, Economic ++, Economic ++P, Economic P, non-economic value (IOV) +, IOV +P, IOV ++, IOV ++P, IOV P, no answer)
- Stakeholder groups (8 groups).

It should be noted that when developing the pivot tables and presenting the results, the project changed the word ‘benefits’ to ‘value’. Obviously individual projects can adapt the PA-BAT+ in any way they choose, but benefit is recommended as the best term to use.

In the Western Balkans, the analysis focused on pivot tables sorted by benefits. Outputs gained from this type of pivot table can be used for analysis of individual protected areas, national results, flows of economic benefits and potential benefits. Tables can be generated to show, for example, which stakeholder group has benefitted (either economically or non-economically) from a chosen value. Figure 16 (overleaf), for example, illustrates the type of graphic analysis that can be generated by choosing different filters in the pivot tables. These analyses can be used for developing individual recommendations (e.g. management plans) and national reports (legislative change and or better implementation), identifying gaps in stakeholder perception, etc.

On-line platform

In the Western Balkans’ PA-BAT implementation, the platform natureforpeople.org has been developed to allow the general public to access the data gathered from the workshops. Users can search by country and by protected area (Figure 17 – overleaf). The results are displayed in graphs for overall benefit (economic and subsistence), overall economic benefit, flow of economic benefit to assessed stakeholder groups and main potential benefits (with and without current economic benefit) (see Figure 18 – overleaf).

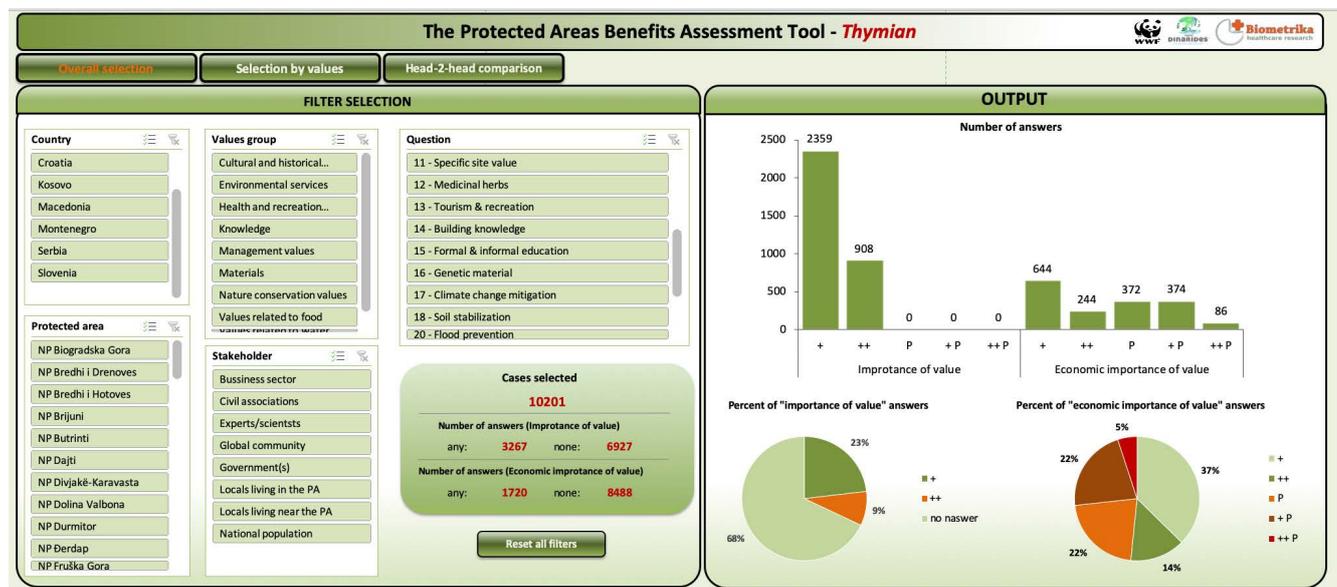


Figure 13: Pivot table with overall selection of answers

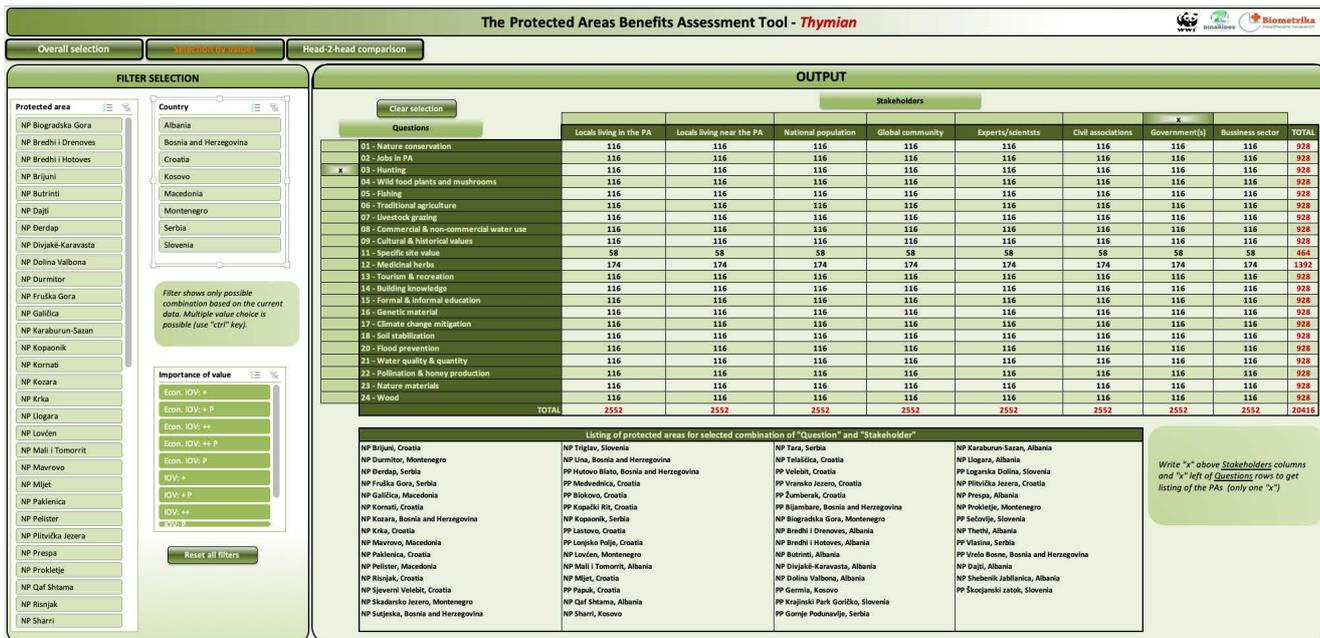


Figure 14: Pivot table selected by values

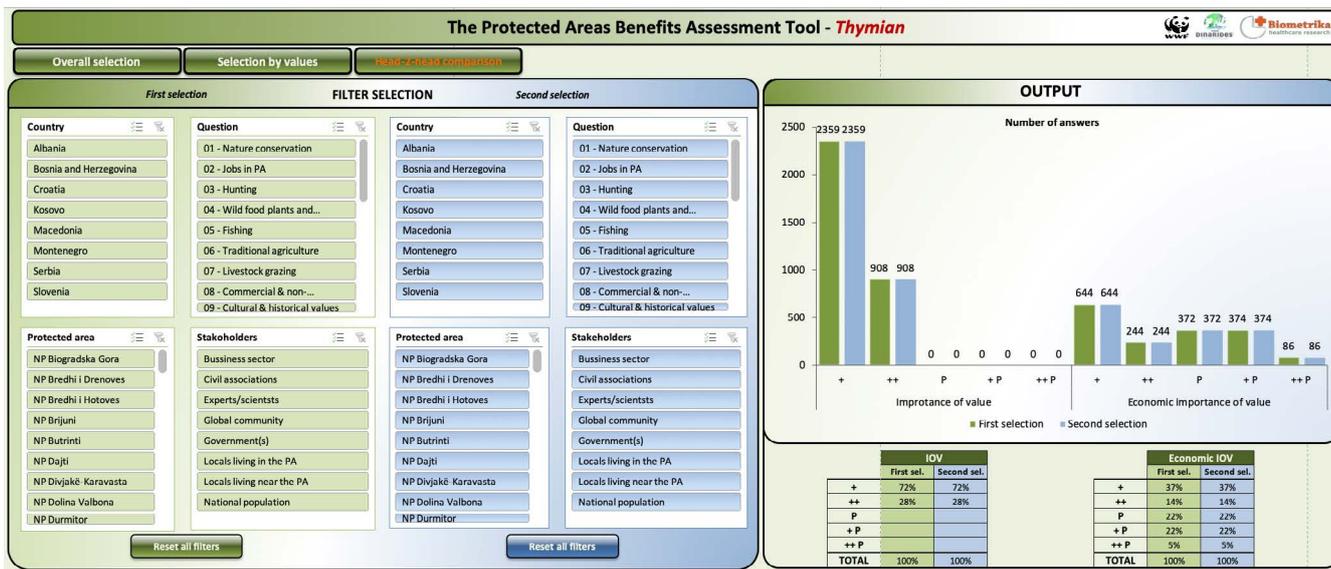


Figure 15: Pivot table that enables comparison

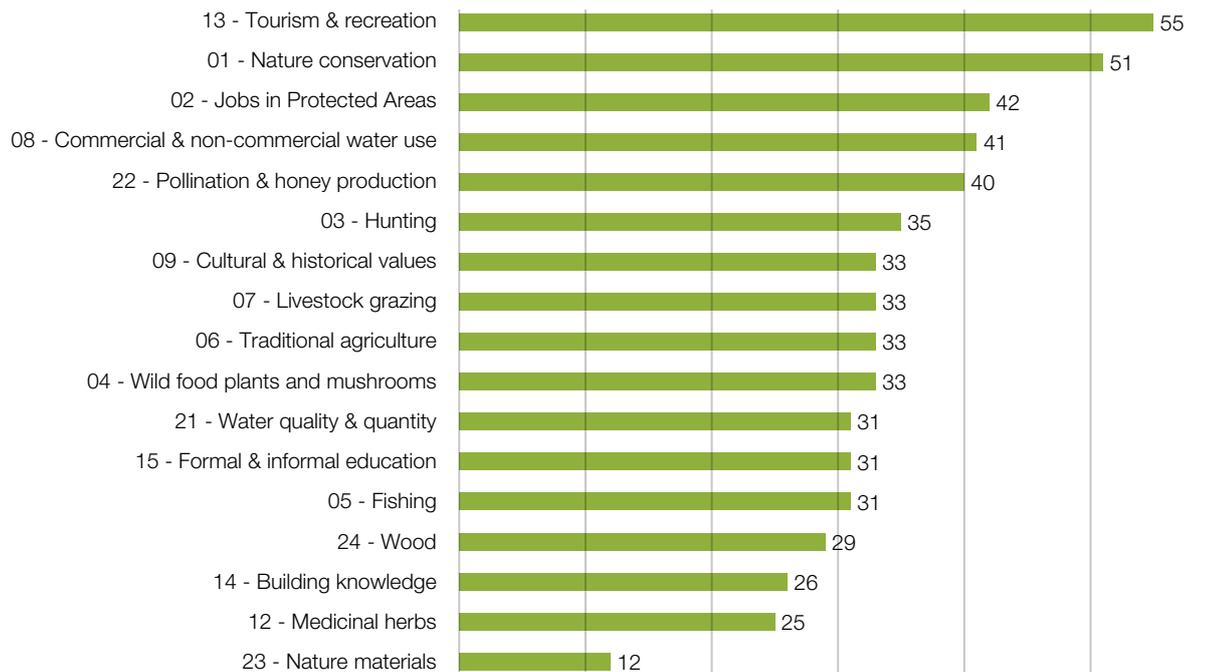


Figure 16: Regional overview of both major and minor economic income from protected area values from 58 protected areas

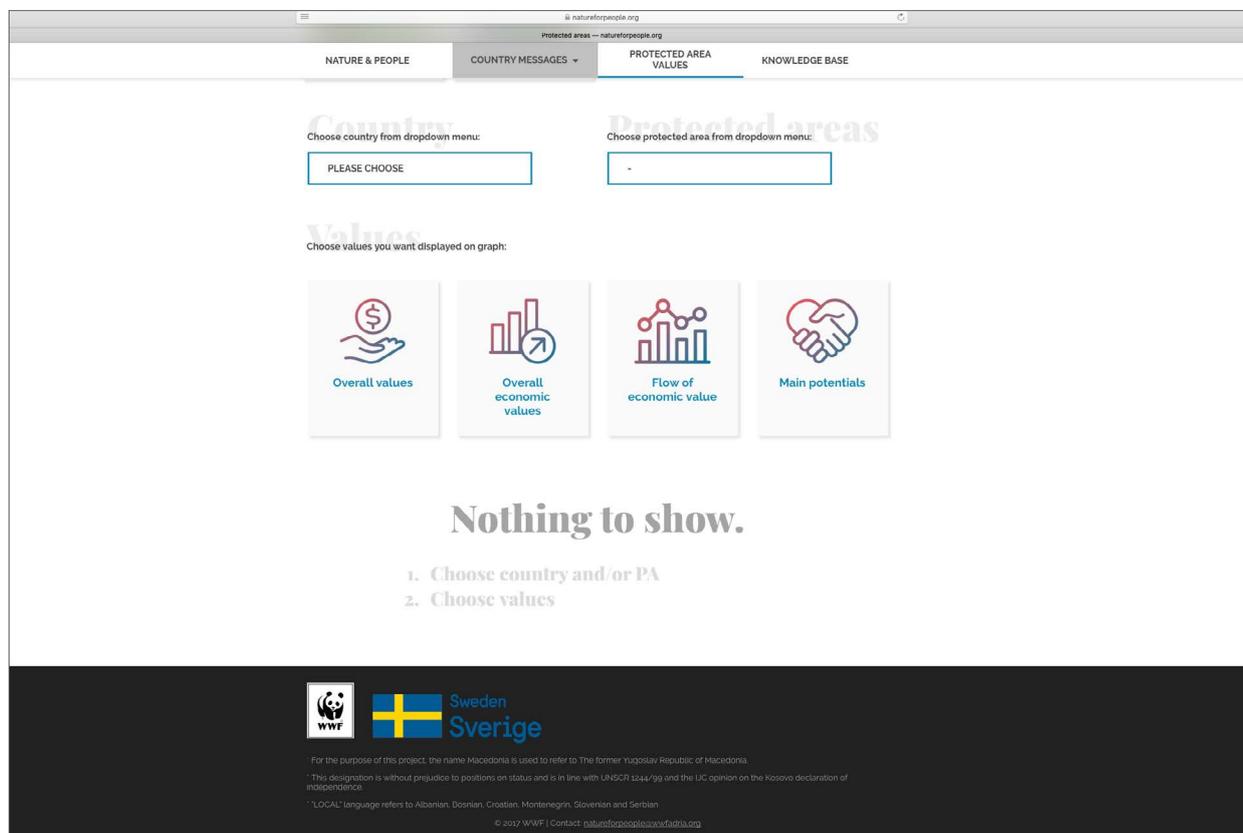


Figure 17: Search options for PA-BAT data on an online platform natureforpeople.org

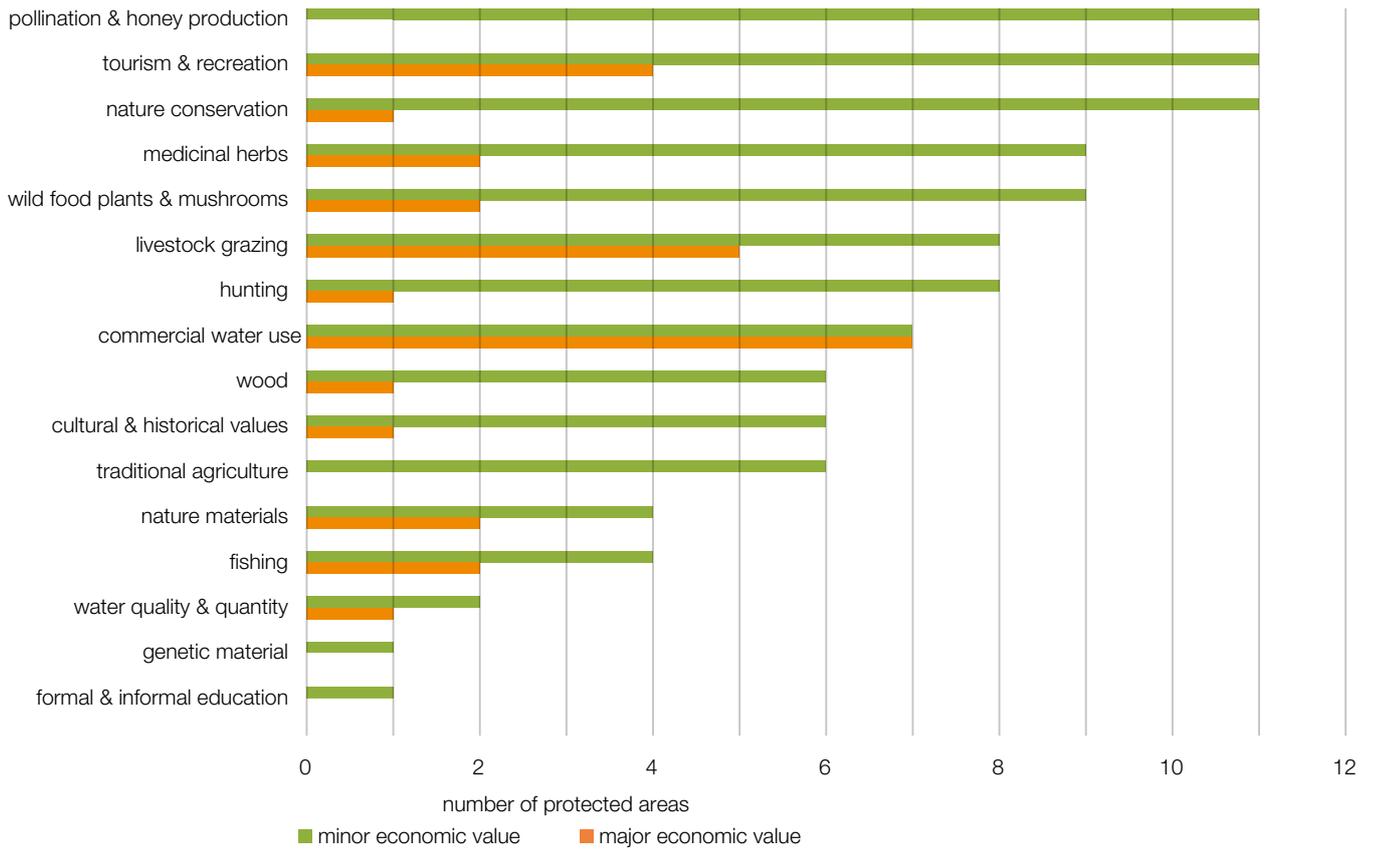


Figure 18: **Overview of economic value (low and high economic value) for 13 protected areas in Albania**



Prespa National Park, one of the PA-BAT sites in Albania © Equilibrium Research

2.7 Communicating the results

The best format, visual graphics and channels of communication for disseminating the PA-BAT+ results will depend to a certain extent on the audience and objectives of the exercise. Table 7 provides some suggestions for tailoring the message and the way it is delivered to the specific audience. Local communities, protected area managers, local PA-BAT+ focal points and any other people closely involved

with the PA-BAT+ implementation need to be involved in the development of communications and interpretation materials to ensure they are locally relevant. When using material from the PA-BAT+ for interpretation, the legal ownership and right to use images, texts and other interpretive materials should be discussed and clarified (see section 2.4.6). An important aspect of interpretation for local communities is often ensuring that an understanding of the area's benefits is passed on to younger generations.

Table 7: **Communication methods suited to different audiences**

Audience	Interest in protected areas	Interest in PA-BAT+ results	Communication tools
Local community	Cultural associations, well-being, sustainable use, recreational use, harvesting, economic benefit (e.g. tourism), etc.	Increase in knowledge about the ecosystem values and associated benefits of the protected area. Demonstrates need for sustainable use of natural resources.	Local outreach including community education campaign, community meetings, local news story, local radio, local interpretation (e.g. guidebooks, information panels, visitor centre materials).
Protected area managers	Conservation, interpretation, sustainable resource use, relationships with local communities, etc.	Provides base-line data on the benefits of protected areas which can be used across a range of management issues. Can create more positive relationships with local people around shared issues associated with benefits.	Local outreach including community education campaign, local interpretation (e.g. guidebooks, information panels, visitor centre materials), adaptations to management systems and associated plans, annual reports.
Politicians and national policy makers	Possibly low interest. Lack of awareness of uses and services provided and associated economic benefits.	Increases awareness of the economic, and non-economic, benefits of the ecosystems protected by the area. Potential costs of ecosystem degradation.	Presentation, maps, policy brief, individual meetings, short film, story placement in high profile media.
Local conservation NGOs / International NGOs	Conservation, interventions, interpretation and social and economic development.	Provides base-line data on which to campaign for better recognition, management, funding, etc. about the benefits of protected areas.	Policy brief and full report, websites with results and other resources, presentation, side event at regional or international conservation meeting.
Local development NGOs / International NGOs	Poverty reduction, social and economic development.	Provides base-line data on how local communities rely on the protected area's resources with the aim of pressing for greater use and access, involvement in decision-making, etc.	Policy brief and full report, websites with results and other resources, presentation, side event at regional or international meeting.
Multilateral and bilateral donors	Funding, usually large-scale projects.	Increased awareness of the link between protected areas, poverty reduction and social and economic development.	Policy brief, websites with results and other resources, presentations at high level international meetings, individual meetings, international high-profile media.

Part 3

Using and communicating the results

The results from the PAT-BAT+ can be used in many ways. Some options are discussed here and in the case studies in Part 4.

3.1 Using the results of benefits assessments

The PA-BAT+ collects information on the perceptions of local stakeholders on the benefits the area provides. Understanding the attitudes of local communities feel about the area is a major contribution to successful management, and in many cases, local knowledge about an area can go back generations and be a major resource and contribution to management. It is, however, vitally important to note that any use of the PA-BAT+ results and related communications must be conversant of the conservation objectives of the area being assessed.

3.1.1: Linking protected area management to benefits

Some stakeholders' views may not be as informed of the biological and ecological importance of an area as those of scientific experts or protected area managers or staff. If there are major differences between the PA-BAT+ results and the management plan, then managers may consider either 1) developing further dialogue with stakeholders to try to identify areas of alignment between conservation objectives and stakeholder priorities, or in some cases 2) making revisions to the management plans. For example, some stakeholders might see tourism as economically very important, but protected area managers might wish to limit tourism, in which case further dialogue with stakeholders would be advisable. On the other hand, there may be opportunities to enhance sustainable tourism which could be reflected in the management plan. The results of multiple assessments may also highlight broader issues related to policy and legislation on protected areas across a country or jurisdiction which, if changed, could enable protected areas to more effectively deliver ecosystem services.

3.1.2: Adding value to local resources

Local resources, if sustainably managed, can provide a more secure and sustainable future for economic development than relying on imported materials and capital. The PA-BAT+ results should highlight the areas where protected area managers can work with local communities to enhance sustainable resource use and development. However, successful development of local resource use will likely depend on at least two elements:

- **Enabling policies:** The need for development is often the result of policies regulating activities such as agriculture and fisheries, which can undermine local production. Unless policies are in place which promote local sustainable production and which respect an areas conservation objectives, interventions which promote closer links between protected areas and resource users are likely to fail.

- **Markets:** Local resource use may have declined because there was no longer a market or buyers for a product. This could be because of a lack of demand for products due to changing tastes, access to cheaper products from different sources or lack of market, for instance due to rural de-population, or products no longer being economically viable, or to a lack of knowledge or skills if no one locally is engaged in marketing or in running small businesses. Successful sustainable economic development built on any resource use needs to ensure a market exists for the whatever project is planned.

3.1.3: Sustainable resource use and effective conservation

The PA-BAT+ only assesses legal resource use in protected areas. The level of importance of resources, both economically and for subsistence, may raise issues of sustainability. In this case, it is important that managers and stakeholders with the rights to use resources continue the dialogue after the PA-BAT+ assessment to develop resource use plans (e.g. memorandums of understanding on the level of resource use) to ensure long-term sustainability and effective conservation of resources. Baseline data for monitoring usually only goes back at best to the declaration of a protected area – and stakeholders may have a much longer view of resource use and information on sustainable practices, or sometimes traditional practice, which may inform current management. The assessed ecosystem values and benefits can inform decision making, spatial planning, Environmental Impact Assessments (EIAs), Strategic Environmental Assessments (SEAs), or other similar processes. Protected areas can become significant drivers of local economies. However, incentives for the use of natural resources should always be based on sustainable development principles to avoid jeopardizing the conservation objectives of a protected area. Development initiatives should be planned gradually, with special attention to a fair distribution of benefits among all stakeholders.

3.1.4: Developing more effective monitoring

The PA-BAT+ is an assessment tool and not a monitoring tool. Ideally managers should identify the range of permitted uses of the protected area, agree on indicators and monitor results in relation to benefits as part of their overall assessment of management (Hockings *et al.*, 2006) and equity effectiveness. Due to its participatory approach, the PA-BAT+ results reflect the current situation in protected areas and the real challenges people face in and around protected areas. Therefore, they help managers to focus on practical solutions that could contribute to human well-being. The PA-BAT+ can also help identify areas for future monitoring and assessment if resources and capacity allow.



Figure 19: The different types of relationship between protected areas, local communities and businesses

3.1.5: Scoping for further studies of protected area benefits

The concept of assessing ecosystem services to make the case for greater support for protected areas has become the focus of many methodologies and projects. Developing dialogues with service providers, government departments, industry and other stakeholders can result in increased support for protected areas – but should only be undertaken as part of a planned process, and with the understanding that it may take many years and considerable effort to develop this wider recognition of protected area benefits. The PA-BAT+ results can be used as a scoping study when planning future ecosystem service valuation exercises to identify which benefits should be further studied, for example by focusing on those seen as most (or potentially most) economically important. Other research could include biophysical measurement of ecosystem services (e.g. water quality, carbon sequestration), or spatial mapping of ecosystem services, or social science surveys to get a broader/more

representative assessment from a larger number of people, or lots of other potential research projects. There are several methodologies which can then be used for further assessment, and guidance on selecting a suitable assessment tool is available in Neugarten et al. (2018).

3.2: Linking conservation and development

Once dialogue has been opened there may be opportunities to develop a greater understanding of ecosystem values and resources and thus the potential to create or expand new sustainable business opportunities. At this stage, policies and actions linking conservation and development can start to be developed. Figure 19 explores the different types of relationship and flow of benefits between protected areas, local communities and businesses. Most of the economic benefits from protected areas are not generated by protected area managers, but rather by businesses that use the area's

ecosystem values for economic gain, such as ecotourism companies, water companies, local businesses that benefit from visitors to the protected area, and so on. The key to unlocking benefits to local communities living near protected areas and generating more sustainable (both from an economic and environmental perspective) small businesses in often economically depressed areas, lies with protected area managers and businesses working together to realise the protected area's assets. However, more often than not, the links between protected areas and local development are not made. The discussion below explore the reasons for this in more detail.



1: No understanding/ recognition of the links between the protected area, business and local communities.

This reflects the *status quo* in many protected areas; ecosystem values and benefits are understood and used by

different groups of stakeholders independently. This lack of interaction between the value provider (the protected area) and those who may benefit from these values (businesses or local communities) has several implications. Management of the protected area tends not to consider how ecosystem values are being used, creating a major risk that the value is degraded or lost. Flows of benefits, particularly financial flows, tend to be uneven and rarely equitable. Support for and understanding of the protected area and the ecosystem values it protects tend to be poor.



2: Business and local communities linked, but no understanding/recognition of the link to protected areas.

Members of local communities are directly employed, for example, in tourism businesses, or have employment in enterprises

that rely on ecosystem services maintained by the protected area, such as water bottling or hydroelectric power plants, or on commercial production of resources from the area, such as production of herbs or honey. This can lead to good links between business and local communities, but the relationship with the protected area is not obvious. This means the protected area does not capitalise on the potential support for protecting the ecosystem values which supply the benefits used commercially and effective management of the resource may not be in place.



3: Local communities and protected areas linked, but no links to business and markets.

Many protected areas are set up by local people. In other cases, protected areas can work closely with local people to ensure access,

sustainable resource use, local cultures and traditions. Projects involving local people and protected areas to develop sustainable businesses based on protected area benefits, can include handicrafts, homestays etc. Although not a necessarily a precursor to success, linkages with business can help improve business planning, market access etc.



4: Business and protected areas are directly linked, but no direct link to local communities.

In some cases the area being protected may have a direct relationship with business, often tourism, or be linked to a specific commodities

such as water, sustainable production etc. If these areas have little contact with local communities and any resulting benefits are not equitably shared or there is very little involvement or knowledge about the areas conservation objectives, support for and benefits from the area will be lacking.



5: A three-way direct link between protected areas, business and local communities.

In this ideal option there are direct links between all three entities. For example, a business which relies on resources

from the protected area has a memorandum of understanding with the protected area and either directly employs local people or provides support for local development (e.g. financial support or training related to business management) with full engagement and participation of local people (e.g. through involvement in management structures or other decision making bodies). All parties are engaged in the management and governance of the benefit. This option is likely to produce the most equitable flow of benefits and positive results for all parties concerned, and to ensure the sustainability of both protected area values and businesses reliant on these values.

Part 4

Case studies

Various versions of the PA-BAT have now been used in assessments around the world; it is from these experiences that the PA-BAT+ presented here has been developed. The first two case studies are presented in detail as they relate to the implementation of the PA-BAT+ presented in this guidance.

Supplementary short case studies provide brief example of other uses of the tool around the world.

4.1 Croatia

The original PA-BAT (Dudley & Stolton, 2009 – see preface for details) was used in a multi-site assessment in the Western Balkan region of Europe between 2012 and 2014 (Ivanić et al., 2017). During the implementation of the tool, the processes around stakeholder involvement and workshop procedures were considerably enhanced. The results have been used to inform a wide range of outputs on protected area benefits in the region (Štefan et al., 2017) and the processes developed during implementation form the basis of the PA-BAT+ guidance in this document.



The team who ran the PA-BAT workshop at Krka National Park © Equilibrium Research

Why did you use the PA-BAT?

In the Western Balkans region (Albania, Bosnia and Herzegovina, Croatia, Kosovo [*this designation is without prejudice to positions on status and is in line with UNSCR 1244/99 and the IJC opinion on the Kosovo declaration of independence*], North Macedonia [*for the purpose of this project, the name Macedonia is used to refer to the former Yugoslav Republic of Macedonia which changed to North Macedonia after the assessment*], Montenegro, Serbia and Slovenia), local communities are not generally included in the management of protected areas, which leads to low recognition of the variety of values that protected areas provide to them. The PA-BAT was used by WWF Adria to give local stakeholders a chance to talk through their perception of ecosystem values and how they relate to them.

Overview of where it was done

Most protected areas in the Western Balkans (WB) region are both rich in biodiversity and are sites of intense human activity. The complex mountainous terrain has produced strong local cultural identities. It is important for various stakeholder groups (ethnic groups, experts, government officers, entrepreneurs, farmers and local community representatives) to be heard in discussions about resource management. More than 1,250 local stakeholders from 58 protected areas in eight countries in the WB region shared their perceptions on protected area benefits and current protected area management. This was

the biggest ever participatory assessment of protected area benefits in the region, which took two years to conduct (2012–2014) and provided an overview of various ecosystem services and benefits that protected areas provide (Ivanić et al., 2017).

The implementation in Croatia is highlighted here, as more than 430 people participated and it encompasses the largest area of protected areas in the region: 8.56% of the total area of the Republic of Croatia (12.23% of the mainland and 1.94% of territorial waters). The PA-BAT assessment in Croatia evaluated 97% of national and nature parks in Croatia (eight national parks – IUCN category II and 10 nature parks – IUCN category V) (Figure 20). The assessments were led by WWF in collaboration with the State Institute for Nature Protection (now part of the Ministry of Environmental Protection and Energy), the Ministry of Environment and Nature Protection and coordinators appointed in each of the 18 protected areas.

The original PA-BAT methodology (Dudley & Stolton, 2009) was translated into the local languages and adapted for the WB region; two questions were removed (q. 10 on sacred natural sites or landscapes and q. 19 on importance for coastal protection); one stakeholder group (scientists and experts) was added and one stakeholder group changed from national and local NGOs to civil society organisations and cooperatives. The order of questions was changed so that the assessment did not start with nature conservation but with a benefit that local stakeholders can more easily relate to depending on the area, such as agriculture, fishing or hunting. Standard PowerPoint presentations about the PA-BAT methodology were prepared that explained the one-day workshop and how the results would be used. For each individual workshop, PowerPoint presentations were prepared with the questions adapted to the specific protected area context. Questions which were not applicable (e.g. fishing where there was no sea or water) and any benefits that related to illegal use (e.g. sites with a moratorium on hunting or forestry) were also removed. In the latter case, illegal use was raised in the discussion and details given in the workshop report. A projector and laptop were used to show the findings of the assessment. Each assessment result was agreed on by local stakeholders, including how they perceived benefits, their values and where they saw potential for future development. A questionnaire on the quality of the PA-BAT workshop was prepared and participants completed this at the end of each workshop. In order to analyse and use the results, a special Excel form (Pivot tables form) was developed (see section 2.6).



Figure 20: National parks and nature parks in Croatia.
(Blue icons relate to marine protected areas while the green are terrestrial.)

Background research

In each protected area a focal point helped with the organisation of the workshop, informed potential participants about the workshop and agreed on the protected areas values that would be assessed. Preparation for the workshop included reviewing the management plan, protected area rulebooks and relevant legal frameworks. Protected area focal points were asked to invite all relevant stakeholder groups. WWF, which was running the process, also did a basic stakeholder analysis before the workshop to ensure as many relevant people as possible were invited.

Training/capacity building/building a team

For the project as a whole, national focal points from the eight countries were appointed, these were usually representatives from the Ministry of Environment, Nature protection agencies or national/nature parks. The developers of the methodology (Sue Stolton and Nigel Dudley) held an initial one-day training workshop for all the focal points. In Croatia, representatives from the Ministry of Environment and Energy and the former

Croatian Agency for the Environment and Nature participated in all the PA-BAT workshops. From the WWF Adria team one facilitator and one note-taker, who swapped roles throughout the workshops, were trained using the methodology. One of the PA-BAT developers took part in the first four workshops to provide guidance and suggestions on running the workshop. After the first few workshops, the focal points from the agency also took on the roles of facilitator and note-taker. Having these focal points sharing the facilitation and participating in the PA-BAT workshops was of great value as they could see first-hand the issues in the field, rather than just reading about them in a report.

Preparing for the workshop

The steps taken to prepare for the workshops included:

1. Selecting a PA-BAT team within the WWF Adria team (two persons)
2. Selecting a focal point from the Ministry of Environment and Nature Protection Agency
3. Selecting focal points in each nature and national park in Croatia

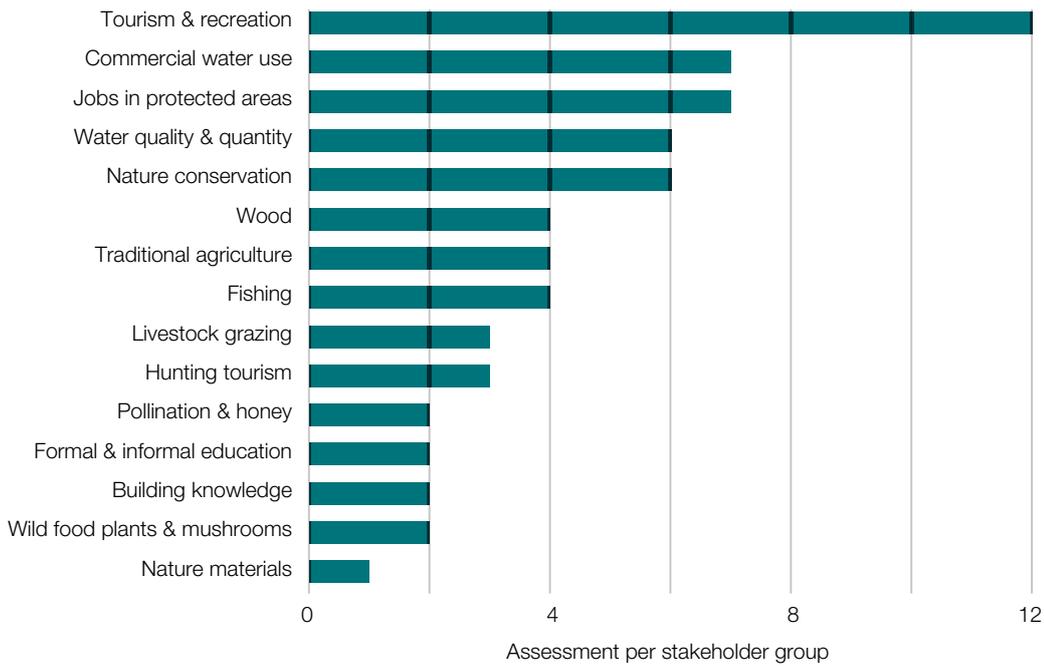


Figure 21: **Distribution of major economic values to different stakeholder groups in Croatia (Štefan et al., 2017)**

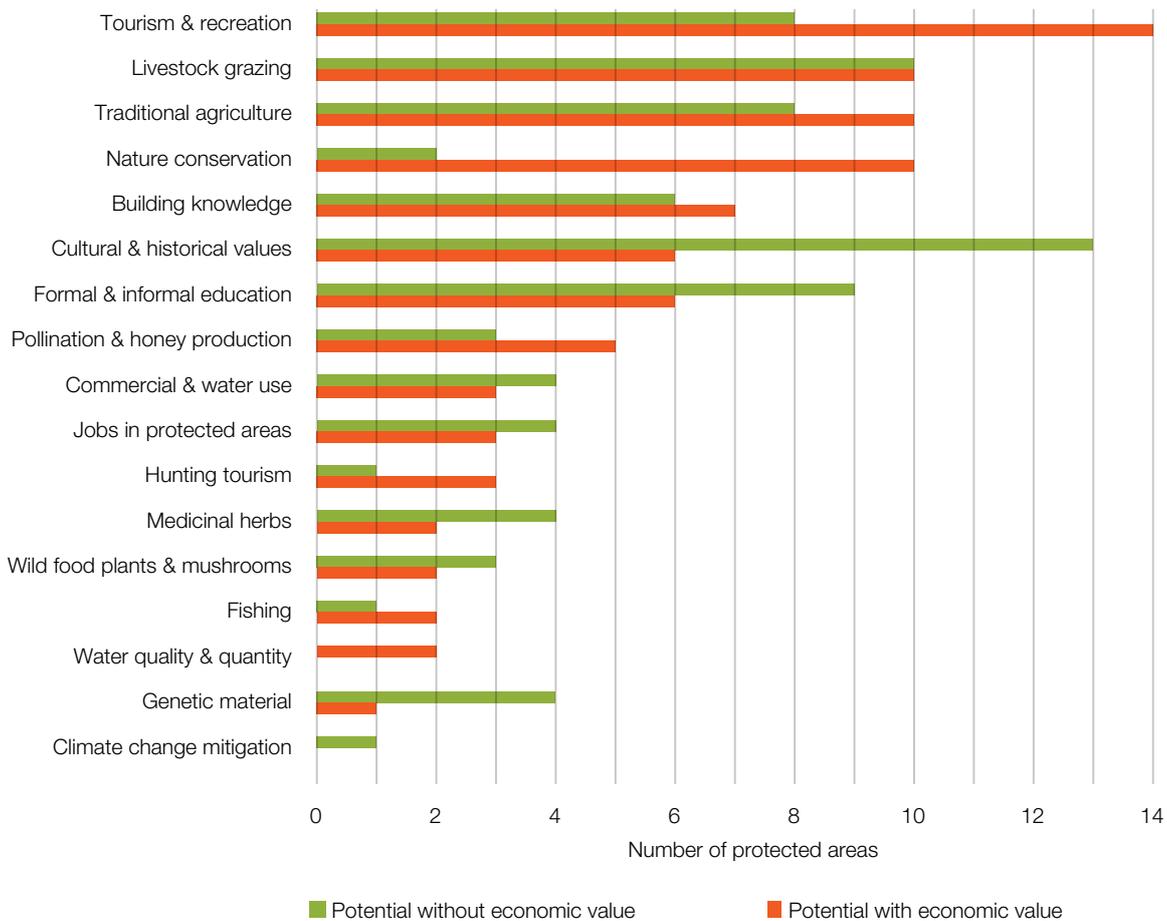


Figure 22: **Potential benefits identified by all stakeholder groups in the Croatian PA-BAT workshops (Štefan et al., 2017)**

4. Preparing a timeline with the focal points according to the local context (e.g. not in high season) and in the vicinity of some protected areas so several workshops could be carried out per trip
5. Focal point sending relevant information to the PA-BAT team to prepare for the workshop (e.g. management plan)
6. Discussion with focal point about which questions (i.e. protected area and ecosystem values) were relevant for each protected area being assessed, adapting the questions accordingly and agreeing on the order being assessed at the workshop
7. Recommendations from the focal point on which stakeholders to invite
8. Focal point inviting local stakeholders and confirming participation
9. Focal point working with WWF to select the workshop venue (local place with local food)
10. Preparing PowerPoint presentation for the workshop with local photos of the benefits where possible
11. Printing the agenda, list of the benefits to be assessed and participants' questionnaires
12. Checking that equipment worked and could be seen by all workshop participants to project the questions and assessments made
13. On the day of the workshop, preparing and arranging venue.

Conducting the workshop

Hosts (e.g. the protected area manager, local mayor, etc.) welcomed participants. The PA-BAT team then briefly introduced the agenda, the PA-BAT methodology and the team's expectations from the workshops, and then participants were asked to briefly introduce themselves. Questions relating to the most important benefits were asked at the beginning of the workshop while all participants were fresh and engaged.

Workshop evaluations

After each workshop, an anonymous feedback survey (see Box 7 for an example) was conducted showing stakeholders' level of engagement in protected area management and cooperation with other stakeholders, as well as the knowledge of protected area benefits and values and the potential to use them. In Croatia, 92% of the participants stated they had met more than five new people during the workshop, and 60% of them were ready to start collaborating with other stakeholders in areas related to ecosystem services. More than 88% of the participants stated that they could use the knowledge gained at the workshops. The results have shown that the workshop assessment process was as important as the protected area value assessment results. The process itself enables the stakeholders to understand the role, ecosystem values and benefits of the protected areas and participants clearly appreciated the opportunity to network and to make direct contact with the protected area management. At the same time, the protected area management received direct and valuable data from the stakeholders. For some stakeholders, especially from the local community, the PA-BAT workshop was their first contact with protected area employees, and they were given the opportunity to discuss the importance of natural resources and the connections they had with

these. Overall, the workshops in Croatia, and the rest of the countries in the Western Balkans region, highlighted a lack of communication between protected area management and local communities.

The results of the PA-BAT

The analysis of the PA-BAT results identified main drivers of development relevant for both protected areas and the country's development policies; identified the flow of economic benefits and the need to develop strategies to give revenue back to local communities and protected areas; and the importance of jobs in protected areas – which is vital for rural economies and relevant for politicians.

Figure 21 provides an overview of the major economic values and Figure 22 of the areas which were assessed as providing potential for further enhancement and benefit. A full report of the findings has been prepared by Štefan et al. (2017).

Using the results

The PA-BAT results are being used locally, and the results were aggregated across all the 18 protected areas assessed to develop conclusions and recommendations for national level actions. The nature protection sector in Croatia is being encouraged to address the issues identified during the series of PA-BAT workshops (Štefan et al., 2017) and to utilise the advice (guidance notes) on using the PA-BAT results that were developed in consultation with protected area experts and authorities. Based on discussions involving more than 430 experts, government officials, entrepreneurs, farmers and local community members in general, these results reflect the current situation, challenges and opportunities local communities are facing. They are applicable across various fields/areas. While protected area managers were the primary audience for the PA-BAT assessments, the results of the assessment are also relevant for local governments and local stakeholders who are involved in sustainable development initiatives. Ministries and other relevant institutions that develop policies for natural resources management and rural development are also being encouraged to use the PA-BAT results to create an enabling environment for sustainable local initiatives in protected areas.

The overall results of the PA-BAT exercise have been published in a peer reviewed paper (Ivanić et al., 2017) and the results from the WB region as a whole are also being written up in country reports (for Albania, Bosnia and Herzegovina, Croatia, Montenegro and Slovenia). These reports and far more can be found on: https://natureforpeople.org/protected_areas/

4.2 Colombia

Drawing on the experiences from the implementation in the Western Balkans, Colombia was the first country in South America to test and then adopt the use of the PA-BAT in national protected area reporting.



Running the PA-BAT workshop in Alto Fragua Indígena National Park © Equilibrium Research

Why did you use the PA-BAT?

The PA-BAT was used as a tool within the Conservation Futures project/methodology (van Kerkhoff, 2018) created for future-oriented conservation (policy, planning and management) that effectively anticipates change and actively prepares for it over the long term in a climate change context. The Conservation Futures methodology was developed by several organisations: WWF Colombia, Luc Hoffmann Institute, Australian National University, Equilibrium Research and CSIRO.

The PA-BAT was used to identify and explore the relationships between ecological features or attributes and social values or benefits. In particular, the PA-BAT represented a tool within Conservation Futures to understand which benefits are valued the most by local communities, in the context of protected areas.

Overview of area

The PA-BAT was implemented in Colombia in two pilot areas, corresponding to Conservation Futures assessments: 1) the Otun watershed and 2) the Amazon Piedmont (Figure 23). In the first case, the PA-BAT was applied to a set of protected areas in a watershed context; for the second, the PA-BAT was implemented in one protected area. The PA-BAT was employed to understand how local communities relate to the protected area. This relationship is key to understanding what local communities' value from the protected area and how they value it. Understanding these benefits and how they can change in the future under a changing climate is important to provide indications on where management attention should be strengthened in the future.

How the tool was adapted

The PA-BAT was translated into Spanish. Compared to other PA-BAT exercises, several innovations were made to the methodology. Some questions were changed and grouped strategically to create a consistent narrative (e.g. questions on water quality and quantity, reduction of natural risk and climate change). Because of possible issues with lack of electricity, instead of recording the results of each assessment on a PPT, a paper copy of the template (see Table 4) was developed for each benefit assessed and sticky notes of the symbols used to publicly record the assessment decision (e.g. \$, \$\$, +, ++, P, etc.) were made up in advance. Additionally, an artist captured key messages from the meeting in simple pictures and a few words and these were pinned up during the workshop; a written resource was also provided capturing the assessment results and key outputs later. Finally, maps were pinned up and participants encouraged to identify the location of some of the benefits; for example, local indigenous leaders mapped out the sacred natural sites in the park for the first time.

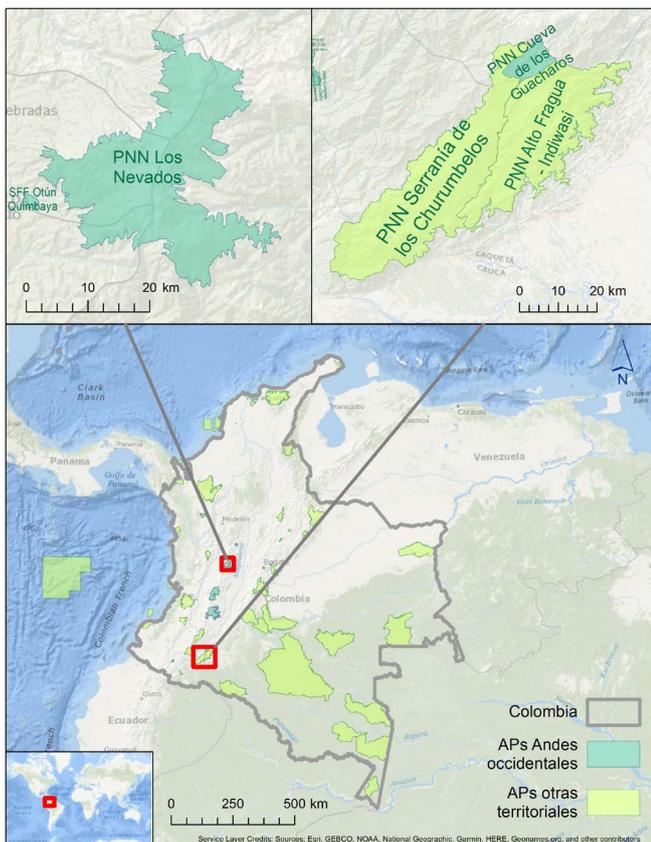


Figure 23: Sites using the PA-BAT in Colombia. Map prepared by Johanna Prussmann, WWF Colombia.

Background research

The PA-BAT questions were shared with local focal points (e.g. WWF and protected area staff) to check the list of benefits and the language used for the questions. Also, in one of the pilot sites, a PA-BAT pilot test was implemented with the local protected area team the day before the workshop to ensure everyone understood the process (see in addition Box 8).

Training/capacity building/building a team

For the first PA-BAT, the implementing team was formed of two facilitators, an artist and note-taker, for the second pilot, this was reduced to one facilitator, plus the artist and note-taker. Before the first workshop, the team jointly agreed to the details for running the exercise, such as how to take notes and the best way to ask the questions, and then had feedback meetings to improve the second pilot workshop. This process allowed for greater understanding of the tool by different people within WWF. Also, an additional review was carried out by National Natural Parks staff to gain feedback on how to apply the PA-BAT, for instance to improve benefits questions and find ways to appropriately approach local stakeholders. The PA-BAT developers also took part in some of the preparation meetings and sat in during the first workshop. In all, this preparation involved several meetings and revision of workshop materials over about a three-month period before the official implementation.

Preparing for the workshop

The implementation in the pilot sites included the following steps to prepare for the workshop:

1. Select a PA-BAT team
2. Translate and adapt the questions according to the local context
3. Agree on a list of participants to invite
4. Select the venue
5. Send invitations to participants and confirm participation
6. Prepare an introductory PowerPoint presentation explaining the PA-BAT for the workshop with local photos of the benefits
7. Print large maps of the site so that participants are able to locate specific benefits. A colour-coded list of benefits and sticky 'dots' for people to use on the maps corresponding with the colour coded benefit
8. Print the questionnaires for assessing participants' feedback on the workshop
9. Print paper copy of the assessment table with local stakeholder groups and prepare the sticky notes for the consensus (+, ++, \$, \$\$, P+, P\$).

Running the workshop

For running the workshop, it is important to keep in mind the time available and the number of benefit questions to be asked. A timekeeper is important during the session. It is also important to start the workshop with a quick overview of the benefits from the area. Background information from the protected area is helpful to list key benefits.



Using a paper template for the PA-BAT in Colombia © Equilibrium Research

Workshop evaluations

After the PA-BAT workshops, participants completed the questionnaire about their experience. Results show that the majority of participants (more than 70%) had a good or very good experience in the workshop and liked the content of the workshop. Participants learnt new things about the protected area such as understanding more about its benefits and met new people. Also, the majority of participants (more than 90%) established new relationships and defined possible future collaborations with other colleagues.

The results of the PA-BAT

The results from the two PA-BAT exercises are given below.

• Alto Fragua Indi Wasi National Park

Alto Fragua Indi Wasi National Park covers over 74,000 ha on the southeastern slope of the East Mountain Range of the Colombian Andes in San José del Fragua and Belén de los Andaquies Municipalities. It was created in February 2002 and includes Andean forest and tropical rainforest between 900 to 2895 metres above sea level.

The PA-BAT was implemented in March 2017 with 17 people from five different stakeholder groups taking part in the exercise, including peasant farmers, government representatives, civil society organisations, tourism and other economic sectors. The PA-BAT was a useful exercise in allowing the participation of local communities in a process where there was respect for the different opinions expressed. The issue of protected area benefits generated very quick ownership and stimulated a positive connection among the participants. The exercise allowed communities to express their perceptions about the benefits provided by protected areas.

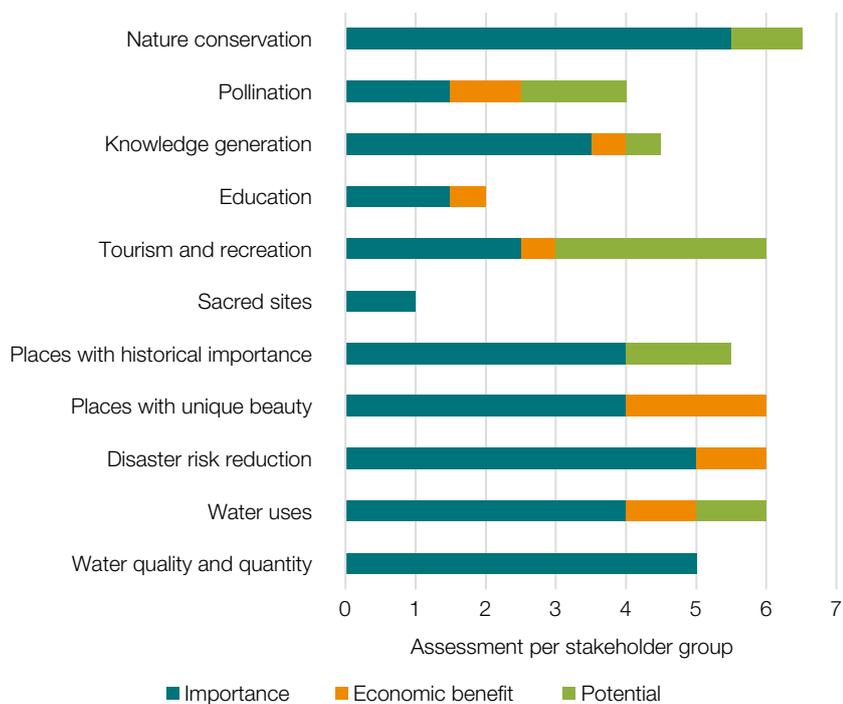


Figure 24: **Overall analysis of the perception of benefits from National Natural Park Alto Fragua Indi Wasi, Colombia.**

According to the results for Alto Fragua, the perception of participants highlights that knowledge (e.g. education and research), tourism and the reduction of climate impacts are the most important benefits of the protected area (Figure 24). Indeed, stakeholders observe different types of climate change impacts such as increased temperature under shade, increased river flows and changes in crop yield and quantity. The exercise results suggest the understanding shared by the participants regarding climate issues is also a result of management interventions that the protected area authority has carried out in the area. In addition, knowledge creation in the protected area is considered to have high potential for the future, whereas tourism and pollination were ranked as having medium potential for the future.

• **The Upper Otun watershed**

The Otun watershed is located in the Colombian coffee growing region; the river originating in Los Nevados National Park. The Upper Otun watershed contains a range of different conservation designations such as national, regional and privately protected areas. The river provides water to approximately one million people living in Pereira city and its surroundings. This region is nationally and historically recognised as an example of protected area management with strong engagement from local communities and citizens. Currently, there are a range of threats to water quality and quantity linked to agriculture, pesticides and cattle ranching.

The PA-BAT was implemented in May 2017. It engaged 27 stakeholders representing six groups: peasant farmers, government representatives, civil society organisations, tourism and other economic sectors, and academia. Figure 25 aggregates participants’ perceptions regarding the importance of the benefits assessed. This visualisation

allows the most relevant benefits for the Upper Otun watershed to be highlighted: water quality and quantity, places with unique beauty, climate change mitigation, tourism and recreation, and generation of knowledge.

Participants highlighted disaster risk reduction, places with unique beauty and water use as the most important perceived benefits of the protected area. Benefits such as disaster risk reduction and water use were highlighted with high economic importance, whereas places with unique beauty and historical and sacred sites were considered to have high potential for the future.

This information gives a snapshot regarding the most important benefits for local stakeholders; furthermore, the graphic story provides specific details about the beneficial relationships between people and protected areas. The protected area helps to reduce the impacts of extreme events such as floods or extreme droughts, which creates savings for farmers, water utility companies and the local government. The Otun watershed is critical for water provision; 70% of local GDP comes from water-dependent activities such as industry, fisheries, agriculture and energy generation.

Protected areas in the watershed conserve local habitats such as mountain glaciers, paramos (high altitude grasslands), Andean forests and a diverse set of wetlands and waterfalls. These landscapes and ecosystems are considered to be places of unique beauty and are a powerful resource for local tourism activities, research, education and knowledge generation. The forest cover in the watershed is an important buffer to reduce impacts of climate change. During the conversation on the benefits of protected areas, participants brought in new information, such as the existence of archaeological sites and the pre-Hispanic history of the area.

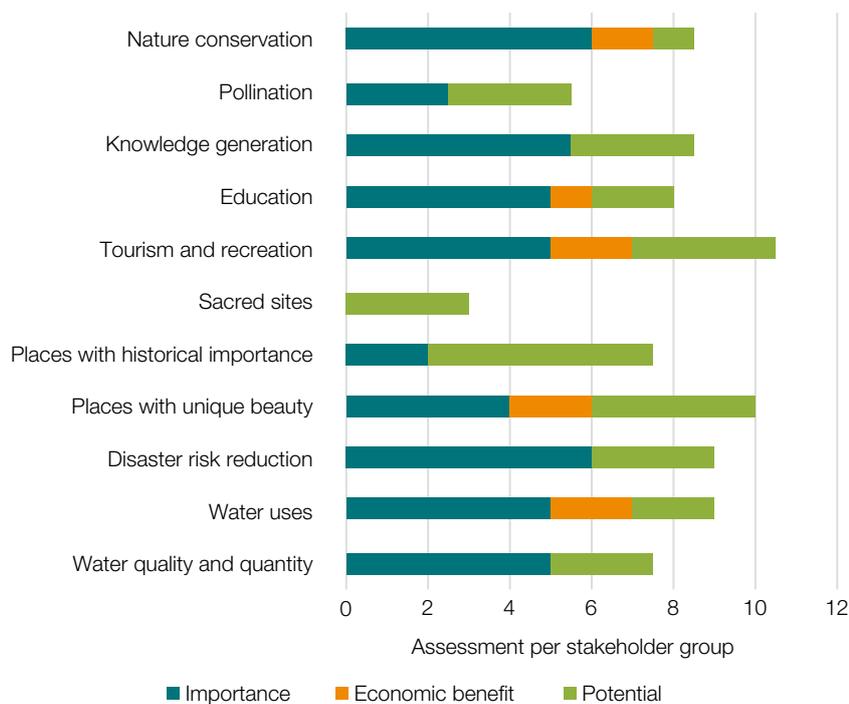


Figure 25: **Overall analysis of the perception of benefits from Upper Otun watershed, Colombia.**

Also, participants expressed concerns related to the lack of tourism planning and the associated risk of stresses on the protected areas' ecosystems.

Participants completed an anonymous evaluation at the end of the PA-BAT exercise and the majority supported its added value: according to one respondent "the methodology is very useful and since the tool seeks to collect the perceptions of the participants, there is no 'wrong' perception. It is a key exercise in planning and management not only of protected areas, but of the basin and the territory. It is a key exercise for strengthening relationship with social and institutional stakeholders. The methodology and graphic documentation are very valuable" (translated from Spanish by WWF staff).

This PA-BAT process in Otun was also useful in creating a regional dialogue on the importance of local protected areas. It helped facilitate important regional discussions such as tourism regulation, the existence of archaeological sites (which was unknown to many of the participants, including PA staff), and in general, knowledge sharing about the Otun watershed. Despite invitations being sent to diverse stakeholders (smallholder farmers, NGOs, government organisations, academia), this PA-BAT lacked input from smallholder farmers. For future developments of PA-BAT, it is strongly recommended that additional efforts to ensure the participation of all types of stakeholders, in particular those that live in remote areas but are strategic users of protected area benefits.

Box 8

Questions generated by the PA-BAT results

The points below were developed by WWF Colombia as a useful guide to internal discussions within the protected area team:

- 1) Review the management plan and the annual management programme to see if benefits are consistent with the area management objectives. If this is not the case, dialogue should be improved with those actors who are not aligned with the park's strategies.
- 2) How sustainable are the uses of current benefits and how much does this contribute to or compromise conservation?
- 3) The potential activities identified in the PA-BAT framework are indications of future economic income, should the park take any action?
- 4) If any of the benefits highlighted during the exercise are actually benefits that the park wants to offer, what is the business plan to support this benefit (or benefits)? (In this case, the products, services, consumers, competition and comparative advantages of the park should be identified in relation to the identified benefits.)
- 5) Economic development projects: what are the benefits currently offered by the protected area to partner with other local actors in favour of economic development and conservation?

Using the results

The methodology was tested and improved for the Colombian context. The PA-BAT helped to:

- Create a positive dialogue around protected areas (despite many complaints about the protected area)
- List and characterise ecosystem services provided by protected areas
- Create dialogue among stakeholders in a local context
- Create and share knowledge.

In addition, the PA-BAT has been integrated into the Colombian protected area effectiveness management tool (AEMAPPS), which has been used since 2004 to assess

the Colombian national system of protected areas, to integrate people’s perceptions of the protected area and its benefits.

From a methodological perspective, the experience in Colombia identified elements of the tool which were weak and adjusted these in the process (and are also reflected in the development of the PA-BAT+ tool), including:

- Improving the clarity of the sub-questions for benefit
- Introducing mapping and delegating a protected area official to help in the mapping of benefits
- Careful timekeeping in order to cover all the benefits questions
- For each benefit, systematically asking about its importance, both potential and the economic importance, according to the perceptions of each stakeholder group.

Box 9

Using the PA-BAT+ in a city context

The most recent use of the PA-BAT+ in Colombia was an adaptation of the tool for its implementation in the city of Bogotá. The workshop was conducted within the framework of research on green and blue infrastructure in Colombia (Figueroa et al., 2019) with the collaboration of the Humboldt Institute (Colombian government) and Amigos de la Montaña (local NGO). The area in the city assessed was the Bogotá Eastern Hills, a large forest reserve which creates the eastern natural boundary to the city.

The main objective of using PA-BAT+ in a city context was to understand stakeholders’ perceptions about the benefits of the hills for city dwellers. The results showed that people perceive the major importance of the hills for reducing climate impacts, water provision and regulation, human health and a set of cultural aspects such as social identity, tourism and recreation. This workshop was the first of its kind in a city context

and enabled a rich dialogue between participants who normally would not meet to talk about the benefits of this forest reserve: citizens, local government, academia and companies.

Results from this workshop fed into a broader agenda developed by the Humboldt Institute in Colombia regarding urban protected areas. This tool helped to identify key management aspects such as the importance of including more actively and strategically social and cultural uses of urban protected areas in management plans. The relevance of these aspects is not reflected in the management plan of Bogotá’s Eastern Hills but its demand is increasingly growing for different uses among citizens. Finally, the results also helped to widen the dialogue and the spectrum of interests regarding Bogotá’s Eastern Hills among different sectors that normally do not share the same spaces. This enabled networking and collaboration between different participants post-workshop.



The Upper Otun watershed bordering Los Nevados National Park, Colombia © Equilibrium Research



Local stakeholders participating in the PA-BAT for Küre Dağları Milli Parkı © Equilibrium Research

4.3 Turkey

An earlier version of the PA-BAT was applied with local stakeholders and protected area staff in the Küre Mountains national park (Küre Dağları Milli Parkı or KDMP) in Turkey. The park was declared in 2000, covers 80,000 ha with a core zone of 37,000 ha and a buffer zone of production forest and settlements. The core area is managed by the national park authority, with several nested wildlife reserves, whilst the buffer zone is managed by the forest department.

Why did you use the PA-BAT?

The tool was used to help inform the development of the management plan. Three participatory meetings were held in March 2009, using an early version of the PA-BAT implementation approach described above, were held around KDMP; two open public meetings in different villages of mainly local communities including local *Muhtars* (leaders of the village) with some forestry, tourism and water officials and one meeting of representatives from national parks, forestry and local universities.

The results of the PA-BAT

Using a multiple workshop approach was interesting because it showed a wide divergence of opinion between both professionals and local communities and between the two communities, reflecting very different geographies and social structures.

Overall, biodiversity was seen as being of more importance to the authorities, due to the existence of endangered/endemic species, than it was to local communities. All groups identified genetic material (e.g. fruit species) as being of major potential to increase revenues. All groups saw game hunting in the buffer zone as being of only minor importance for subsistence and revenue for the local community, but game hunting as a tourism activity was seen as a potential area for revenue. Both community meetings assessed wild food plants as very important for subsistence, while researchers and managers assessed this as only of minor importance. There was disagreement about the importance of traditional agriculture, with researchers estimating a much higher value from the

ecosystem services assessed than local communities. Livestock grazing was also ranked differently by the two communities, reflecting the reality on the ground, as was the importance of pollination. The value of medicinal herbs ranged from very important in one community to not relevant by researchers and staff.

All the groups agreed that KDMP had iconic values related to the limestone landscape. Water was seen as a major value for local community subsistence by all meetings, in terms of both quality and quantity, but there were different opinions about the potential for commercialisation. There were similar differences in assessment of the park's importance for soil stabilisation and flood prevention.

One community put a lot of emphasis on the cultural and historical values of the park, and there was a rich discussion of myths, historical buildings and rituals for protecting crops. This community assessed sacred natural sites as being very important and there was a lively discussion on the importance of sacred springs in the core area, while researchers and the other community assessed these springs as of only minor importance.

Although management jobs were identified as a value by park managers, the community meetings disagreed; the potential for management jobs was however identified as a possible benefit. All groups saw tourism as having the potential to increase, although two saw it as already a major economic benefit while one community disagreed with this analysis (Stolton & Higgins, 2009).

4.4 Myanmar

Although the focus of this publication is on using the PA-BAT in participatory workshops with representatives of a broad range of stakeholders, there are many other ways to use the tool.

Why did you use the PA-BAT?

A rapid application of the PA-BAT was used in Myanmar during a workshop to develop restoration plans for national parks (Dudley et al., 2017). The aim was not to gather views from a range of stakeholders, but rather for the managers to think through the types of benefits to consider in restoration. Such an exercise can only be partial; we have noted that managers seldom know everything about their own protected

area, but it did ensure that a range of ecosystem services was considered. For this assessment, a smaller set of questions was asked, focusing mainly on different stakeholders.

The results of the PA-BAT

The results for the assessment of financial benefits from Alaungdaw Kathapa National Park are given in Table 8.

Table 8: PA-BAT results for Alaungdaw Kathapa National Park

Types of benefits	Local people in the PA	Local people living near PA	Local businesses	National population	National government
VALUES RELATED TO FOOD					
1. Wild game	N/A	\$	\$	\$	N/A
2. Wild food plants	N/A	\$	\$	\$	N/A
3. Fishing	N/A	\$	\$	\$	N/A
4. Spawning area for fisheries	N/A	N/A	N/A	N/A	N/A
5. Traditional agriculture	N/A	\$	\$	\$	\$
6. Crop wild relatives	N/A	N/A	N/A	N/A	N/A
7. Livestock grazing	N/A	\$\$	N/A	N/A	N/A
8. Fodder collection	N/A	\$	N/A	N/A	N/A
VALUES RELATED TO WATER					
9. Drinking water	N/A	\$	N/A	N/A	N/A
10. Irrigation	N/A	N/A	N/A	N/A	N/A
11. Hydro-electric power	N/A	N/A	N/A	N/A	N/A
CULTURAL AND SPIRITUAL VALUES					
12. Cultural or historical values	\$\$	\$\$	\$\$	\$\$	\$\$
13. Spiritual value	\$\$	\$\$	\$\$	\$\$	\$\$
14. Sacred natural sites	\$\$	\$\$	\$\$	\$\$	\$\$
HEALTH AND RECREATION VALUES					
15. Medicinal plants	N/A	\$	\$	\$	N/A
16. Recreation	N/A	N/A	\$	\$	\$
17. Wildlife tourism	N/A	N/A	N/A	N/A	N/A
KNOWLEDGE					
18. Education (e.g. school trips)	N/A	N/A	N/A	N/A	N/A
19. Research	\$	\$	\$	\$	\$
ENVIRONMENTAL SERVICES					
20. Climate change mitigation	N/A	N/A	N/A	N/A	N/A
21. Soil stabilisation	N/A	N/A	N/A	N/A	N/A
22. Coastal protection	N/A	N/A	N/A	N/A	N/A
23. Flood prevention	N/A	N/A	N/A	N/A	N/A
24. Water quality and quantity	N/A	N/A	N/A	N/A	N/A
25. Pollination	N/A	N/A	N/A	N/A	N/A
MATERIALS					
26. Timber	N/A	\$	\$\$	\$	N/A
27. Other materials	N/A	\$	\$	\$	N/A
NATURE CONSERVATION VALUES					
28. Nature conservation	N/A	\$	\$	\$	\$
29. Nature conservation jobs	N/A	\$	\$	\$	\$



Wood-Tikchik State Park, Bristol Bay, Alaska © Rebekah Esau

4.5 USA

An assessment of benefits was carried out in the Wood-Tikchik State Park (WTSP), in Bristol Bay, Alaska. The park covers 648,000 hectares and is the traditional territory for the Yu'pik people, who have a 2,000-year history in the region. There are eight communities adjacent to the protected area, with access for subsistence hunting, gathering and fishing, plus a hundred holdings within the park boundaries along with 2,428 hectares of native allotments.

Why did you use the PA-BAT?

The purpose of the study was to quantify and/or qualify the benefits of WTSP and analyse the distribution of benefits across identified stakeholder groups. Information was collected in three ways: a literature search of available data, particularly from the Alaska Department of Fish and Game; a survey of visitors to the park; and key informant interviews drawing on the PA-BAT. The 24 questions from the PA-BAT were assessed and some removed, either because the activity was not permitted in the protected area (e.g. livestock grazing) or not relevant (e.g. pollination of crops). Sixteen questions were selected covering fisheries, hunting wild game, wild food plants, medicinal resources, water use, water quality and quantity, flood prevention, cultural and historical values, sacred natural sites, recreation and tourism, wilderness values, knowledge building, education, genetic material, climate change mitigation and nature conservation.

In all, 13 key informant interviews took place, from the WTSP management council and their recommendations, including representatives from land allotment holders, boundary residents, NGOs, government and industry; some people represented more than one of these groups. Interviews were carried out individually, so in this use of the PA-BAT consensus of results was not an objective.

The results of the PA-BAT

A summary of the major benefits and beneficiaries of these benefits is shown in Table 9 (overleaf).

It is striking that boundary communities perceived a far wider range of benefits than any other group, and also that both monetary and non-economic benefits were recognised by representatives of all groups. The fact that some groups are apparently missing or downgrading benefits that are important for others (e.g. sacred values and climate change mitigation were both identified by only one group) suggests that some important values of the protected area continue to be missed by all stakeholders.

Source: Rebekah Esau with thanks to David Natcher and Ken Belcher

Table 9: **Benefits of major importance reported by various stakeholders**

WTSP Landowners	Boundary community	Local and national NGOs	Government	Industry
Fisheries for subsistence	Fisheries for subsistence	Fisheries for subsistence	Fisheries for revenue	Fisheries for revenue*
Hunting for subsistence*	Hunting for subsistence*	Nature conservation	Flood prevention – non-economic	Commercial water use
Hunting for revenue	Hunting for revenue	Nature conservation – economic	Water quality and quantity (non-economic)	Water quality and quantity (non-economic)
Non-commercial water use*	Use of wild food plants		Recreation tourism for revenue	Water quality and quantity – economic
Water quality and quantity – non-economic	Water quality and quantity non-economic		Wilderness and iconic values	Recreation tourism for well-being*
Sacred natural sites and landscapes	Non-commercial water use*		Building knowledge	Recreation tourism for evenue
Recreation tourism for well-being	Recreation tourism for well-being		Climate change mitigation	Education*
Wilderness and iconic values	Recreation tourism for revenue*		Nature conservation – economic	Nature conservation – economic
Building knowledge	Wilderness and iconic values		Nature conservation	Nature conservation
Education*	Building knowledge			
Nature conservation	Building knowledge – revenue*			
	Education			
	Nature conservation			
	Nature conservation – economic			

* = equal number of respondents reported benefit being of major and minor importance



Bale Mountains National Park © Peter Howard

4.6 Ethiopia

The PA-BAT was applied in the Bale Mountains and Gambella National Parks with rural communities, living within the park as well as park staff, NGO staff, local administration and employees of other relevant government institutions.

Why did you use the PA-BAT?

The Government of Ethiopia used the PA-BAT as a component of an exercise to examine the financial status of the national protected areas system and to explore the economic benefits of protected areas in qualitative and quantitative terms. The UNDP Sustainable Finance Scorecard (Bovarnick, 2007) was also applied to understand the financial position of the protected area system and the underlying factors which contribute to the result. These were used to provide estimations of funding needs and likely funding gaps.

The results of the PA-BAT

Protected areas provide direct benefits from tourism and job creation, and apart from that the main value of protected areas is found in the environmental services they provide. Estimates in 2008 covered hydrological services (valued at US\$432 million), electric power generation (valued at US\$28 million), medicinal plants (valued at US\$13 million), carbon sequestration (valued at US\$938 million or US\$19 million per year) and the value of biodiversity (estimated to be US\$3.75 to 112 million per year). Indirect benefits, such as water provision for domestic consumption and irrigated agriculture, electricity production, carbon sequestration and the conservation of biodiversity far exceed the direct benefits derived by local communities in protected areas and direct user fees (e.g. from tourism). The report was used to make a number of recommendations about funding for protected area authorities (ÖBf, 2009).

4.7 World Heritage sites

A simplified version of the PA-BAT forms the basis of the assessment of benefits from natural World Heritage sites

IUCN’s World Heritage Outlook is the first global assessment of the conservation prospects for natural World Heritage. Based on expert knowledge, the World Heritage Outlook is designed to track the state of conservation of all natural World Heritage sites over time. Two rounds of assessments (2014 and 2017) have taken place so far.

Implemented by the IUCN World Heritage Programme and IUCN’s World Commission on Protected Areas (WCPA), it aims to provide reliable, transparent and independent information on the present situation and future prospects of natural World Heritage through Conservation Outlook Assessments.

Part of the Outlook Assessment looks at the benefits that World Heritage sites provide to people. These benefits are assessed using a simplified version of the original PA-BAT list of questions (Dudley & Stolton, 2009) based around benefits related to

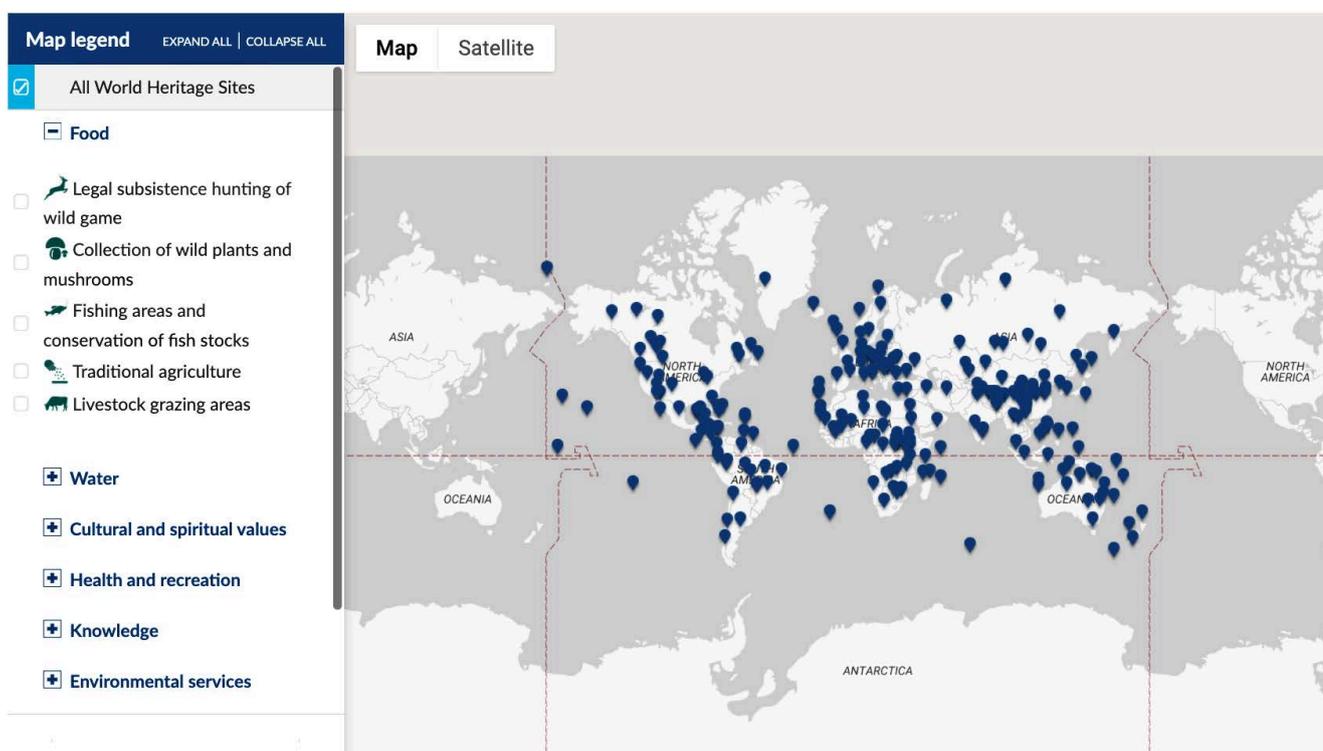
- Nature conservation values
- Values related to food
- Values related to water
- Cultural and spiritual values
- Health and recreation values

- Knowledge
- Environmental services
- Materials.

Each of the 26 questions is first assessed as being either present, not present or data deficient. The most important benefits are then described in more detail, assessing whether they are potential, minor or major values to three stakeholder groups: communities inside the site, communities outside the site and the wider community (including global).

Assessments are based on the best-available information at the time and site visits are not involved in the preparation of the Outlook Reports. A multi-step consultation process involving a range of knowledge-holders ensures that site assessments are as accurate as possible. Each site assessment undergoes multiple internal and external reviews before finalisation. The results of the assessments for the 241 existing natural World Heritage sites (as assessed for the 2017 Assessment) are available on the World Heritage Outlook website (www.worldheritageoutlook.iucn.org) for each site and a summary interactive map (Figure 26) illustrates the range of values across the globe.

Figure 26: **Benefits of natural World Heritage.** Source: www.worldheritageoutlook.iucn.org/benefits



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Appendix 1: Background Information Data Sheet

1. Name, affiliation and contact details for person responsible for completing the PA-BAT+ (e-mail, etc.)							
2. Date assessment carried out							
3. No. of people involved in completing assessment (please put number involved in the box provided against each group of people listed below)							
PA management		PA staff		Other PA agency staff		NGO	
Local community		Donors		External experts		Other	
4. Name of protected area							
5. Size of protected area (ha)							
6. WDPA site code (these codes can be found on www.unep-wcmc.org/wdpa/)							
7. Country							
8. Location of protected area (province and if possible, map reference)							
9. Date of establishment							
10. Ownership details (please mark)	Government		Private		Community		Other
11. Governance (please mark)	State		Co-managed		Private		Community Conserved Area
12. List the two primary protected area management objectives							
Management objective 1							
Management objective 2							
13. Is the protected area currently a homeland for indigenous or traditional people? (please mark)	Yes				No		
14. Is the protected area a peace park? (please mark)	Yes				No		
15. Average national wage per annum (state currency and year)							
16. Average local wage per annum (state currency and year)							
17. Number of people living in the protected area (state year)							
18. Number of people around the protected area (please define area being included, i.e. buffer zone)							

19. Overall migration trend for the area influenced by the protected area	Increasing		Decreasing		
20. Human development index rank (see: hdr.undp.org/en/statistics/)					
21. What impact has the protected area had in helping to reduce poverty in local, traditional or indigenous communities in and around the protected area? <i>(Please mark once only for each column.)</i>					
	Subsistence	Economic	Cultural / spiritual	Environment services	Political
• Has had a negative impact on well-being					
• Does not contribute to well-being					
• Does not currently contribute to well-being, but has potential to do so					
• Makes a minor contribution to well-being					
• Makes a major contribution to well-being					
22. Please tick which of the following descriptions of biodiversity value most accurately describes the protected area being assessed					
• There has been little survey work carried out, so the biodiversity value is currently not fully known					
• Biodiversity is of minor importance					
• Biodiversity is of minor importance, but restoration is being carried out					
• Biodiversity includes typical native habitats and species					
• Biodiversity includes one of the few examples of a particular habitat or population of an endangered or endemic species					
• Biodiversity includes the only example of a particular habitat or the last viable population of an endangered or endemic species					
Other <i>(please specify)</i>					
23. Please add any comments here relating the information given above – in particular in relation to protected area zones with relation to use of resources such as wild food or medical plants, etc.					

Appendix 2: Detailed guidance on PA-BAT+ questions and stakeholder responses

The table below lists all the PA-BAT+ questions in Table 2 (see page 8). The benefits and questions are presented in an order which starts with those questions which are generally most relatable to stakeholders, thus helping to get the assessment off to a quick and comprehensible start.

Please note the text below is for guidance only. Each application of the PA-BAT+ will vary given the national, social, cultural, economic and environmental context.

Food provisioning

PA-BAT+ question 1. Is the area an important source of food from wild game? For example, game birds and mammals such as deer, rabbit, boar, etc. Game could be from within the protected area if hunting is permitted, or the protected area could provide a source for game species hunted outside the area.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				This question focuses on game as a food item, other products such as those made from skin/hides, antlers, etc. should be assessed under question 12
(+) Minor proportion of the diet of local communities (e.g. hunting for meat for individual/family consumption which is not necessary for overall nutrition and occurs on a minor scale). (++) Major proportion of the diet of local communities or a large number of the local community are being provided with meat from hunting.	Not usually applicable as wild game will normally only be a source of revenue for local businesses; however, in a few cases local businesses may allow staff to hunt for food. Also, in some cases, meat from trophy hunting is given to local communities and can be an important food source.	Not usually applicable unless wild game is a contribution to overall food security in or around the protected area.	Not usually applicable as importance as local food source is considered under the local population stakeholders' group; but may be applicable for hunting association which only has rights of use in the protected area and the game hunted is an important food source.	
Economic benefit				
(\$) Provides minor income to the local community from sale of meat. (\$\$) Provides major income to the community through sale of meat. NOTE: If products are primarily for tourist sales and not local food provisioning this should be assessed in question 10.	(\$) Local businesses are receiving minor income from products related to wild game hunting (e.g. meat). (\$\$) local business are receiving major income from products related to wild game hunting (e.g. meat), i.e. business based on wild game from the protected area.	(\$) Minor revenue from users (taxes, concessions, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.). NOTE: If revenue is primarily linked to tourism ventures such as trophy hunting this should be assessed in question 10.	(\$) Minor revenue from fees paid by hunters to associations and/or from selling game. (\$\$) Major revenue from fees paid by hunters to associations. NOTE: If hunting is primarily a recreational activity this should be assessed in question 10.	
Potential economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?	Could the economic value for local businesses be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?	

PA-BAT+ question 2. Is the area important for honey production? For example, a protected area may be particularly rich in native vegetation from which bees feed. NOTE: This question focuses on honey as a food item, beeswax products such as candles, cosmetics, etc. should be assessed under question 12. If honey is used for medicinal purposes this benefit should be assessed in question 13. Pollination services provided by the protected area are dealt with in question 9.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				NOTE: In the discussion it is important to find out if there are any traditional techniques, species of bee, honey/ pasture, etc., which are unique to the area and thus bring added value to the protected area.
(+) Minor importance in the diet of local communities or bee keeping practices have important cultural traditions linked to the protected area. (++) Major importance in the local diet and/or traditions linked specifically to the protected area and/or high number of the community are involved in bee keeping and honey production.	Not applicable as honey could only be a source of revenue.	Not applicable as honey could only be a source of revenue.	Not usually applicable as importance as local food source is considered under the local population stakeholders' group.	
Economic benefit				
(\$) Provides minor income to the local community from the sale of honey. (\$\$) Provides major income to the community.	(\$) Local businesses are receiving minor income from processing/selling local honey products. (\$\$) Local businesses are receiving major income based from processing / selling local honey products or large numbers of local communities are involved in small-scale selling or processing of honey products.	(\$) Minor revenue from users (taxes, concessions, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).	(\$) Minor revenue from selling honey. (\$\$) Major revenue from selling honey.	
Potential economic benefit				Potential is generally economic, but in this case there may also be potential to increase honey production as an important contribution to local communities' food resources.
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?	Could the economic value for local businesses be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?	

PA-BAT+ question 3. Is the area important for wild food plants and fungi provisioning? For example, roots, mushrooms, grains, culinary herbs, seaweed, plants, berries, fruits, nuts, tree sap, etc. NOTE: wild herbs used for medicinal purposes should be recorded in question 13.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				It may be important here to discuss the seasonal importance in relation to food security when assessing the plant/fungi.
(+) Minor proportion of the diet of local communities. (++) Major proportion of the diet or high number of people are being provided with some food.	Not applicable as wild food plants could only be a source of revenue for local business.	Not usually applicable unless wild food plants are a contribution to overall food security in or around the protected area.	Not usually applicable as importance as local food source is considered under the local population stakeholders' group.	
Economic benefit				
(\$) Provides minor income to the local community from the sale of wild food plants/products. (\$\$) Provides major income to the community from the sale of wild food plants/products.	(\$) Local businesses are receiving minor income from wild food plants/products. (\$\$) Local businesses are receiving major income based from wild food plants/products or large numbers of local communities are involved in small-scale selling or processing of wild plant food products.	(\$) Minor revenue from users and user organisations (taxes, concessions, etc.). (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).	(\$) Minor revenue from selling wild food plants/products. (\$\$) Major revenue from selling wild food plants/products (e.g. in some places wild food collection is organised, ideally through monitoring supported quota/licence systems) through CSOs and sold on to local/national/international markets).	
Potential economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?	

PA-BAT+ question 4. Is the area an important source of food from fish and other aquatic animals? Marine and/or freshwater, for example water dependent mammals, crustaceans, etc. NOTE: In coastal areas, this question can be split into two if marine and freshwater habitats are both important for food provisioning. This question could refer to wild or farmed fish/other aquatic animals. Again, it may be necessary to split the question in two in areas where both wild and farmed fish/crustaceans, etc. are important benefits from the area.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Discussion should reflect both on the role of permissible fishing in the protected area and perhaps more importantly on the protected area's role in protecting spawning and nursery areas. The discussion should focus on the importance of fisheries in providing nutrition to local/national populations and on the direct relationship between the protected area and commercial fisheries.
<p>(+) Fish/other aquatic animals contribute to a minor proportion of the diet of local communities and/or there are cultural traditions linked specifically to the protected area (e.g. certain types of locally distinctive fish traps, nets, etc.). (++) Fish/other aquatic animals contribute to a major proportion of the diet of local communities, and/or there are traditions linked specifically to the protected area and/or a large number of the local community are involved in fishing for food.</p>	<p>Not applicable as fish/other aquatic animals could only be a source of revenue for local business.</p>	<p>Not usually applicable unless fish/other aquatic animals are a contribution to overall food security in or around the protected area.</p>	<p>Not usually applicable as importance as local food source is considered under the local population stakeholders' group.</p>	
Economic benefit				
<p>(\$) Provides minor income to the local community from the sale of fish/other aquatic animals. (\$\$) Provides major income to the community from the sale of fish/other aquatic animals.</p>	<p>(\$) Local businesses are receiving minor income from fish/other aquatic animals. (\$\$) Local businesses are receiving major income from fish/other aquatic animals or large numbers of local communities are involved in small-scale selling or processing of fish/other aquatic animals.</p>	<p>(\$) Minor revenue from users and user organisations (taxes, concessions, etc.). (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).</p>	<p>(\$) Minor revenue from selling fish/other aquatic animals/products. (\$\$) Major revenue from selling fish/other aquatic animals/products.</p>	
Potential economic benefit				
<p>Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?</p>	<p>Could the economic value for local business be increased sustainably and within the objectives of the protected area?</p>	<p>Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?</p>	<p>Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?</p>	

PA-BAT+ question 5. Is the area important for agriculture/ agroforestry? For example, arable farming, fruit or nut production, sap, etc.). Some protected areas, particularly those managed as IUCN Category V (“where the interaction of people and nature over time has produced an area of distinct character”) are important for biodiversity due to millennia of management which has produced unique biodiversity (e.g. upland pastures). Others, such as Category VI areas (areas which conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems, such as rubber tappers in some of Brazil’s protected areas), where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area. NOTE: Agriculture and agroforestry can be split into two questions if both are important in the area. Also note that forms of agriculture which are primarily livestock based are dealt with in the next question.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				In the discussion, it is particularly important to note if there are any locally adapted crops (landraces) and/or traditional practices which are unique to the area/protected area and which the protected area helps keep alive.
(+) Minor proportion of the diet of local communities comes from agriculture/ agroforestry within the protected area and/ or there are traditions linked specifically to the protected area. (++) Major proportion of the diet of local communities, and/ or there are traditions linked specifically to the protected area, and/ or a large number of the local community are being provided with some food that comes from agriculture/agroforestry within the protected area.	Not applicable as agriculture/agroforestry could only be a source of revenue for local business.	Not usually applicable unless agriculture/ agroforestry contributes to overall food security in or around the protected area.	Not usually applicable as importance as local food source is considered under the local population stakeholders’ group. However, some types of anthropogenic habitats (e.g. traditional olive or orange groves) and their biodiversity have value for conservation and thus may be of value to conservation NGOs in this context.	
Economic benefit				In some protected areas, products from the area are specifically marketed as being from the protected area, which clearly highlights revenue links. In many other places the protected areas are likely to have high environmental quality (clean air, water, etc.), and products from those areas are consequently sought after and might attract a higher price (e.g. products from traditional agriculture).
(\$) Provides minor income to the local community from the sale of agricultural /agroforestry outputs and products. (\$\$) Provides major income to the community from the sale of agricultural / agroforestry outputs and products. NOTE: If products are primarily for tourist sales and not local food provisioning this should be assessed in question 10.	(\$) Local businesses are receiving minor income from agricultural /agroforestry outputs (including subsidies for conservation of traditional habitats) and products. (\$\$) Local businesses are receiving major income from agricultural /agroforestry outputs (including subsidies for conservation of traditional habitats) and products or large numbers of local communities are involved in agricultural /agroforestry outputs and products.	(\$) Minor revenue from users and user organisations (taxes, concessions, etc.). (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).	(\$) Minor revenue from agricultural / agroforestry outputs (including subsidies for conservation of traditional habitats) and products. (\$\$) Major revenue from agricultural /agroforestry outputs (including subsidies for conservation of traditional habitats) and products.	
Potential economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?	

PA-BAT+ question 6. Is the area important for livestock? For example, sheep, goats, cattle, pigs, chickens for meat, milk or meat, or milk products such as yoghurt, cheese, etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
<p>(+) Minor proportion of the diet of local communities comes from livestock farming within the protected area and/ or there are traditions linked specifically to the protected area. (++) Major proportion of the diet of local communities, and/ or there are traditions linked specifically to the protected area and/ or many of the local community are being provided with food from livestock farming within the protected area.</p>	<p>Not applicable as livestock farming could only be a source of revenue for local business.</p>	<p>Not usually applicable unless livestock farming is a contribution to overall food security in or around the protected area.</p>	<p>Not usually applicable as importance as a local food source is considered under the local population stakeholder's group. However, grazing may be an important conservation management technique and thus may be of value to conservation NGOs in this context.</p>	
Economic benefit				
<p>(\$) Provides minor income to the local community from the sale of livestock and livestock products or from financial support (e.g. subsidies) for social reasons (e.g. support to farming communities on land which is relatively unproductive) or because of its conservation value in maintaining open grassland or indigenous breeds of livestock. (\$\$) Provides major income to the community from the sale of livestock and livestock products and/or financial support. NOTE: If products are primarily for tourist sales and not local food provisioning, this should be assessed in question 10.</p>	<p>(\$) Local businesses are receiving minor income from livestock and livestock products. (\$\$) Local businesses are receiving major income from livestock and livestock products or large numbers of local communities are involved in livestock and livestock products.</p>	<p>(\$) Minor revenue from users and user organisations (taxes, concessions, etc.). (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).</p>	<p>(\$) Minor revenue from livestock and livestock products. (\$\$) Major revenue from livestock and livestock products.</p>	
Potential economic benefit				
<p>Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through better marketing, developing cooperatives to share business techniques, marketing, etc.)?</p>	<p>Could the economic value for local business be increased sustainably and within the objectives of the protected area?</p>	<p>Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, etc.)?</p>	<p>Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource and increase revenue options)?</p>	

Water provisioning and regulating

PA-BAT+ question 7. Is the area important for water provision and flow? Water provision and flow (e.g. through the supply of water for drinking water, bottled water, hydropower, irrigation, transportation, commercial drinks production such as breweries for beer, whiskey, wine, etc.). Some ecosystems increase the net amount of available water, particularly watersheds containing cloud forests, where leaves ‘scavenge’ water from mist and cloud, condensing it on specially evolved leaf parts and then funnelling it down branches and trunks. NOTE: this question focuses on water provision (e.g. flow of water), issues related to quality are dealt with in the next question. If water is useful for both local and commercial uses this question can be split into two.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				<p>Some users may want to conflate questions on water quality and water quantity in situations where a natural ecosystem increases both total amount of water and its overall purity (e.g. tropical cloud forests).</p> <p>For this question is aimed at protected areas which are sources of water (e.g. cloud forests, water towers, wetlands, etc.), not protected areas which have rivers running through them with no actual sources of this water.</p>
<p>(+) The area has minor importance in water provision (i.e. water is not from municipal sources but from bore holes, private water supplies, etc.) for local communities (e.g. for washing, drinking, irrigation, etc.). (++) The area has major importance in water provision for local communities.</p>	<p>Not applicable because local businesses use the resource as a source of revenue. Its importance for local communities is considered under the local population stakeholders’ group.</p>	<p>(+) Minor importance as a conservation priority for the government. (++) Major importance as a conservation priority for the government.</p>	<p>(+) Minor importance as a conservation priority for CSOs. (++) Major importance as a conservation priority for CSOs.</p>	
Economic benefit				
<p>(\$) Water from the area provides minor income for local communities (e.g. local employment or through PES schemes). (\$\$) Water provision from the area provides major income for local communities (e.g. local employment or through PES schemes).</p>	<p>(\$) Water provision from the area generates minor income to local/national business. (\$\$) Water provision from the area generates major income from PES schemes (e.g. to local landowners to ensure continuing water flow) or for businesses who rely on regular water flow from the protected area (e.g. municipal water companies, hydropower, bottled water plants, breweries, distilleries).</p>	<p>(\$) Water provision generates minor income for the government (e.g. through taxes, concessions, government managed business such as publicly owned drinking water companies, hydropower, etc.). (\$\$) Water provision generates major income for the government.</p>	<p>(\$) Water provision generates minor income for CSOs. (\$\$) Water provision generates major income for CSOs.</p>	
Potential economic or non-economic benefit				
<p>Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through creating PES schemes or other subsidies for maintaining water flow)?</p>	<p>Could the economic value for local business be increased sustainably and within the objectives of the protected area?</p>	<p>Could the economic value for government be increased sustainably and within the objectives of the protected area through better management of the protected area (e.g. restoration, control of water use, etc.).</p>	<p>Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource, such as developing PES schemes, and increase revenue options)?</p>	

Purification and detoxification of water

PA-BAT+ question 8. Is the area important for maintaining water quality? For example, water purity, reduced sedimentation, etc. Forested watersheds tend to offer higher quality water than watersheds under alternative more intensive land uses, such as agriculture.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				To assess this question, it is necessary to have some understanding of the governance of water provisioning (e.g. private or public companies).
(+) Minor importance in providing clean/ healthy water for local communities, e.g. for washing, drinking, etc. (++) Major importance in providing clean/ healthy water for local communities.	Not applicable because local businesses use the resource as a source of revenue. Its importance for local communities is considered under the local population stakeholders' group.	(+) Minor importance as a source of clean water. (++) Major importance as a source of clean water (i.e. fulfilling government obligations).	(+) Minor importance as a source of clean water. (++) Major importance as a source of clean water.	
Economic benefit				
(\$) Minor economic importance from costs saved in water purification, jobs related to water use (e.g. bottling plants, hydropower stations, etc.) or payment received from water conservation management. (\$\$) Clean water provision from the area provides major income for local communities.	(\$) Clean water saves minor water purification costs for business. (\$\$) Clean water provision saves major water purification costs or is the basis of a major business such as mineral water bottling.	(\$) High quality water provision provides minor income for the government (e.g. taxes from private water companies) or savings from reduced treatment as water is low in contaminants, etc. (\$\$) High quality water provision provides major income for the government or savings from reduced treatment as water is low in contaminants, etc.	Not applicable.	When carrying out research before the workshop, it is important to check if any work on the economic value of the protected area in reducing the amount of purification needed for drinking water, etc. has been carried out.
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through creating PES schemes or other subsidies for maintaining water flow)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area through better management of the protected area (e.g. restoration, control of water use, etc.).	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. developing local organisations to promote sustainable use of the resource, such as developing PES schemes, and increase revenue options)?	

Pollination

PA-BAT+ question 9. Is the area an important resource for pollination of nearby crops?

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Here it is important to consider the protected area in relationship to local arable farms, orchards, etc.
(+) The area has minor importance in enabling pollination of crops. (++) The area has major importance in enabling pollination of crops.	Not applicable as pollination could only be a source of revenue for local business.	Not usually of major importance to agricultural production at a national scale unless there is a national pollinator crisis.	(+) The area has minor importance in enabling pollination of crops. (++) The area has major importance in enabling pollination of crops.	
Economic benefit				
(\$) Minor economic value of pollination of nearby crops. (\$\$) Major economic value of pollination of nearby crops.	(\$) Minor economic value of pollination of nearby crops. (\$\$) Major economic value of pollination of nearby crops.	Not usually applicable unless government owns the land (or gives concessions to farm the land) which then relies on pollinators from protected areas.	(\$) Minor economic value of pollination of nearby crops. (\$\$) Major economic value of pollination of nearby crops.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local beekeepers to place hives in the protected area).	Could the economic value for local business be increased sustainably and within the objectives of the protected area?	Not usually applicable unless government owns the land (or gives concessions to farm the land) which then relies on pollinators from protected areas.	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through closer relationships between farmers and beekeepers who rely on the protected area for feeding bees)?	

Recreation and tourism

PA-BAT+ question 10. Is the area important for recreation and tourism? For example, areas with specific natural or aesthetic values which attract people for: hiking, camping, picnics, swimming, skiing, boating, nature tourism, birdwatching, sightseeing, etc. NOTE: This question could be divided up into several questions if the area is particularly important for recreation and/or tourism, focusing specifically on tourism and recreation, or on the range of tourism opportunities (e.g. sports focused, nature tourism, hunting/fishing, etc.) or types of tourism offer (e.g. accommodation, souvenirs, guiding).

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Note: The health values of protected areas are assessed in question 19. Also, inspiration for the arts is assessed in question 20.
(+) The area is used by a few people regularly, or many people irregularly for recreation (e.g. hiking, skiing, swimming). (++) Most local communities use the area for recreational purposes on a regular basis.	Not applicable as tourism and recreation could only be a source of revenue for local business.	More likely to provide economic benefits, however possibly (+) if the provision and in some cases management of areas which are suitable for recreation and tourism could be seen as an important service provided by government, even if it does not provide an economic return.	Not likely to be applicable as tourism and recreation more likely to be a source of revenue for CSOs. However, in some cases, groups such as “Friends of ...” are formed by people who take care of hiking trails, etc.	
Economic benefit				
(\$) Minor income (e.g. a secondary source of earning, i.e. less than 20% of annual earnings) from providing accommodation, local guides, souvenirs, etc. or only a major source for very few people in the local community. (\$\$) The primary source of annual earnings are derived from recreation and tourism for a major proportion of the local community.	(\$) Less than 20% of local businesses are engaged in tourism and recreation facilities (e.g. accommodation, guides, running tours, souvenirs, etc. (\$\$) The majority of local businesses’ annual earnings are derived from recreation and tourism.	(\$) Minor revenue from users (entrance fees, taxes, concessions, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (entrance fees, taxes, concessions, etc.).	(\$) Minor revenue from fees/licenses paid to associations or from entrance fees/grants. (\$\$) Major revenue from fees/licenses paid or entrance fees/grants to associations.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop homestays, training people in tourism related activities, developing products to sell to tourists, etc.).	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues, concessions, entrance fees, etc.)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, visitor management plans, etc.)?	

Provisioning of raw material

PA-BAT+ question 11. Is the area important for the management and removal of timber? For example, timber, wood, fuel, fibre used as fuel, for buildings, for processing into wood/paper products etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) Minor collection of wood from the area used for personal use for heating, building, crafts, etc. (++) Major collection of wood from the area used for personal use for heating, building, crafts, etc. Note: the focus of this question is on personal use only, not for economic gain.	Not applicable because local businesses use the resource as a source of revenue.	Not usually applicable. Potential contribution to overall rural development but minor on a national scale.	Not applicable because its importance for local communities is considered under the local population stakeholders' group.	
Economic benefit				
(\$) The sale of timber and wood products made from timber collected from the area provides minor income to local communities. (\$\$) The sale of timber made from timber collected from the area represents a major income source for local communities (e.g. through collection or related employment).	(\$) Timber generates minor income and/or local employment for a small proportion of the local community. (\$\$) Commercial sales locally and/or regionally of timber generate major income and are major employers locally.	(\$) Forestry generates minor income for the government (e.g. if the industry is state owned or from taxes, concessions, fees, etc.). (\$\$) Forestry generates major income for the government (e.g. if the industry is state owned or from taxes, concessions, fees, etc.).	(\$) Minor revenue from forest user group associations (private forest owners). (\$\$) Major revenue from user group associations.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

PA-BAT+ question 12. Is the area important for raw materials other than timber? For example, peat, rattan, rubber, gravel, salt, precious metals, gems, sand, non-timber products such as nuts, resins, bark, etc. NOTE: This does not include food products which are assessed in question 1. NOTE: It is important to specify the raw material; if multiple materials are important a datasheet for each material can be completed.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) Minor collection of materials from the area are for personal use for building, crafts, etc. (++) Major collection of materials from the area are for personal use for building, crafts, etc. Note: the focus of this question is on personal use only, not for economic gain.	Not applicable because local businesses use the resource as a source of revenue.	Not usually applicable. Potential contribution to overall rural development but minor on a national scale.	Not applicable because its importance for local communities is considered under the local population stakeholders' group.	
Economic benefit				
(\$) The sale of material from the area or products made from these materials provides minor income to local communities. (\$\$) The sale of materials from the area or products made from these materials represents a major income source for local communities (e.g. through collection or related employment).	(\$) Raw materials from the area or products made from these materials generate minor income and/or local employment for a small proportion of the local community. (\$\$) Raw materials from the area or products made from these materials generate major income and/or local employment for a large proportion of the local community.	(\$) Provision of materials from the area or products made from these materials generates minor income for the government (e.g. if the industry is state owned or from taxes, concessions, fees, etc.). (\$\$) Provision of materials from the area or products made from these materials generates major income for the government (e.g. if the industry is state owned or from taxes, concessions, fees, etc.).	(\$) Minor revenue from user group associations. (\$\$) Major revenue from user group associations.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

Provisioning of medicinal resources

PA-BAT+ question 13. Is the area important for medicinal resources? For example, the collection of plants and other materials for use in 'natural' medicines (both for local use and the wider 'natural health' trade as well as bioprospecting by pharmaceuticals companies, etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				In some places, collection of medicinal resources is organised (ideally through monitoring supported quota/licence systems to ensure no conservation impact) and produce sold on to local/national markets.
(+) The collection of medicinal resources from the area is of minor importance for local communities' healthcare. (++) The collection of medicinal resources from the area is of major importance for local communities' healthcare.	Not applicable because local businesses use the resource as a source of revenue.	(+) Local medicinal resources represent a minor but important healthcare service in the country. (+) Local medicinal resources represent a major healthcare service in the country.	Not applicable because its importance for local communities is considered under the local population stakeholders' group. However, if medicinal plants are endemic or endangered, they may have minor or major conservation values for environmental NGOs.	
Potential economic or non-economic benefit				
(\$) The collection and sale of medicinal resources from the area or products made from these resources provide minor income for local communities. (\$\$) The collection and sale of medicinal resources from the area or products made from these resources provide major income for local communities (e.g. through collection or related employment).	(\$) The collection and sale of medicinal resources from the area or products made from these resources provide minor income for local business. (\$\$) The collection and sale of medicinal resources from the area or products made from these resources provide major income for local business.	(\$) Provision of medicinal resources provides minor income for the government (e.g. bioprospecting licences, fees, concessions, etc.). (\$\$) Provision of medicinal resources provides major income for the government (e.g. bioprospecting licences, fees, concessions, etc.).	(\$) The collection and sale of medicinal resources from the area or products made from these resources provide minor income for CSOs. (\$\$) The collection and sale of medicinal resources from the area or products made from these resources provide major income for CSOs.	In some protected areas, bioprospecting (ideally through benefits sharing agreements supported by ecological research to ensure no conservation impact) is permitted and an important source of revenue.
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

Provisioning of ornamental resources

PA-BAT+ question 14. Is the area important for supplying ornamental resources? For example, fibre, flowers, seeds, that can be used for ornamental purposes.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) Minor proportion of local communities using ornamental resources from the area. (++) Major proportion of local communities using ornamental resources from the area.	Not applicable because local businesses use the resource as a source of revenue.	Not usually applicable. Potential contribution to overall rural development, but minor on a national scale	Not applicable because its importance for local communities is considered under the local population stakeholders' group.	
Economic benefit				
(\$) Ornamental resources from the area provide minor income to local communities. (\$\$) Ornamental resources from the area provide major income to local communities (e.g. through collection or related employment).	(\$) Local businesses process or sell small amounts of ornamental resources from the area. (\$\$) Local businesses are based on processing or selling small amounts of ornamental resources from the area, or a large number of people locally are involved in small-scale selling or processing of products.	(\$) Minor revenue from selling or from users (taxes, concessions, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).	(\$) Minor revenue from selling ornamental resources from the area. (\$\$) Major revenue from selling ornamental resources from the area.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

Provisioning of genetic resources

PA-BAT+ question 15. Is the area important for genetic material resources? For example, for crop breeding, pharmaceutical development, restoration, etc. Genetic resources can also be important in animal husbandry (e.g. local breeds of cattle, sheep, etc.).

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Is the area important for locally bred crops, traditional breeds? Even if not of economic value, this can be valued as a locally important resource (e.g. seed swapping initiatives) – and is often an overlooked value, which may have economic value in the future revenue. Are there bioprospecting agreements for genetic material, etc.? Selling bull semen for AI from the indigenous breeds of cattle?
(+) Genetic resources from the area are of minor importance to local communities (e.g. cultural associations with specific species/breeds / landraces/varieties, etc. or food production for personal consumption is reliable due to wide genetic diversity of products available, etc.). (++) Genetic resources from the area are of major importance to local communities (e.g. cultural associations with specific species/breeds/landraces/varieties, etc. or food production for personal consumption is reliable due to wide genetic diversity of products available, etc.).	Not applicable because local businesses use the resource as a source of revenue.	Not usually applicable. Potential contribution to genetic resources policies but minor on a national scale.	May be important for conservation purposes in terms of rare or endemic resources or for resources for restoration. Could also be of major intellectual importance for research organisations working in the area.	
Economic benefit				
(\$) Genetic resources provide minor income to local communities (e.g. through benefit sharing from licences for research in the area, or from producing/collecting resources for sale, etc.). (\$\$) Genetic resources provide major income to local communities (e.g. through benefit sharing from licences for research in the area, or from producing/collecting resources for sale, etc.).	(\$) Local businesses are based on processing/selling small amounts of genetic resources from the area. (\$\$) Local businesses are based on processing or selling small amounts of genetic resources from the area or a large number of people locally are involved in small-scale selling or processing of genetic products.	(\$) Minor revenue from users (licences, taxes, concessions, profit sharing agreements, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (licences, taxes, concessions, profit sharing agreements, etc.).	(\$) Minor revenue from genetic resources (e.g. research grants, etc.). (\$\$) Major revenue from genetic resources.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

Climate regulation

PA-BAT+ question 16. Can the area contribute to climate change mitigation? For example, by providing significant carbon sequestration and/or by ameliorating local climate impacts) can include regulation of local microclimate, wind regulation, etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				In workshop discussions, it can help to start discussions on issues such as impacts of climate change (changes in growing seasons, crop planted, water flow and availability year round, weather impacts on tourism activities such as water levels for rafting, snow conditions for skiing, etc.) and then move on to the role of the area in regulating climate.
<p>(+) The area is considered to have a minor contribution for local climate regulation which provides benefits to local communities (e.g. protected forests help regulate climate/water which is important for security, well-being or food production for local communities. (++) The area is considered to have a major contribution for climate regulation which provides benefits to local communities.</p>	<p>Not applicable because local businesses use the resource as a source of revenue.</p>	<p>(+) The area is considered to play a minor role nationally in climate regulation (e.g. carbon storage and sequestration, microclimate, etc.), which directly impacts the health and well-being of the national population. (++) The area is considered to play a major national role in climate regulation (e.g. carbon storage and sequestration, microclimate, etc.), which directly impacts the health and well-being of the national population.</p>	<p>(+) The area is of minor importance for climate regulation for CSOs with a conservation focus, etc. (++) The area is of major importance for climate regulation for CSOs with a conservation focus, etc.</p>	
Economic benefit				This question relates primarily to payments such as REDD or other carbon credits schemes, or to other schemes related to carbon sequestration (e.g. some grants to restore peatland can be expressly linked to mitigation of climate change).
<p>(\$) Local communities are paid small amounts, (e.g. less than 20% of annual income) to conserve forests for carbon stocks, etc. and/or primary production is more profitable due to climate stabilisation. (\$\$) Local communities are paid large amounts (e.g. sufficient to change practice, i.e. to stop felling trees, etc.) to conserve carbon stocks and/or primary production is more profitable due to climate stabilisation role of the protected area.</p>	<p>(\$) Local businesses recognise minor benefits from climate regulation provided by the area for their economic activity. (\$\$) Local businesses recognise major benefits from climate regulation provided by the area for their economic activity.</p>	<p>(\$) The government receives small international cooperation funding for the conservation of the area because of the contribution to climate stability. (\$\$) The government receives large amounts of funding for the conservation of the area because of the contribution to climate stability.</p>	<p>(\$) CSOs receive minor funding from REDD, etc. due to the conservation of the area and its contribution to climate stability (e.g. conservation NGOs managing privately protected areas or funding activities in the protected area). (\$\$) CSOs receive major funding from REDD, etc. due to the conservation of the area and its contribution to climate stability (e.g. conservation NGOs managing privately protected areas or funding activities in the protected area).</p>	
Potential economic or non-economic benefit				
<p>Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to manage the area in such a way that local economic activities are enhanced or they are eligible for climate funding, e.g. REDD) or could a focus on climate stability increase health and well-being?</p>	<p>Could the economic value for business be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to manage the area in such a way that local economic activities are enhanced, or they are eligible for climate funding, e.g. REDD)?</p>	<p>Could the economic value be increased sustainably and within the objectives of the protected area to make areas eligible for climate funding (e.g. REDD), or could a focus on climate stability increase health and well-being of a significant proportion of the national population?</p>	<p>Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area through management activities which increase likely eligibility to climate funds?</p>	

Natural hazards regulation

PA-BAT+ question 17. Is the area important for regulating natural hazards? For example, watersheds and wetlands that provide major flood prevention values, both in terms of stopping flood water and providing safe areas for it to disperse. Forest cover can help mitigate impacts of avalanches, landslides, etc. Coastal mangrove forests can help lessen the impact of storms, tidal waves, etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				When discussing this question, it is important to consider the values according to the local habitats and which of the many potential natural hazard regulations are likely to be relevant within the site.
(+) The area is considered to play a minor contribution to natural hazards regulation which contributes to the health and well-being of the local community. (++) The area is considered to play a major contribution to natural hazards regulation which contributes to the health and well-being of the local community.	Not applicable because benefits to local businesses would relate to revenue gained or money saved.	(+) The area is considered to make a minor contribution to natural hazards regulation which contributes to the health and well-being of local communities, visitors to the area, etc. (++) The area is considered to have major importance to natural hazard regulation.	(+) The area is considered to make a minor contribution to natural hazards regulation. (++) The area is considered to have major importance to natural hazard regulation.	
Economic benefit				
(\$) Natural hazards regulation provided by the area represents minor economic value to local communities (e.g. reduced insurance premiums, payment for ecosystem services, less likelihood of loss of crops, etc.). (\$\$) Natural hazards regulation provided by the area represents major economic value to local communities (e.g. reduced insurance, payment for ecosystem services, less likelihood of loss of crops, etc.).	(\$) Natural hazards regulation provided by the area represents minor economic value to local business (e.g. reduced insurance, payment for ecosystem services, etc.). (\$\$) Natural hazards regulation provided by the area represents minor economic value to local business (e.g. reduced insurance, payment for ecosystem services, etc.).	(\$) Natural hazards regulation provided by the area represents minor economic value to the government in terms of reduced hazard mitigation infrastructure development/capacity, reduced emergency funding when hazards occur, etc. (\$\$) Natural hazards regulation provided by the area represents major economic value to the government in terms of reduced hazard mitigation infrastructure development/capacity, reduced emergency funding when hazards occur, etc.	(\$) Natural hazards regulation provided by the area represents minor economic value to CSOs (e.g. reduced insurance, funds related to management of the area to specifically increase hazard mitigation effectiveness, e.g. payment for ecosystem services) etc.). (\$\$) Natural hazards regulation provided by the area represents minor economic value to CSOs (e.g. reduced insurance, funds related to management of the area to specifically increase hazard mitigation effectiveness, e.g. payment for ecosystem services).	
Potential economic or non-economic benefit				
Could management (e.g. effective control against deforestation, restoration, reduction of grazing, etc.) increase the area's role in hazard mitigation and thus increase a range of benefits including security, well-being and security of income through disaster risk reduction?	Could management (e.g. effective control against deforestation, restoration, reduction of grazing, etc.) increase the area's role in hazard mitigation and thus increase a range of benefits including security, well-being and security of income through disaster risk reduction?	Could management (e.g. effective control against deforestation, restoration, reduction of grazing, etc.) increase the area's role in hazard mitigation and thus increase a range of benefits including security, well-being, income generation, and save money due to decreasing need for expensive hazard mitigation infrastructure costs?	Could management (e.g. effective control against deforestation, restoration, reduction of grazing, etc.) increase the area's role in hazard mitigation and thus increase a range of benefits including security, well-being and security of income through disaster risk reduction?	

Spiritual and religious experience

PA-BAT+ question 18. Is the area important for spiritual or religious values? For example, sacred groves, waterfalls and/or mountains, religious buildings, pilgrimage routes, shrines, important burial sites, etc. This question can also include spiritual well-being, survival of religious and cultural practices, preservation of sites of historical importance.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Sites can be linked to formal religious use (churches, monasteries, pilgrimage routes, etc.) or sometimes be more informal sites of importance to particular groups or communities (shrines, places with particular spiritual significance for a local community)
(+) The area is considered to make a minor contribution to spiritual or religious values. (++) The area is considered to make a major contribution to spiritual or religious values.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered to make a minor contribution to spiritual or religious values. (++) The area is considered to make a major contribution to spiritual or religious values.	(+) The area is considered to make a minor contribution to spiritual or religious values. (++) The area is considered to make a major contribution to spiritual or religious values.	
Economic benefit				
(\$) Spiritual and religious values in the area provide minor incomes. (\$\$) Spiritual and religious values in the area provide major incomes or provide minor income to the majority of people living in/ around the area.	(\$) Spiritual and religious values in the area provide minor incomes (e.g. through the provision of accommodation or food, sale of goods or services related to the site, etc.) (\$\$) Spiritual and religious values in the area provide major incomes.	(\$) Spiritual and religious values in the area provide minor incomes. (\$\$) Spiritual and religious values in the area provide major incomes.	(\$) Spiritual and religious values in the area provide minor incomes. (\$\$) Spiritual and religious values in the area provide major incomes.	
Potential economic or non-economic benefit				
Could sympathetic management of religious and cultural values help enhance local communities' well-being? Could economic benefits be developed in some areas where services such as food, accommodation, guides and related services are required by visitors to the site?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?	

Mental well-being and health

PA-BAT+ question 19. Is the area important for mental well-being and health? The focus of this question is 'well-being' and how important the protected area is for health (e.g. physical activity, etc.) and/or relaxation (e.g. places for contemplation, etc.). NOTE specific resources from the protected area related to health are dealt with in question 19 and tourism in question 10.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) The area is considered of minor importance for mental well-being and health. (++) The area is considered of major importance for mental well-being and health.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered of minor importance for mental well-being and health. (++) The area is considered of major importance for mental well-being and health (e.g. importance due to a health and well-being policy).	(+) The area is considered of minor importance for mental well-being and health. (++) The area is considered of major importance for mental well-being and health.	
Economic benefit				In places where clean air and water earn a premium (e.g. spas, etc.), there is a link between this question and issues of water quality (see question 8).
Not applicable because income will be generated by local business.	(\$) Mental well-being and health represent minor income. (\$\$) Mental well-being and health represent major income (e.g. spas, retreat centres, etc.).	(\$) Minor revenue from users (taxes, concessions, etc.) and user organisations. (\$\$) Major revenue from users and user organisations (taxes, concessions, etc.).	(\$) Mental well-being and health represent minor income. (\$\$) Mental well-being and health represent major income.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

Inspiration for the arts

PA-BAT+ question 20. Is the area important for inspiring artistic outputs? This relates to specific artistic outputs linked to the area, for example poetry, photography, painting, carving, pottery, weaving, basket work, etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information	
Non-economic/subsistence benefit					
(+) The area is considered of minor important for the arts (e.g. do local communities draw inspiration from the area to create artistic works). (++) The area is considered of major importance for the arts. NOTE: If artistic produce is sold rather than developed for people's personal enjoyment then this benefit should be assessed as economic.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered to make a minor contribution to the artistic reputation of the country. (++) The area is considered to make a major contribution to the artistic reputation of the country.	(+) The area is considered of minor importance for the arts and for CSOs in or around the area (e.g. arts clubs, associations, schools, etc.). (++) The area is considered of major importance for the arts.	It is important to note that although economic benefits from artistic output inspired or based on products from the area may be relatively minor when compared to, for example, national average earnings, this type of production may represent one of a very few income generating activities in or around the area and thus is of great importance to the area being assessed.	
Economic benefit					
(\$) Artistic works developed and sold by local communities provide minor incomes. (\$\$) Artistic works developed and sold by local communities provide major incomes. NOTE: There may be an overlap with the tourism question here if artistic output is sold primarily to tourists.	(\$) The selling of artistic works from/based on the area provides minor income to businesses. (\$\$) The selling of artistic works from/based on the area provides major income to businesses. NOTE: There may be an overlap with the tourism question here if artistic output is sold primarily to tourists.	(\$) The sale of artistic works from/based on the area provides minor income (e.g. tax receipts). (\$\$) The selling of artistic works from/based on the area provides major income.	(\$) Artistic works developed and sold by CSOs provides minor income. (\$\$) Artistic works developed and sold by CSOs provides major income.		
Potential economic or non-economic benefit					
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?		

Cultural identity and heritage

PA-BAT+ question 21. Does the area have cultural and historical values? For example, local traditions ranging from associations with myths or legends to specific architectural traditions, archaeology, historic buildings, important historical events. NOTE: this benefit is linked to both tourism if the culture and/or heritage value attracts tourists and can also be closely linked with artistic outputs.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) The area is considered of minor importance for culture and/or heritage. (++) The area is considered of major importance for culture and/or heritage.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered of minor importance for culture and/or heritage (e.g. areas of particular national pride or international significance). (++) The area is considered of major importance for culture and/or heritage.	(+) The area is considered of minor importance for culture and/or heritage. (++) The area is considered of major importance for culture and/or heritage.	
Economic benefit				
(\$) Culture and/or heritage provide minor income for local communities (e.g. through storytelling, cultural specific guiding, etc.). (\$\$) Culture and/or heritage provide major income for local communities.	(\$) Culture and/or heritage provide minor income for business. (\$\$) Culture and/or heritage provide major income for business.	(\$) Culture and/or heritage provide minor income for government (e.g. entrance fees, concessions, etc.). (\$\$) Culture and/or heritage provide major income for government.	(\$) Culture and/or heritage provide minor income for CSOs. (\$\$) Culture and/or heritage provide major income for CSOs (e.g. cultural projects).	Income can relate to the extent to which the cultural, historical and spiritual values in protected areas provide direct value (e.g. in terms of visitors' fees, grant/project funding, etc.).
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.?)	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.?)	

Peace and stability

PA-BAT+ question 22. Is the area important for peace and stability? For example, the area is recognised as a peace park.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) The area is considered of minor importance for peace and stability. (++) The area is considered of major importance for peace and stability.	(+) The area is considered of minor importance for peace and stability. (++) The area is considered of major importance for peace and stability.	(+) The area is considered of minor importance for peace and stability. (++) The area is considered of major importance for peace and stability.	(+) The area is considered of minor importance for peace and stability. (++) The area is considered of major importance for peace and stability.	
Economic benefit				
(\$) Peace and stability represent minor income or savings. (\$\$) Peace and stability represent major income or savings.	(\$) Peace and stability represent minor income or savings. (\$\$) Peace and stability represent major income or savings.	(\$) Peace and stability represent minor income or savings. (\$\$) Peace and stability represent major income or savings.	(\$) Peace and stability represent minor income or savings. (\$\$) Peace and stability represent major income or savings.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

Biodiversity maintenance and protection (genetic, species and habitat diversity)

PA-BAT+ question 23. Is the area important for jobs associated with biodiversity maintenance and protection (e.g. working in the protected area)? For example, jobs in conservation, protection, restoration, continuing traditional management practices to support biodiversity). NOTE: The importance can depend on pay scales and comparison with local pay and employment/unemployment. It should include (but distinguish between) permanent and seasonal employment.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Importance can be in terms of providing local jobs (including in remote areas or for social groups that might otherwise tend to be excluded from employment), training, internships, etc. This value can range from being locally important for jobs to being important for governments in terms of avoiding economic support that might be needed in the area if the protected area did not exist.
(+) The area is considered of minor importance for non-paid job opportunities (e.g. volunteering). (++) The area is considered of major importance for non-paid job opportunities.	Not applicable because local businesses use the resource as a source of revenue.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered of minor importance for non-paid job opportunities (e.g. volunteering). (++) The area is considered of major importance for non-paid job opportunities.	
Economic benefit				
(\$) Jobs related to biodiversity maintenance and protection provide a minor income for local communities. (\$\$) Jobs related to biodiversity maintenance and protection provide a major income for local communities.	(\$) Jobs related to biodiversity maintenance and protection provide a minor income for business (e.g. management of the area is through a for-profit organisation). (\$\$) Jobs related to biodiversity maintenance and protection provide a major income for business.	(\$) Jobs related to biodiversity maintenance and protection provide a minor revenue stream (e.g. taxes). (\$\$) Jobs related to biodiversity maintenance and protection provide a major revenue stream (e.g. taxes) or are of high importance in an area with few employment opportunities, and thus significantly reduce the need for social welfare payments.	(\$) Jobs related to biodiversity maintenance and protection provide a minor income for local CSOs (e.g. NGOs' staff are funded to manage a site). (\$\$) Jobs related to biodiversity maintenance and protection provide a major income for CSOs.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

Information for education and research

PA-BAT+ question 24. Is the area important for education? Education, knowledge generation.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				Importance to education usually reflects the importance of educational programmes in the area. It covers formal education (school visits); more informal education (e.g. education trails, information centres); to adult education which works to ensure a range of issues, from the survival of traditions (local building techniques or handicrafts) to the development of better practices (apiculture, etc.).
(+) The area is considered of minor importance for education for local communities. (++) The area is considered of major importance for education for local communities.	(+) The area is considered of minor importance for education for business (e.g. the area is used to help businesses understand the provision of ecosystem services, e.g. working with water companies to explain the role of the area in the provision of water). (++) The area is considered of major importance for education.	(+) The area is considered of minor importance for education (e.g. the area is a popular site, has specific unique biological or geological features, for school visits nationally or regionally). (++) The area is considered of major importance for education.	(+) The area is considered of minor importance for education. (++) The area is considered of major importance for education.	
Economic benefit				
(\$) Education represents minor income for local communities (e.g. guiding school groups, local accommodation, restaurants from school excursions and summer volunteer camps). (\$\$) Education represents major income or savings (e.g. guiding school groups, local accommodation, restaurants from school excursions and summer volunteer camps).	(\$) Education represents minor income (e.g. guiding school groups, local accommodation, restaurants from school excursions and summer volunteer camps). (\$\$) Education represents major income (e.g. guiding school groups, local accommodation, restaurants from school excursions and summer volunteer camps).	(\$) Education represents minor income (e.g. if funds are collected from schools, students, etc.). (\$\$) Education represents major income or savings.	(\$) Education represents minor income or savings. (\$\$) Education represents major income or savings.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

PA-BAT+ question 25. Is the area valued for nature conservation? Looking at both biodiversity and geodiversity

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic benefit				Note: the economic value of nature is covered in other questions, this question thus focuses on the importance of nature and its conservation.
(+) The area is considered of minor importance for nature conservation. (++) The area is considered of major importance for nature conservation.	Not likely to be applicable as businesses would hope to use the resource as an eventual source of revenue.	(+) The area is considered of minor importance for nature conservation. (++) The area is considered of major importance for nature conservation.	(+) The area is considered of minor importance for nature conservation. (++) The area is considered of major importance for nature conservation.	
Economic benefit				
Covered under other questions.	Covered under other questions.	Covered under other questions.	Covered under other questions.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Not applicable.	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

PA-BAT+ question 26. Is the area important for knowledge generation? For example, research into biodiversity, geology, ecosystem services, cultural values etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				In some protected areas research permits etc. are important sources of revenue. Note: this question links to the other research focused questions: 13 (pharmaceuticals industry) and 15 (genetic material). It could also relate to the extent that visiting researchers bring money into an area for accommodation, food, etc.
(+) The area is considered of minor importance for knowledge generation (e.g. scientific reports, papers, etc. generated from the area). (++) The area is considered of major importance for knowledge generation.	Not likely to be applicable as businesses would hope to use the resource as an eventual source of revenue.	(+) The area is considered of minor importance for knowledge generation. (++) The area is considered of major importance for knowledge generation.	(+) The area is considered of minor importance for knowledge generation. (++) The area is considered of major importance for knowledge generation.	
Economic benefit				
(\$) Knowledge generation represents minor income (e.g. local employment). (\$\$) Knowledge generation represents major income.	(\$) Knowledge generation represents minor income (e.g. scientific discoveries lead to revenue opportunities). (\$\$) Knowledge generation represents major income.	(\$) Knowledge generation represents minor income (e.g. revenue sharing from scientific discoveries, major donor funds for research, etc.). (\$\$) Knowledge generation represents major income.	(\$) Knowledge generation represents minor income (e.g. donor funding for research). (\$\$) Knowledge generation represents major income.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	

Aesthetic values

PA-BAT+ question 27. Is the area important for aesthetic values? For example, iconic features such as waterfalls, mountains, coral reefs, islands, geological features (e.g. fossils). NOTE: There is often a close link between aesthetic values and artistic inspiration (see 20) and also with tourism (see 10).

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information	
Non-economic/subsistence benefit					
(+) The area is considered of minor important for aesthetic values. (++) The area is considered of major importance for aesthetic values.	Not applicable because local businesses use the resource as a source of revenue.	(+) The area is considered of minor importance for aesthetic values. (++) The area is considered of major importance for aesthetic values.	(+) The area is considered of minor importance for aesthetic values. (++) The area is considered of major importance for aesthetic values.	There can be very different perceptions of iconic values of sites amongst different stakeholders. For local communities, individual trees, water features or mountain peaks can have significance quite distinct from what is considered important nationally or internationally (which might, for instance, be more to do with the highest mountains, unique geological features, etc.). In terms of NGOs, national governments or industry, features of the protected area can be included on logos, publicity material, stamps, including national birds, plants and animals, etc.	
Economic benefit					
(\$) Aesthetic values provide minor economic benefits to local communities. (\$\$) Aesthetic values provide major economic benefits to local communities. Note: There is likely to be significant overlap between this question and recreational and tourism values. But this question can focus on issues such as increased property prices due to proximity to an iconic feature.	(\$) Aesthetic values provide minor income. (\$\$) Aesthetic values provide major income. Note: Many businesses operating near iconic features will use the feature in marketing and outreach.	(\$) Aesthetic values provide minor income. (\$\$) Aesthetic values provide major income.	(\$) Aesthetic values provide minor income. (\$\$) Aesthetic values provide major income.		
Potential economic or non-economic benefit					
Could the economic value for local communities be increased sustainably and within the objectives of the protected area (e.g. through working with local communities to develop products to sell)?	Could the economic value for local business be increased sustainably and within the objectives of the protected area (e.g. through capacity development, improved marketing, etc.)?	Could the economic value for government be increased sustainably and within the objectives of the protected area (e.g. through local business promotion/ support leading to higher tax revenues)?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area (e.g. through capacity development, etc.)?		

Erosion and soil fertility regulation

PA-BAT+ question 28. Is the area important for soil maintenance? Erosion and soil fertility are impacted by a range of issues; vegetation cover can help soil stability and diminish erosion; natural flooding regimes can increase fertility and productivity etc.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) Minor importance in reducing erosion and soil fertility regulation. (++) Major importance in reducing erosion and soil fertility regulation.	Not applicable because local businesses use the resource as a source of revenue.	(+) Minor importance in reducing erosion and soil fertility regulation. (++) Major importance in reducing erosion and soil fertility regulation.	(+) Minor importance in reducing erosion and soil fertility regulation. (++) Major importance in reducing erosion and soil fertility regulation.	
Economic benefit				
(\$) Minor economic importance from costs saved in terms of adding nutrients to increase fertility, or infrastructure to reduce landslides, etc. or payment received for conservation management. (\$\$) Major economic importance from costs saved or income linked to soil maintenance (e.g. houses near forests have higher market value because forests provide protection from landslides).	(\$) Minor economic importance from costs saved in terms of adding nutrients to increase fertility, or infrastructure to reduce landslides, etc. or payment received for conservation management. (\$\$) Major economic importance from costs saved or income linked to soil maintenance.	(\$) Minor economic importance from costs saved in terms of adding nutrients to increase fertility, or infrastructure to reduce landslides, etc. (\$\$) Major economic importance from costs saved linked to soil maintenance.	(\$) Minor economic importance from costs saved in terms of adding nutrients to increase fertility, or infrastructure to reduce landslides, etc. or payment received for conservation management. (\$\$) Major economic importance from costs saved or income linked to soil maintenance.	
Potential economic or non-economic benefit				
Could the economic value for local communities be increased sustainably and within the objectives of the protected area?	Could the economic value for local business be increased sustainably and within the objectives of the protected area?	Could the economic value for government be increased sustainably and within the objectives of the protected area through better management of the protected area?	Could the economic value for CSOs and their members be increased sustainably and within the objectives of the protected area?	

Pest and disease regulation

PA-BAT+ question 29. Does the area help mitigate pest and disease? There is increasing evidence that natural ecosystems can help regulate pests and diseases. Intact forests can in some cases reduce mosquito numbers and many agricultural pests have natural predators.

Indigenous people / local population	Local business	Government	Civil society organisations (CSO)	Additional information
Non-economic/subsistence benefit				
(+) Minor importance in terms of health of local communities or contribution to personal food production. (++) Major importance in terms of health of local communities or contribution to personal food production.	Not applicable because local businesses use the resource as a source of revenue.	(+) Minor importance for public health. (++) Major importance for public health.	Not likely to be applicable as CSOs use the resource as a source of revenue.	
Economic benefit				
(\$) Minor economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production. (\$\$) Major economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production.	(\$) Minor economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production. (\$\$) Major economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production.	(\$) Minor economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production. (\$\$) Major economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production.	(\$) Minor economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production. (\$\$) Major economic importance from costs saved in terms of disease or pest prevention strategies or payment received from increased production.	
Potential economic or non-economic benefit				
Is this benefit potentially important for local population?	Is this benefit potentially important for local business?	Is this benefit potentially important for government?	Is this benefit potentially important for civil society organisations?	



Kasandra-Zorica Ivanić has been working in the field of nature conservation and protected areas in the Western Balkans for the last seven years. Through various projects, she supports knowledge exchange between practitioners in protected areas and strengthens engagement of local communities in protected area management. Her focus area is the contribution of protected areas and natural resources to local social and economic development. She developed an online knowledge exchange platform Natureforpeople.org and facilitated the largest assessment of local stakeholder perceptions of protected area values using the PA-BAT across eight countries of the Western Balkans. Kasandra is the author of two scientific papers and six national reports on Protected Area Benefits Assessment (analysing data, providing national policy recommendations and advocacy actions). She is a member of WCPA.



Sue Stolton established Equilibrium Research in partnership with Nigel Dudley in 1991. Equilibrium promotes positive environmental and social change by linking targeted research to field application. Between them Sue and Nigel have authored well over 200 books and reports. Sue is a member of two of IUCN's Commissions: WCPA and CEESP. Sue and Nigel developed the original PA-BAT for WWF; and have been involved in its implementation around the world.



Carolina Figueroa Arango has been working in the field of biodiversity and climate change for the last 10 years. She has worked with government institutions in Colombia such as National Parks and the Humboldt Institute. She has also worked as a project manager within different organizations such as the United States Agency for International Development (USAID) and WWF Colombia in protected areas, climate change adaptation, clean energy and biodiversity conservation related projects. More recently Carolina has developed a strong interest in the relationship between people and nature in urban areas and has been working on this field as an Alexander von Humboldt Fellow at Ecologic Institute in Berlin. She is the author of the first guide to include nature-based solutions in urban planning in Colombia. Carolina recently became a member of the WCPA and hopes to contribute more actively in the Urban Conservation Strategies Specialist Group.



Nigel Dudley has been self-employed most of his professional life and has worked for many years in partnership with Sue Stolton in Equilibrium Research. In that time, he has collaborated with NGOs, UN agencies, international donors and governments in over 70 countries and has written many papers, reports and books. He was editor of *Guidelines for Applying Protected Area Management Categories* and a co-author of the IUCN best practice guidance on *Governance of Protected Areas: From understanding to action*, both of which considered issues relating to who is making decisions about protection.



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