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SOUTH AND WEST ASIA SUBREGIONAL WORKSHOP ON THE REVIEW OF, AND CAPACITY-BUILDING FOR, THE IMPLEMENTATION OF THE PROGRAMME OF WORK ON PROTECTED AREAS UNDER THE CONVENTION ON BIOLOGICAL DIVERSITY
Dehradun, India, 2-4 April 2007

CRITICAL STEPS, TOOLS AND AVAILABLE RESOURCES AND CASE-STUDIES ON: (i) ECOLOGICAL GAP ANALYSIS; (ii) SUSTAINABLE FINANCING; AND (iii) MANAGEMENT EFFECTIVENESS

Note by the Executive Secretary

1. INTRODUCTION

1. Implementation of the programme of work for the period 2004-2006 was assessed at the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP-8), held in Curitiba, Brazil, from 20 to 31 March 2006. The outcome of the eighth meeting of the Conference of the Parties on protected areas is reflected in decision VIII/24. 1/ Regarding review of implementation, the Conference of the Parties recognized that limited availability of relevant information, including the insufficient number of reports submitted, was a major shortcoming in the review of the programme of work on protected areas for the period 2004-2006. In addition, the Conference of the Parties, recognizing the need for the systematic collection of relevant information for evaluating progress in the implementation of the programme of work on protected areas, encouraged Parties, other Governments and relevant organizations to provide timely and quality information on the implementation of the programme of work.

2. In paragraph 5 of this decision, the Conference of the Parties agreed that reporting should concentrate mostly on outputs as well as processes, using tools such as the matrix in annex II of recommendation 1/4 of the Ad Hoc Open-ended Working Group on Protected Areas (UNEP/CBD/COP/8/8, annex) and other relevant information, to provide for a strategic assessment of progress made, challenges/obstacles, and capacity-building needs. Further, recognizing lack of implementation and capacity-building constraints for developing countries, especially in the areas of conducting gap analysis, country-level sustainable financing strategies, and the effectiveness of protected-area management, the Conference of the Parties urged Parties to address these constraints as a priority and encouraged Parties and relevant organizations to support and implement capacity-building activities.

3. The first of such regional workshops was held in the Caribbean region, in Miami, Florida, from 20 to 22 June 2006, organized by The Nature Conservancy in collaboration with the

1/ http://www.biodiv.org/decisions/default.aspx?m=COP-08&id=11038&lg=0

/...

Secretariat of the Convention on Biological Diversity, IUCN-World Commission on Protected Areas, USAID, and Parks in Peril. Representatives from 13 countries of the Caribbean region participated and presented case-studies. The workshop focused on practical hands-on tools and training on the following priority activities, which the Conference of the Parties recognized for capacity-building: (i) ecological gap assessments; (ii) sustainable finance plans; (iii) capacity plans for implementing the programme of work as a whole; and (iv) management effectiveness. Each item was structured into three sessions: (i) critical steps; (ii) tools; and (iii) policy and institutional changes needed for implementation, with lectures, case-studies and interactive sessions for understanding country-specific progress and identification of country-specific challenges, opportunities and ways and means to address these challenges. One important achievement of this workshop, besides capacity-building, was encouraging and inspiring the Caribbean countries to come out with an initiative similar to the Micronesia Challenge.

4. Together with The Nature Conservancy, IUCN-WCPA, USAID and Parks-in-Peril, the Secretariat co-sponsored a workshop on "Strategic Plans for Protected Area Systems" in Quito, Ecuador, South America from 24 to 26 July 2006. The purpose was to provide participants from South and Central American countries with practical hands-on-tools and training for capacity-building in (i) ecological gap assessments (ii) sustainable finance plans, and (iii) management effectiveness.

5. The Workshop on "Implementing the CBD Programme of Work on Protected Areas in the East Caribbean States" was held in Saint Lucia from 5 to 7, December 2006. The Nature Conservancy, in collaboration with SCBD organized this workshop in collaboration with USAID, Parks in Peril and the Organization of Eastern Caribbean States (OECS). A total of 36 participants from 7 countries of the Eastern Caribbean region, viz., Antigua and Barbuda, British Virgin Islands, Dominican Republic, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines attended the Workshop. Experts from Costa Rica participated to present case-studies, together with experts from The Nature Conservancy.

7. In an informal planning group meeting convened by the Secretariat of the Convention on Biological diversity on 13 and 14 November 2006 in Montreal, members of the NGO consortium, the IUCN-WCPA and the SCBD agreed in organizing workshops in sub-regions to enhance capacities for implementation of "priority" activities (identified by the Conference of the Parties at its eighth meeting) and to review implementation of the programme of work on protected areas.

8. Based upon the experience gained in the above workshops and in consultation with The Nature Conservancy, IUCN-WCPA, WWF, Conservation International, the Wildlife Conservation Society, BirdLife International and other partners, this workbook explaining , basic principles, methodologies, available resources and case-studies for: **(i) Filling ecological gaps:** conducting gap assessments and steps to fill identified gaps in national protected areas (PA) systems; **(ii) Sustainable finance:** Completing business-oriented sustainable finance plans for PA systems and putting in place effective sustainable funding mechanisms in place effective, long-term capacity building programs; and **(iii) Management effectiveness:** Conducting management effectiveness evaluations and steps to improve management effectiveness. landscapes (e.g., regional planning), is prepared.

2. GAP ANALYSIS

9**. Requirement in the programme of work : Action 1.1.5**: "By 2006 complete protected area system gap analyses at national and regional levels based on the requirements for representative systems of protected areas that adequately conserve terrestrial, marine and inland

water biodiversity and ecosystems. National plans should also be developed to provide interim measures to protect highly threatened or highly valued areas wherever this is necessary. Gap analyses should take into account Annex I of the Convention on Biological Diversity and other relevant criteria such as irreplaceability of target biodiversity components, minimum effective size and viability requirements, species migration requirements, integrity, ecological processes and ecosystem services." The following account on gap analysis is mainly taken from the website " The Gaps Guide" developed by The Nature Conservancy and accessible at www.protectedareas.info

2.1 What is gap analysis?

10. **At its simplest, a gap analysis is an assessment of the extent to which a protected area system meets protection goals set by a nation or region to represent its biological diversity.** Gap analyses can vary from simple exercises based on a spatial comparison of biodiversity with existing protected areas to complex studies that need detailed data gathering and analysis, mapping and use of software decision packages. All gap analyses should consider a range of different "gaps" in a protected area network:

Representation gaps: either no representations of a particular species or ecosystem in any protected area, or not enough examples of the species/ecosystem represented to ensure long-term protection.

Ecological gaps: while the species/ecosystem occurs in the protected area system, occurrence is either of inadequate ecological condition, or the protected area(s) fail to address species" movements or specific ecological conditions needed for long-term survival or ecosystem functioning.

Management gaps: protected areas exist but management regimes (management objectives, governance types, or management effectiveness) do not provide full security for particular species or ecosystems given local conditions.

2.1.1 Available resources for: What is gap analysis?

(1) Background- global gap analysis **Actual title** :Coverage Provided by the Global Protected-Area System: Is It Enough?
Author: Thomas M Brooks, Mohamed I Bakaar, Tim Boucher et al
Paper published in Bioscience 54, November 2004
http://www.protectedareas.info/upload/document/brooksetal.bioscience2004.pdf

(2) Gap analysis – introduction: **Actual title:** What does gap analysis mean? A simple framework for assessment
Author: Jeffrey Parrish and Nigel Dudley
Summary: Outline of the background to and principles behind, protected area gap analysis
http://www.protectedareas.info/upload/document/gapanalysis-introduction.pdf

(3) Gap analysis - Principles of gap analysis: **Actual title:** Six guiding principles of gap analysis
Author: Anon
Summary: A set of principles for analysis: inclusion of a certain amount of redundancy and planned resilience in a fully representative system; analysis that is participatory, including key stakeholders and iterative, building on improving knowledge of biodiversity, threats, and protected area design
Keywords: gap analysis, principles
http://www.protectedareas.info/upload/document/sixguidingprinciplesforgapanalysis.pdf

(4) Gap analysis - Selecting Conservation Targets/Biodiversity Features **Author:** Jonathan Higgins and Rebecca Esselman
Keywords: conservation targets, biodiversity features, ecosystems, representation, coarse-fine filter
http://www.protectedareas.info/upload/document/standard7feb06selectingconstargets.pdf

2.2. Principles of Gap Analysis

11. Gap analyses should be driven by a series of scientific, social and political principles. **Representation**: choose focal biodiversity across biological scales (species and ecosystems) and realms (terrestrial, freshwater, and marine) for the gap analysis to capture the full array of biodiversity in the protected area system.

Redundancy: include sufficient examples of species and ecosystems in a protected area network to capture genetic variation and protect against unexpected losses.

Resilience: design protected area systems to withstand stresses and changes, including future changes such as global warming.

Different types of gaps: analyse *representation gaps* (biodiversity not found in any protected area), *ecological gaps* (biodiversity"s ecological needs not adequately addressed in protected areas) and *management gaps* (inadequate management or purpose).

A participatory approach: collaborate with key stakeholders in decisions about protected areas. The CBD demands participation, in particular by directly affectedcommunities, including indigenous and traditional peoples.

An iterative process: review and improve the gap analysis as knowledge grows and environmental conditions change.

2.2.1. Available Resources For Principles of Gap Analysis

(1) Gap analysis - Principles of gap analysis **Actual title:** Six guiding principles of gap analysis
Author: Anon
Summary: A set of principles for analysis: inclusion of a certain amount of redundancy and planned resilience in a fully representative system; analysis that is participatory, including key stakeholders and iterative, building on improving knowledge of biodiversity, threats, and protected area design
Keywords: gap analysis, principles
http://www.protectedareas.info/upload/document/sixguidingprinciplesforgapanalysis.pdf

2.3 Stakeholder approaches

12. **Experience in protected areas demonstrates that they are most likely to succeed when key stakeholders are involved in creation, design, and management.**

13. Yet the relationship between people and protected areas is one of the most challenging in conservation, with conflicts often created by failing to address people's needs. Such actions, quite apart from their social and humanitarian impacts, achieve little for conservation. Loss of

traditional rights can reduce peoples' interest in long-term land stewardship of resources and even increase the rate of damage to the protected area.

14. Conversely, people can play a key positive role. Many "natural" areas have been managed to some extent for hundreds or thousands of years and biodiversity may rely on traditional management. Local communities can maintain protected area values, if they agree with them, in situations where park managers have neither the time nor resources to ensure protection.

16. The Programme of Work stresses that planning should be participatory, involving a wide range of the right stakeholders. Many tools exist to help the process of engaging with stakeholders

2.3.1. Available Resources For Stakeholder approaches

(1) Guidelines - Protected area governance guidelines **Actual title:** Indigenous and Local Communities and Protected Areas - Towards equity and enhance conservation
Author: Grazia Borrini-Feyerabend, Ashish Kothari and Gonzalo Oviedo
Summary: Guidance on policy and practice for co-managed protected areas and Community Conserved Areas
Keywords: protected area, communities, governance, community conserved area

http://www.protectedareas.info/upload/document/guidelinesindigenouspeople.pdf

(2) Participatory tools - Ecotourism development. **Actual title:** Participatory Ecotourism Planning
Author: Juan Carlos Bonilla
Summary: Guidelines from Conservation International published in 1997
Keywords: participation, ecotourism
http://www.protectedareas.info/upload/document/participatoryecotourismdevelopmentci.pdf

(3) Participatory tools - FAO tools **Actual title:** The Participatory Process for Supporting Collaborative Management of Natural Resources, An Overview
Author: Andrew W. Ingles, Arne Musch and Helle Qwist-Hoffmann
Summary: Overview of participatory approaches
Keywords: participation, natural resource management
http://www.protectedareas.info/upload/document/faoparticipationguide.pdf

(4) Participatory tools - Good governance guidelines. **Actual title:** Good Governance, Indigenous Peoples, and Biodiversity Conservation
Author: Janis B. Alcorn
Summary: Guidelines from the Biodiversity Support Programme
Keywords: governance, participation
http://www.protectedareas.info/upload/document/participatorytools-goodgovernanceguidelines.pdf

(5) Participatory tools - Multiple stakeholder politics – CIFOR: **Actual title:** Where the Power Lies
Author: Berevley Sithole
Summary: Analysis of multiple stakeholder politics from the Center for International Forestry Research
Keywords: stakeholders, power
http://www.protectedareas.info/upload/document/wherethepowerlies-multipleshpolitics.pdf

(6) Participatory tools – overview **Actual title:** Participation and Social Assessment: Tools and Techniques: World Bank
Author: Jennifer Rietbergen-McCracken and Deepa Narayan
Summary: Large compilation of tools and approaches to participation in natural resource management including many case-studies
Keywords: participation
http://www.protectedareas.info/upload/document/participationtoolsandapproachs-worldbank.pdf

(7) Participatory tools - Participatory conservation **Actual title:** Protected Areas and People - Participatopry Conservation
Author: Ashish Kothari
Summary: Chapter 14 of the CBD Technical Series Pubication (Key biodiversity issues for protected areas"
Keywords: Participation, governance
http://www.protectedareas.info/upload/document/ashishkothari-cbd-ts.pdf

(8) Participatory tools - Participatory planning for marine areas **Actual title:** Guide to Participatory Planning for Coastal Marine Areas
Author: NÃ©stor Windevoxhel and Fernando Secaira, Proarca
Summary: Methodology used in Central America
Keywords: marine protected areas, participation
http://www.protectedareas.info/upload/document/guidetoparticipatoryplanning.pdf
(9) Participatory tools - Ramsar guidelines on indigenous peoples in wetlands
Actual title: Guidelines for establishing and strengthening local communities and indigenous people's participation in the management of wetlands
Author: Ramsar Bureau
Summary: Detailed set of guidelines
Keywords: indigenous peoples, wetlands
http://www.protectedareas.info/upload/document/localandindigenouscommpartinwetlands-ramsar.pdf

(10) Participatory tools - Resources from the World Bank **Actual title:** Participation and Social Assessment: - Tools and techniques
Author: Jennifer Rietbergen-McCracken and Deepa Narayan
Summary: Major ompilation of tools for participation
Keywords: participation
http://www.protectedareas.info/upload/document/participationtoolsandapproachs-worldbank.pdf
(11) Participatory tools - Scenario building from CIFOR
http://www.protectedareas.info/upload/document/scenariosforadaptivemgt-cifor.pdf

(12) Participatory tools - Sharing Power **Actual title:** Sharing Power: Learning-by-Doing in Co-Management of Natural Resources throughout the World
Author: Grazia Borrini-Feyerabend, Michel Pimbert, M. Taghi Farvar, Ashish Kothari and Yves Renard; with Hanna Jaireth, Marshall Murphree, Vicki Pattemore, Ricardo Ramirez and Patrizio Warren
Summary: Large book of theory and examples of co-management of natural resources
Keywords: co-management, participation
http://www.iucn.org/themes/ceesp/Publications/sharingpower.htm

(13) Participatory tools - Stakeholder collaboration from WWF **Actual title:** Stakeholder collaboration - Building Bridges for Conservation
Author: WWF
Summary: Discussion paper and guidance on stakeholder approaches
Keywords: stakeholder, participation
http://www.protectedareas.info/upload/document/stakeholdercollaboration.pdf

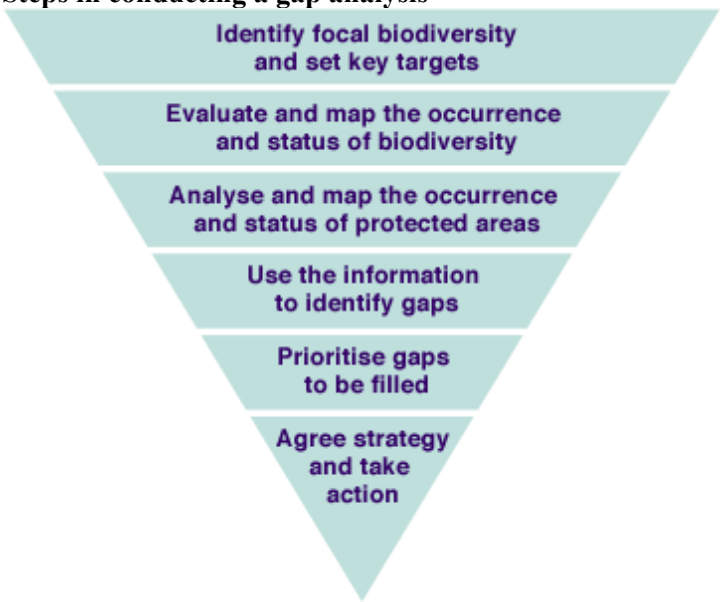
(14) Participatory tools - Tools for Development from DFID **Actual title:** Tools for Development
Author: Philip Dearden et al
Summary: Toolkit prepared for the UK Department of International Development in 2002, including many participatory techniques
Keywords: participation, development
http://www.protectedareas.info/upload/document/toolsfordevelopment-dfid.pdf

(15) Participatory tools - Who Counts Most **Actual title:** Who Counts Most - Assessing human wellbeing in sustainable forest management
Author: CarolColfer et al
Summary: Guidelines on how to "weight" participatory processes to ensure that those usually left out are also included, from the Center for International Forestry Research
Keywords: participation
http://www.protectedareas.info/upload/document/participatorytools-whocountsmost.pdf

2.4. Carrying out a gap analysis

17. However simple or complicated, cheap or expensive, all gap analyses should follow the same basic steps outlined below

Steps in conducting a gap analysis



2.4.1 Identify Key Targets

18. Most gap analyses focus on a representative sub-set of biodiversity as both indicators for the analysis and targets for measuring conservation success.

19. These **focal biodiversity elements** (targets) define species, communities and ecosystem to be evaluated (see Identify and map status and threats to biodiversity for more on indicators).

They can range from simple targets relating to the area protected to more sophisticated targets of representation or endangerment, e.g.:

20. **Area targets:** most simply, agreeing an overall national area to be protected, such as the target of 10% of terrestrial area, developed by IUCN The World Conservation Union.

21. **Coarse filter targets:** protection of broad land or water types, such as ecosystems or their components (e.g. communities): a country might e.g., agree to protect a certain proportion of mangroves.

22. **Fine filter targets:** usually species of particularly threatened or endemic species that would not be captured by ecosystem targets. For example the European Union has used the concept of favourable conservation status of species and habitats.
Targets ideally touch on both the **quantity** of land or water to be protected (to ensure sufficient populations or spatial extent of biodiversity) and its **distribution**, to ensure capturing the ecological and genetic diversity of a species or ecosystem . A simple target can be a decision to protect a a stated proportion of remaining ecosystems or to maintain species. More sophisticated targets identify in detail what needs to be protected.

2.4.1.1. Available resources for: Identify Key Targets

(1**)** Gap analysis - Selecting Conservation Targets/Biodiversity Features
Author: Jonathan Higgins and Rebecca Esselman
Keywords: conservation targets, biodiversity features, ecosystems, representation, coarse-fine filter
http://www.protectedareas.info/upload/document/standard7feb06selectingconstargets.pdf

(2) Resources - IUCN Red List **Actual title:** IUCN Red List
Summary: Global list of threatened or endangered species
Keywords: IUCN
http://www.iucnredlist.org/

2.4.2 Status and Threats

23. Data are gathered to compare protected areas with species needing protection
Ideally should include current **distribution** and biodiversity **status** and **trends**. Mapping all species is impossible so analysis relies on data for well-known species (e.g., birds); species representing particular habitats; and ecosystems. Mapping can be ”coarse filter” (ecosystems, habitats) or “fine filter” (species and specialised habitats). Studies involve consolidating diverse data sets; using GIS; standardising habitat classification; and predictive models. Indicators should represent as much of the total biodiversity as possible; provide adequate data; and be sympathetic to other stakeholdersDifferent types of information can all be useful, including data on

- **Realms:** amount of protection for major biomes such as freshwater, marine and grasslands, gives useful information

- **Environmental domains and enduring features:** where native vegetation has disappeared, geographical features can help to infer likely ecosystems; useful to plan restoration

- **Ecosystems:** a much quicker way of collecting information over a wide area, or where an entire ecosystem is under-represented in a protected area system

- **Species groups:** using one or more particularly well studied group – often mammals, birds or amphibians

- **Focal species:** using a carefully selected choice of species to provide in total as good an overview of ecosystems and species as possible

2.4.2.1 Available resources for: Status and Threats

(1) Resources - AZE brochure **Actual title:** Alliance for Zero Extinction
Author: Anon
Summary: Summary of the work of and resources available from the Alliance for Zero Extinction, which includes information on priority areas to be protected to stop extinctions
Keywords: Alliance for Zero Extinction, gap alaysis
http://www.protectedareas.info/upload/document/azebrochure.pdf

(2) Resources - IUCN Red List **Actual title:** IUCN Red List
Summary: Global list of threatened or endangered species
Keywords: IUCN
http://www.iucnredlist.org/

2.4.3 Asses and Map

24. A map of protected areas is needed to compare with maps of biodiversity.

25. Basic data on protected areas are usually available at national level although spatial data and information on protected areas in other governance systems (e.g. private protected areas) may be lacking. Information about status of protected areas is generally less available, although studies and data on these are starting to emerge.Ideally, three pieces of information are helpful:

- **Distribution:** the existence of a protected area network (ideally maps of the location, area and boundaries of all protected areas, including federal, state, municipal and private protected areas)

- **Protection status:** the management objectives of these areas as indicated by the IUCN management categories

- **Management effectiveness status:** the effectiveness of management of protected areas

2.4.3.1. **Available resources for** : Asses and Map

(1) Approaches - indicators for integrity **Actual title:** Assessing condition/integrity of ecosystems: using spatial data to develop suitability indices
Author: Jonathan Higgins
Summary: Using spatial data as a rapid approach to quantify the relative quality and potential for persistence of specific biodiversity targets, as well as landscapes in general
Keywords: integrity, assessment
http://www.protectedareas.info/upload/document/approaches-indicatorsforintegrity.pdf

(2) Guidelines - National System Planning for Protected Areas
Actual title: National System Planning for Protected Areas
Author: Adrian Davey
Summary: IUCN guidelines on planning a national system of protected areas
Keywords: planning, protected areas
http://app.iucn.org/dbtw-wpd/edocs/PAG-001.pdf

2.4.4 Identify Gaps

26. Various options exist for using data to identify gaps in protected areas networks.

How to do the analysis: there are three general options, depending on data quality and technical capacity:

Without maps: a lot of information can be obtained just by listing all the biodiversity elements not adequately represented in a protected area network is itself very useful.

With maps: more analysis is possible, including presence or absence from the protected area network and issues such as proximity, proportion of the population protected, and information about filling gaps.

With maps plus software: systematic, algorithm based approaches to selecting new protected areas have developed rapidly in the last few years.

What to look for: two key issues are important:

What type of gap exists? – i.e. whether gaps are complete (representation gaps) partial (ecological) or are gaps in objectives, governance types or effectiveness (management gaps). In management gaps, a protected area itself appears as a "gap" if it has not been implemented or well managed.

What is the extent of the gap? – i.e. are whole new protected areas necessary, or would a corridor between existing protected areas or an extension of an existing park be sufficient to address the representation or ecological gap? These questions are central to prioritising what is needed most.

2.4.4.1 Available Resources For: Identify Gaps

(1) Gap analysis – introduction **Actual title:** What does gap analysis mean? A simple framework for assessment
Author: Jeffrey Parrish and Nigel Dudley
Summary: Outline of the background to and principles behind, protected area gap analysis
Keywords: gap analysis, protected areas
http://www.protectedareas.info/upload/document/gapanalysis-introduction.pdf

2.4.5. Prioritise Gaps

27. A gap analysis does not produce a precise plan, but rather a set of options that must be reconciled with other wants and needs. A good gap analysis will outline the ***priorities*** to be

addressed and suggestions for action. Identification of priorities involves a number of different assessment steps:

28. **Pressures and threats:** to existing protected areas and unprotected ecosystems – to identify urgent action and threats to the protected area network. Many threat assessment methodologies exist.

29. **Opportunities for new protected areas:** some places may already be proposed protected areas or have a designation that could be converted into full protection status. Some community areas may be suitable as protected areas if supported by local stakeholders

30. **Other opportunities for effective protection:** some gaps may be better filled by other sympathetic management than by creating protected areas in places where they are resisted or difficult to achieve.

31. **Capacity to implement an expanded protected area network:** big plans are pointless without the capacity to make them happen. The CBD calls for national capacity assessment sfor managing protected area systems, including finance, resources, legal and policy framework, partners and skills

2.4.5.1 Available resources for: Prioritise Gaps

(1) Guidelines - Category V protected areas **Actual title:** Management Guidelines for IUCN Category V Protected Areas Protected Landscapes/Seascapes
Author: Adrian Phillips
Summary: Guidelines to planning and management of ladscape/seascape protected areas where landscape characteristics and cultural landscapes are an important part of the overall value
Keywords: protected area, IUCN Catgeory V, landscape
http://app.iucn.org/dbtw-wpd/edocs/PAG-009.pdf

(2) Guidelines - IUCN protected area categories **Actual title:** Guidelines for Protected Area Management Categories
Author: IUCN
Summary: Guidelines for application and use of the six IUCN protected area categories, identified by management objective. Available in English, French and Spanish
Keywords: protected areas, categories, IUCN
http://www.iucn.org/themes/wcpa/pubs/guidelines.htm#categories

(3) Guidelines - Mountain protected area guidelines **Actual title:** Guidelines for Planning and Managing Mountain Protected Areas
Author: Larry Hamilton and Linda McMillan
Summary: Guidelines to planning and management of protected areas in mountain environments
Keywords: mountains, protected areas
http://app.iucn.org/dbtw-wpd/edocs/2004-017.pdf

2.4.6. Agree Strategy

32. Once priorities are set, the gap analysis is complete. But it is only worth doing if it leads to developing one or more scenarios for expansion of the protected area network taking into account:

Size and location of new protected areas: possibly with linking habitats (corridors and buffer zones). Decisions will be made on the basis of priorities, opportunities and capacity.

Management objectives for protected areas: varying from strict protection to cultural landscapes with human communities. All have their role, but are not equally applicable to all conservation needs. IUCN identifies six categories of management objectives that can help to plan protected area networks.

Governance structures for the protected areas: who owns or manages the protected areas – can influence if communities support or oppose protection. Most governments still rely mainly on state-owned protected areas, but many other options exist, including various forms of co-management, private protected areas and community conserved areas.

Opportunities for conservation outside protected areas: biodiversity may be conserved outside protected areas, if management is effective and secure.

Opportunities to use restoration as a tool: sometimes this will just mean encouraging natural regeneration. In other cases active intervention is needed.

2.4.6.1. A**vailable resources for: Agree Strategy**

(1) Guidelines - Category V protected areas **Actual title:** Management Guidelines for IUCN Category V Protected Areas Protected Landscapes/Seascapes
Author: Adrian Phillips
Summary: Guidelines to planning and management of ladscape/seascape protected areas where landscape characteristics and cultural landscapes are an important part of the overall value
Keywords: protected area, IUCN Catgeory V, landscape
http://app.iucn.org/dbtw-wpd/edocs/PAG-009.pdf

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(3) Guidelines - Mountain protected area guidelines **Actual title:** Guidelines for Planning and Managing Mountain Protected Areas
Author: Larry Hamilton and Linda McMillan
Summary: Guidelines to planning and management of protected areas in mountain environments
Keywords: mountains, protected areas
http://app.iucn.org/dbtw-wpd/edocs/2004-017.pdf

(4) Guidelines - National System Planning for Protected Areas
Actual title: National System Planning for Protected Areas
Author: Adrian Davey
Summary: IUCN guidelines on planning a national system of protected areas
Keywords: planning, protected areas
http://app.iucn.org/dbtw-wpd/edocs/PAG-001.pdf

(5) Guidelines - Transboundary protected areas **Actual title:** Transboundary Protected Areas for Peace and Co-operation
Author: Trevor Sandwith, Dlare Shine, Larry Hamilton and David Sheppard
Summary: Explanation of transboundary protected areas along with guidelines and a draft code of practice, plus information on transboundary protected areas around the world
Keywords: transboundary protected area
http://app.iucn.org/dbtw-wpd/edocs/PAG-007.pdf

(6) Participatory tools - Multiple stakeholder politics - CIFOR **Actual title:** Where the Power Lies
Author: Berevley Sithole
Summary: Analysis of multiple stakeholder politics from the Center for International Forestry Research
Keywords: stakeholders, power
http://www.protectedareas.info/upload/document/wherethepowerlies-multipleshpolitics.pdf

(7) Participatory tools - Scenario building from CIFOR
http://www.protectedareas.info/upload/document/scenariosforadaptivemgt-cifor.pdf

2.4.7. Biome Information

33. We know much more about conservation of terrestrial biodiversity than freshwater or marine biodiversity. The principles and approaches described here are true for all three realms, but freshwater and marine biodiversity also require some specialised approaches, tools and methodologies . The following links therefore give particular attention to conservation in aquatic environments.

2.4.7.1. Available Resources For: Biome Information

(1) Gap analysis - Freshwater gap analysis **Actual title:** Freshwater gap analysis
Author: Jonathan Higgins and Robin Abell
Summary: Summary paper explaining how methodologies need to be adapted to carry out a gap analysis in freshwater ecosystems
Keywords: gap analysis, freshwater
http://www.protectedareas.info/upload/document/freshwatergapanalysis.pdf

(2) Gap analysis - Marine gap analysis **Actual title:** Marine gap analysis
Author: Dan Dorfman
Summary: A paper outlining the different approaches needed to carry out a gap analysis in marine and coastal ecosystems
Keywords: gap analysis, marine, coastal
http://www.protectedareas.info/upload/document/marinegapanalysis.pdf

2.4.8. Case-studies

34. A gap analysis cannot be carried out according to a rigid formula, but needs to be developed and modified depending on need, data availability, expertise and the type of species or ecosystems being considered. The resources section therefore also includes examples of gap

analysis around the world and shows how the principles and steps can be applied in practice. New case-studies will be loaded on as they become available.

2.4.8.1 Available Resources

(1) Case-study - Andaman and Nicobar Islands India **Actual title:** Gap Analysis in Andaman and Nicobar Islands, India: Recent Experiences
Author: V B Mathur and Hitendra Padalia
Summary: Gap analysis of two large island groups with high biodiversity and endemism, carried out in 2005 by the Wildlife Institute of India
Keywords: gap analysis, Andaman and Nicobar, India
http://www.protectedareas.info/upload/document/casestudy-andamanandnicobarislandsindia.pdf

(2) Case-study - Australian freshwater resource book **Actual title:** The Australia Freshwater Protected Area Resource Book
Author: Jon Nevill and Ngaire Phillips
Summary: Hugely detailed book about freshwater ecosystems in Australia and the need for new protected areas
Keywords: freshwater, protected areas, gap analysis

(3) Case-study – Bahamas **Actual title:** Bahamas - Integration of master planning process
Author: Anon
Summary: Summary of a discussion about application the CBD Programme of Work on Protected Areas in the Caribbean, June 2006
Keywords: gap analysis, Bahamas, CBD
http://www.protectedareas.info/upload/document/bahamasintegrationmppandtable.pdf

(4) Case-study - Belize gap analysis PowerPoint **Actual title:** National protected areas policy and system plan
Author: Jan Meerman
Summary: Summary of gap analysis carried out in Belize
Keywords: gap analysis, Belize
http://www.protectedareas.info/upload/document/belizegapanalysispowerpoint.pdf

(5) Case-study - Belize gap assessment public draft **Actual title:** Belize Protected Areas Policy and System Plan: Result 2 Protected Area System Assessment & Analysis - Public Draft
Author: J C Meerman
Summary: Draft document of a gap analysis in Belize,, carried out by the government and a variety of NGOs, published in 2005
Keywords: Belize, gap analysis
http://www.protectedareas.info/upload/document/casestudy-belizegapassessmentpublicdraft.pdf

(6) Case-study - British Virgin Islands **Actual title:** Country break out groups to integrate Master Planning Processes: BVI
Author: Anon
Summary: Summary of a discussion about application the CBD Programme of Work on Protected Areas in the Caribbean, June 2006
Keywords: British Virgin Islands, CBD, gap analysis
http://www.protectedareas.info/upload/document/britishvirginislandscountryreport.pdf

(7) Case-study - Dominican Republic **Actual title:** Dominican Republic - Country breakout
Author: Anon
Summary: Summary of a discussion about application the CBD Programme of Work on Protected Areas in the Caribbean, June 2006
Keywords: Dominican Republic, gap analysis
http://www.protectedareas.info/upload/document/dominicanrepubliccasestudy.pdf

(8) Case-study - Endemism in the Maya forest **Actual title:** Endemism in the Maya forest
Author: Jeremy Radachowsky
Summary: A report prepared by Wildlife Conservation Society for FIPA and USAID in 2002
Keywords: Maya, endemism
http://www.protectedareas.info/upload/document/endemisminthemayaforest.pdf

(9) Case-study - Gap assessment clinics in the Caribbean **Actual title:** Gap assessment group clinics (June 21 2006)
Author: Anon
Summary: Summary of a discussion about application the CBD Programme of Work on Protected Areas in the Caribbean, June 2006
Keywords: Gap assessment, Caribbean
http://www.protectedareas.info/upload/document/caribbean-stakeholdersclinicforgapassessment.pdf

(10) Case-study - Grenada **Actual title:** Grenada Protected Areas System Gap Assessment - First Workshop, March 6th & 7th, 2006
Author: James Byrne
Summary: Summary of workshop organised by The Nature Conservancy, USAID, the CBD and Government of Grenada on gap assessment
Keywords: gap analysis, Grenada
http://www.protectedareas.info/upload/document/report_1st_gap_workshop_grenada.pdf

(11) Case-study - Hawaii marine gap analysis **Actual title:** Hawaii Marine Gap Analysis
Author: Noelani Puniwai
Summary: Summary of a marine gap analysis carried out in 2005 by Hawaii Natural Heritage Programme and partners
Keywords: Hawaii, gap analysis, marine protected areas
http://www.protectedareas.info/upload/document/casestusy-hawaii.pdf

(12) Case-study - Integration of approaches in the Caribbean **Actual title:** Integration summary
Author: James Byrne
Summary: Summary of a discussion about application the CBD Programme of Work on Protected Areas in the Caribbean, June 2006
Keywords: Integration, gap analysis, Caribbean
http://www.protectedareas.info/upload/document/integrationincaribbean.pdf

(13) Case-study - Jamaica - process of selecting marine sites **Actual title:** ERP Planning framework
Author: The Nature Conservancy

Summary: Methodology for selecting marine protected areas based around the Marxan software and "common sense" method and Relative Biodiversity Index
Keywords: Jamaica, gap analysis, Marxan, marine protected areas
http://www.protectedareas.info/upload/document/jamaica-processofselectingmarinesites.pdf

(14) Case-study - Jamaica freshwater gap analysis **Actual title:** Jamaica Protected Area Gap Assessment: Freshwater
Author: K John
Summary: Draft gap analysis of freshwater habitats in Jamaica
Keywords: Jamaica, gap analysis, freshwater
http://www.protectedareas.info/upload/document/jamaicafreshwatergapanalysis.pdf

(15) Case-study - Jamaica master planning **Actual title:** Jamaica - Integration and management effectiveness
Author: Anon
Summary: Summary prepered for a meeting on implementation of the CBD Programme of Work on Protected Areas in Miami in June 2006
Keywords: Jamaica, protected areas, CBD
http://www.protectedareas.info/upload/document/jamaicamasterplanningprocess.pdf

(16) Case-study - Latin American Gaps Planning Workshop **Actual title:** Building on the Past to Secure Biodiversity's Future
Author: The Nature Conservancy
Summary: Summary of a workshop that took place in Panajachel, Guatemala, 2005
Keywords: gap analysis, Latin America, workshop
http://www.protectedareas.info/upload/document/casestudy-latinamericagapsplanningworkshop.pdf

(17) Case-study – Mexico **Actual title:** The Mexico Gap Analysis: A cooperative effort
Author: Ignacio J. March
Summary: National level gap analysis carried out by the Mexican government in cooperation with The Nature Conservancy
Keywords: gap analysis, Mexico
http://www.protectedareas.info/upload/document/casestudy-mexico.pdf

(18) Case-study - Priority areas Goias state Brazil **Actual title:** Conservacao da Biodiversidade Sustentabilidade Ambientale em Goias
Author: C. A. de M. Scaramuzza et al
Summary: Gap analysis for Goias state in Brazil
Keywords: gap analysis, Goias, Brazil
http://www.protectedareas.info/upload/document/priorityareasgoiasstatebrazil.pdf

(19) Case-study - South America priorities assessment **Actual title:** Looking for the Gaps
Author: Steffen Reichle
Summary: PowerPoint presentation from The Nature Conservancy comparing the regional priority setting for biodiversity with national gap anlayses
Keywords: SACR, Latin America, gap analysis
http://www.protectedareas.info/upload/document/southamericaprioritiesassessment.pdf

(20) Case-study - South American freshwaters **Actual title:** A Gap Analysis for South America: Threatened and Endangered Freshwater Species
Author: R. Ayllon, M.L. Thieme, and R. Abell
Summary: Summary of WWF's gap analysis if freshwaters in South America
Keywords: gap analysis, freshwater, South America
http://www.protectedareas.info/upload/document/casestudy-southamericafreshwaters.pdf

(21) Case-study – Saint Vincent and the Grenadines **Actual title:** Saint Vincent and the Grenadines Protected Areas System Gap Assessment - First Workshop, 9-10 March 2006
Author: James Byrne
Summary: Workshop organised by The Nature Conservancy, USAID, the CBD and the government to plan a gap assessment
Keywords: St Vincent and the Grenadnines, gap analysis
http://www.protectedareas.info/upload/document/report_1st_gap_workshop_svg.pdf

(22) Case-study - Turkey key biodiversity areas **Actual title:** Key biodiversity areas: Identifying the world's priority sites for conservation – lessons learned from Turkey
Author: Güven Eken, Murat Bozdoğan, Ahmet Karataş, and Yıldıray Lise
Summary: Summary of an analysis of the key biodiversity area concept as applied to Turkey
Keywords: Turkey, key biodiversity area, KBA
http://www.protectedareas.info/upload/document/casestudy-turkeykba.pdf

(23) Ecoregion plan - East African marine leaflet **Actual title:** The Eastern African Marine Ecoregion
Author: WWF and partners
Summary: 20 page leaflet summarising the biodiversity vision and conservation programme for the ecoregion
Keywords: ecoregion, marine protected areas, Africa
http://www.protectedareas.info/upload/document/ecoregionplan-eastafricanmarineleaflet.pdf

(24) Ecoregion plan - Important areas in the Bering Sea **Actual title:** Ecoregion-Based Conservation in the Bering Sea - Identifying important areas for biodiversity conservation
Author: WWF and The Nature Conservancy
Summary: Detailed descriptions of priority areas for conservation
Keywords: Bering Sea, ecoregional plan
http://www.protectedareas.info/upload/document/ecoregionplan-importantareasintheberingsea.pdf

(25) Ecoregion plan - Northern Great Plain conservation assessment summary **Actual title:** Ocean of Grass: A Conservation Assessment for Northern Great Plains
Author: Steve Forest et al
Summary: An ecoregional plan compiled by Northern Plains Conservation Network, published in 2004
Keywords: ecoregional plan, grasslands, Northern Great Plains
http://www.protectedareas.info/upload/document/ecoregionplan-northerngreatplainconservationassessmentsummary.pdf

(26) Ecoregion plan - Transfly vision process **Actual title:** A Biodiversity Vision for the TransFly
Author: WWF and the Government of Indonesia
Summary: Poster explaining the biodiversity vision for an important part of Papua

Keywords: biodiversity vision, ecoregion, Papua
http://www.protectedareas.info/upload/document/ecoregionplan-transflyvisionprocess.pdf

(27) Ecoregional plan - Arizona-New Mexico **Actual title:** Ecoregional Conservation Analysis of the Arizona-New Mexico Mountains
Author: Gary Bell et al
Summary: The Nature Conservancy's ecoregional plan for the region
Keywords: Arizona, New Mexico, ecoregion
http://www.protectedareas.info/upload/document/arizon-nwmountainsecoregion.pdf

(28) Ecoregional plan - Central Africa **Actual title:** A Vision for Biodiversity Conservation in Central Africa
Author: Kamdem-Toham, A., J. D'Amico, D. Olson, A. Blom, L.Trowbridge, N. Burgess, M. Thieme, R. Abell, R.W. Carroll, S. Gartlan, O. Langrand, R. Mikala Mussavu, D. O'Hara, and H. Strand
Summary: WWF's ecoregional action plan for Central Africa
Keywords: Central Africa, ecoregion
http://www.worldwildlife.org/wildplaces/congo/index.cfm#vision

(29) Ecoregional plan - Chihuahuan desert **Actual title:** Chihuahuan desert ecoregional plan
Author: The Nature Conservancy
Summary: Summary document outlining key elements in the ecoregional plan
Keywords: ecoregion, Chihuahuan desert

(30) Ecoregional plan – Fiji **Actual title:** Ecoregional Planning and Conservation in Fiji for a Sustainable Ocean
Author: Kesia Tabunakawai and Francis Areki
Summary: Paper from WWF South Pacific Programme
Keywords: marine protected area, ecoregion, Fiji
http://www.protectedareas.info/upload/document/ecoregionalplan-fiji.pdf

(31) Guidelines - Community conserved areas **Actual title:** Community conserved areas - a bold frontier for conservation
Author: Anon
Summary: Information sheet from WCPA, CEESP and others
Keywords: communty conserved areas
http://www.protectedareas.info/upload/document/guidelines-communityconservedareas.pdf

3. SUSTAINABLE FINANCE

3.1. Overview

35. Establishing and managing protected areas costs money. There are significant running costs associated with ensuring that protected areas are effectively protected, that local communities benefit from them and that the value of protected areas are maintained in perpetuity. Three separate studies estimated the total annual cost for effective management of the existing

protected areas in developing countries ranges from US $1.1 billion to $2.5 billion per year 2/ and the funding shortfall (total cost minus current funding) between US $1 and 1.7 billion per year. Governments are conscious of these estimated shortfalls and, in adopting the programme of work on protected areas, they called for increased financing, including external financial assistance for developing countries and countries with economies in transition. The Conference of the Parties therefore urged Parties, other Governments and funding organizations to "mobilize as a matter of urgency through different mechanisms adequate and timely financial resources for the implementation of the programme of work by developing countries, particularly in the least developed and the small island developing States amongst them, and countries with economies in transition, in accordance with Article 20 of the Convention, with special emphasis on those elements of the programme of work requiring early action" (paragraph 9 of decision VII/28). The Conference of the Parties also called on Parties and development agencies to integrate protected area objectives into their development strategies (paragraph 11 of decision VII/28).

36. **Requirement in the programme of work**: **Goal 3.4: "**To ensure financial sustainability of protected areas and national and regional systems of protected areas".

37. **Target for goal 3.4**: "By 2008, sufficient financial, technical and other resources to meet the costs to effectively implement and manage national and regional systems of protected areas are secured, including both from national and international sources, particularly to support the needs of developing countries and countries with economies in transition and small island developing States"

38. Through a diversified mix of ***conventional*** funding sources (e.g., national budgetary allocations, overseas development assistance) and ***innovative*** funding sources (e.g., payments for ecosystem services, trust funds and green taxes), countries can achieve stable and sufficient long-term financial resources to support their protected area systems.

39. ***Financial sustainability is not only about the amount of money, but also about how effectively money is spent, how well benefits are provided to local stakeholders, and other factors.***

3.2. What is financial sustainability?

40. Protected area financial sustainability may be defined as "***the ability to secure stable and sufficient long-term financial resources, and to allocate them in a timely manner and appropriate form, to cover the full costs of protected areas (direct and indirect) and to ensure that protected areas are managed effectively and efficiently***". It is clear that achieving financial sustainability will require major changes in the way that funding is conceptualised, captured and used.

41. The programme of work emphasized the need for both *national* and *international* sources of funding. Fully implementing the programme of work will undoubtedly require increased external funding (e.g., GEF, ODA) to assist developing countries and countries with economies in transition. A range of innovative national sources are starting to play an increasingly important

2/ James, A., Gaston, K., and Balmford, A. (1999). Balancing the earth's accounts. *Nature* 401: 323-324; Bruner, A., Gullison, R.E., and Balmford, A. 2004. Financial costs and shortfalls of managing and expanding protected area systems in developing countries. *Bioscience* 54:1119-1126; Vreugdenhil, D. (2003). Modelling the Financial Needs of Protected Area Systems: An Application of the Minimum Conservation System Design Tool. Paper presented at the Fifth World Parks Congress, 8-17 September 2003, Durban, South Africa.

role in meeting funding needs. Examples include fees on tourism and other resource uses, raising funds from new markets (such as carbon offsets, water, or other payments for ecosystem services), finding new donors (such as large corporations, private philanthropists, other government agencies or tax revenue-sharing), sharing costs and benefits with local stakeholders (e.g., private landholders and local communities), employing new financial tools (such as business planning), improving wider policy and market conditions (such as reforming environmentally-harmful subsidies and creating positive incentives), and devolving funding and management responsibilities (for example to NGOs, local communities, individuals or businesses).

3.2.1. Various routes towards financial sustainability

42. It is important to identify various routes to financial sustainability , as they :

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

43. Various routes towards financial sustainability *inter alia* include:

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

3.3. What is a sustainable finance plan ?

44. A sustainable finance plan is an iterative and broadly owned plan to attract sufficient and sustainable financial resources to effectively manage the protected area system. It Identifies, prioritises, and presents strategies to fill funding gaps. To date, most financial analyses and plans have been conducted at the level of individual protected areas, and there is no widely accepted methodology for **national-level financial analysis** and planning. In general, however, Parties will need to answer three questions:

- What is the current level of protected areas financing, what are its sources, what is it being spent on and how efficiently and effectively are funds being used
- Taking existing and planned protected areas into account, what are the unmet financial needs over the next decade or so?
- What is the range of options for filling the funding gap and what is the potential of each option to generate revenue for the protected area system?

45. The answers, taken together, will form the basis of country-level “sustainable financing plans”, which will likely include necessary regulatory, legislative, policy, institutional and other

measures. These financial plans will form part of the business plans (see chapter 9) developed for protected areas. Actions ideally focus on both revenue and expenditure and can consider innovative funding mechanisms including payment for environmental services. Specific steps could include:

(a) Analysis of current income and expenditures, overall financial needs, gaps and opportunity costs;

(b) Definition and quantification of protected area goods and services, potential sources of demand for such goods and services, and contributions to achievement of poverty reduction and the Millennium Development Goals;

(c) Screening and feasibility analysis of potential financial mechanisms;

(d) Elaboration of a comprehensive plan for ensuring long-term financial support for the system of protected areas.

3.4. Critical steps in development of sustainable finance plan

46. Critical steps in developing a sustainable finance plan include:

(a) System-level financial gap analysis (what does it cost to fund the system and meet conservation goals vs. what is currently funded);

(b) Assessment of the financial and administrative processes for the protected areas system;

(c) Screening of existing and new financial mechanisms;

(d) Feasibility assessment of existing and new financial mechanisms at the site and system level;

(e) Formulation of system-level financial sustainability plan;

(f) Implementation of plans at system level.

WWF develops new financial tool to manage marine protected areas.

WWF has developed a new financial model in the Mesoamerican Reef that will help improve the long-term management of important coastal and marine protected areas globally. The Mesoamerican Reef – a priority ecoregion for WWF's work worldwide – covers a large territory from the Bay Islands in the north of Honduras to the Yucatan Peninsula in Mexico, including the Guatemalan and Belizean coasts. However, natural resources in some of the area's crucial protected areas are often poorly managed.The new tool, which is aimed at all individuals and organizations working on protected areas, helps generate detailed information on the management, coordination and administrative costs of each individual protected area, as well as an entire network of coastal and marine protected areas. It collects and analyzes information on expenditures, income, projections and economic requirements for a period of ten years.In addition, the model proposes various scenarios on present and future financial prospects, which will help identify and anticipate potential funding gaps and build a business plan.

The new tool was developed by WWF as part of the global conservation organization's Large Conservation Programme Management project, with the support of the Mesoamerican Reef Fund (MAR Fund). More than 90 experts in Guatemala, Honduras, Belize and Mexico contributed to

developing the model, which has already underwent several trial runs. All the experts who supervised the trials showed great interest in the new model.

http://assets.panda.org/downloads/marfinancialmodelenglish.pdf

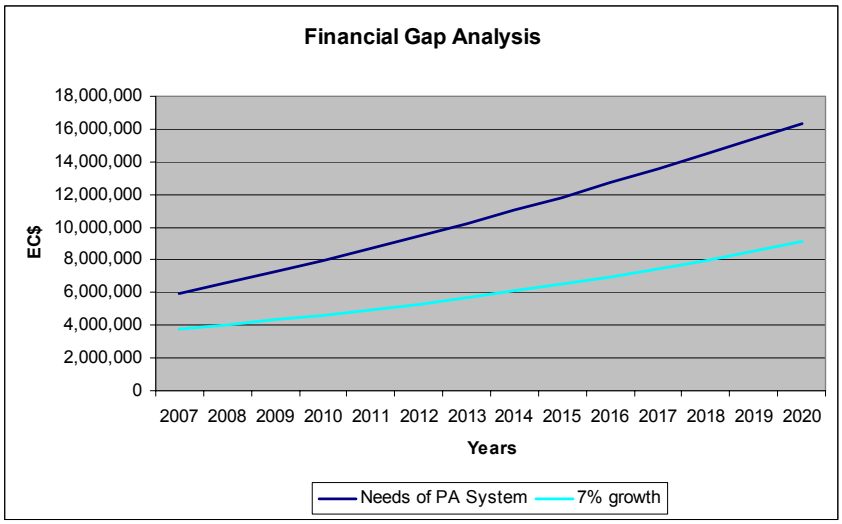
3.4.1 Key steps in PA system level financial Gap Assessment

47. Various steps in PA system gap assessment include:

- Develop cost estimates for protected area creation and management needs over 10 year time horizon (activity based costing)
- Identify existing funding sources and financial gap (needs vs. funding)
- Cost reduction
- Identify and prioritise potential new conservation finance funding mechanisms and/or sources to fill financial gap
- Identify necessary fiscal and policy reforms to implement priority conservation funding mechanisms and/or sources

48. Identify two levels of funding gaps: (i) Mission critical level of operations (ii) Optimal level

Case-study of Granada financial gap assessment:



SUSTAINABLE FINANCING AND BUSINESS PLANNING FOR PROTECTED AREAS: Examples from The Greater Virunga Landscape and Madagascar

The Africa Biodiversity Collaborative Group (ABCG) and the Conservation Finance Alliance (CFA) held a 9 June 2005 Meeting to: 1) learn from examples of economic valuation of biodiversity; 2) explore why and how to implement a process of sustainable financing for protected areas; 3) understand the linkages between protected area management and business

planning; and 4) discuss why to do business planning and how to use it for protected areas. Presenters discussed "How Much Are Uganda's Forests Worth?", presented case-studies on business planning in Rwenzori National Park in Uganda and of sustainable financing of protected areas in Madagascar, and described how the management costs for Site de Conservation in Madagascar are being determined. A roundtable discussion focused on presenting examples of other projects such as WWF's Large Conservation Management Program (LCMP) and the International Gorilla Conservation Programme's (IGCP) Study on The Economic Value of the Virunga and Bwindi Mountain Gorilla Protected Forests. To view the presentations, reference list and key weblinks, see: www.abcg.org; or go directly to: http://www.frameweb.org/ev.php?ID=12249_201&ID2=DO_TOPIC

3.4.2. Assessment of the financial and administrative processes for the protected areas system

49. This includes :

- Accounting and budgeting system
- Salaries and other benefits
- Expense categories (standardization)
- Flow of financial resources
- Administrative complexity
- Transparency (availability and access to financial information)
- Decision making and accountability
- M&E, reporting and auditing (internal and external)

50. Important considerations are :

How much is invested in the environmental sector (including biodiversity) and how much is spent ?

What percentage of the national budget is set aside for protected areas ?

How much is lost because of inefficient use of the resource?

Example from Brazil (Brazil Federal Government, 2000-04, in US $ 2005

Year	Approved allocation	Real allocation	Actual Expenditure
2000	2.98,297	3,158,915	2,070,714
2001	3,992,65	4,049,393	3,128,664
2002	4,049,552	4,109,021	1,120,167
2003	2,749,393	2,848,112	1,1120,176
2004	1,041,702	1,688,140	1,289,379
2005	2,512,079	2,483,578	

3.4.3. Screening of existing and new financial mechanisms

51. There are various existing and new financial mechanisms for protected areas and their impact, applicability and complexities are needed to be examined. Some mechanisms, which are currently in vogue for both system and site level planning are listed below. Their details are discussed in section 3.5 below:

- User fees
- Volunteers
- Adopt a park
- Merchandise and gift shop

- Collect spare currency
- Membership campaign
- Voluntary add-ons to hotel/restaurant and other bills

52. Screening of financial mechanisms should be linked to protected area goods and services with potential customers. This also links to Environmental Policy Reforms (EPR) with the following critical steps:

- Use of fiscal instruments to solve environmental problems
- Shift from policies of control and command to economic instruments
- Government improvement in the environmental sector including institutional fragmentation, transparency, accountability and auditing
- Multiple benefits

Business planning for protected areas: A case-study of Rwenzori National Park, Uganda

At the World Parks Congress in 2003, the Director of Uganda Wildlife Authority (UWA) requested that a business planning exercise be carried out in Rwenzori National Park in order to: 1) Help UWA analyze the true costs of doing business; 2) Better associate costs with implementation of general management plan; 3) Stimulate UWA to think long term about the financial aspects of park management; 4) Identify funding gaps and their impacts; and 5) Develop strategies for filling funding gaps (revenue generation).

Activities included determining income and expenditures, conducting a cost analysis, suggesting funding scenarios (actuals verses optimal), exploring revenue options such as ecotourism, environmental services such as water, branding and tie-ins, and developing partnerships. Next steps include standardizing financial reporting mechanisms within UWA to know the cost of doing business, developing standardized format for UWA business plans, working with UWA to begin exploring feasible revenue options for the Rwenzori and developing implementation plans, and undertaking business planning for the Greater Virunga Landscape parks – including the Democratic Republic of Congo. The business plan can be used to demonstrate that that UWA and partners cannot afford not to save the forest ecosystems of Uganda. See: http://www.frameweb.org/ev.php?ID=12333_201&ID2=DO_TOPIC

3.4.4. Feasibility assessment of existing and new financial mechanisms at the site and system level

53. Key elements of the feasibility assessment of existing and new financial mechanisms include:

- Description
- Assumption
- Cost / benefit analysis
- Market analysis (e.g., customers, demand, competitors, market, costs, providers, location, resources, staff)
- Policy barriers and political risk analysis / fiscal reform
- Financial analysis
- Risk analysis
- Comparative analysis

- Recommendations

3.4.5. Formulation of system-level financial sustainability plan

54. On the basis of steps 1-4 formulate system – level financial plans taking into account the following components:

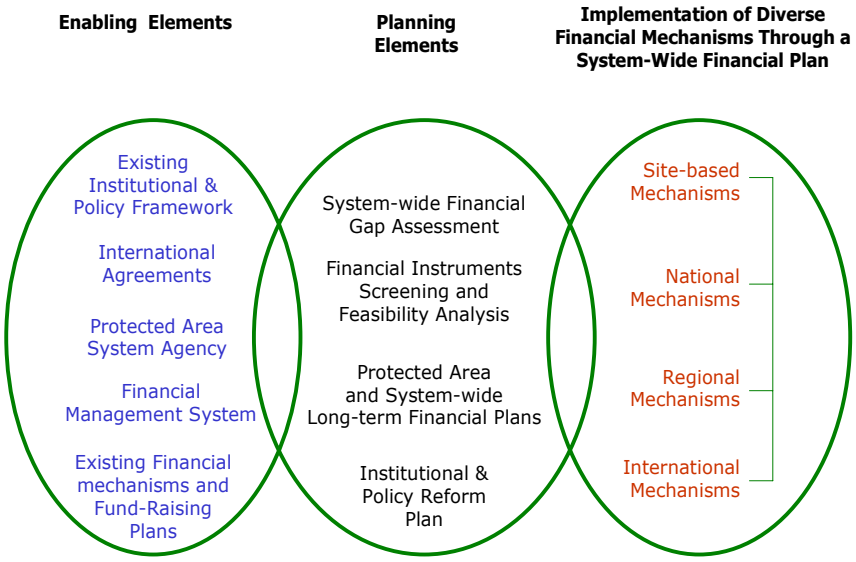
- Need – based gaps
- Revenue generation scenarios
- Cost recovery level at sites
- Return on investment analysis (including investment required)
- Fiscal policy reform facts
- Staffing plans and capacity building
- Legal and institutional aspects

3.4.6. Implementation of plans at system level

55. Various steps for the implementation of system level financial plans include:

- Step-by-step implementation strategy to improve the financial management system and supportive administrative reform;
- Step-by-step implementation strategy for each of the national financial mechanism and financial goals;
- Strategy for policy reform required to support the selected national financial mechanism;
- Overview and guide to a national communication strategy;
- Outline of system level strategic resource allocation (gap filling approach);
- Outline of system level staffing plan (dedicated staff) & responsibilities;
- Strategy and guide for measuring and effectiveness, accountability and auditing;
- Identification of cost and funding sources

System-wide Business Plan: Leveraging Through Consistent Design



3.5. Existing strategies for raising protected area financing

56. Over recent decades a wide range of protected area financing mechanisms has been developed. Extensive technical guidance on all aspects of conservation finance is available from a number of sources. These sources contain comprehensive information and decision tools on a wide range of finance mechanisms. A checklist of financing alternatives for protected areas, adapted from Pablo (2003) is presented below (box 1). A majority of these mechanisms are currently available in many countries (grants, trust funds, loans etc.). Some others are still in their early development stage (e.g. carbon sequestration, or developing systems of payments for environmental services). A few others are still conceptual but nonetheless merit consideration (e.g. an international system of payments for the global commons and a global energy tax). A detailed description of these mechanisms along with examples and case-studies are available in the resources documents mentioned earlier. In addition, a wealth of information on these mechanisms is also available in the papers presented in the "Sustainable Finance Stream: Building A Secure Financial Future" during the fifth World Parks Congress, held in Durban South Africa, in September 2003.

BOX 1. A checklist of financing mechanisms for protected areas

Mostly Public Sources:

- Public budget funding for protected areas;
- Earmarking for protected areas a percentage of one or more general taxes collected at national, state or local level;
- Special laws delivering extra- budgetary financial support to particular social groups, geographical areas or activities;
- Tax breaks or subsidies for protected areas;
- Earmarking for protected areas financing a percentage of one or more selective taxes collected at national, state or local level (e.g. taxes on energy, airports, cruise ships, hotel and resort charges and others);
- Earmarking for protected areas financing a percentage of one or more charges, fees, fines and penalties related to the use (or abuse) of natural resources (e.g. water charges, ground water charges, stumpage fees and other natural resources extraction fees, entrance and users fees, charges on emissions and feed stock, release or dumping of fertilizers, pesticides, charges to solid wastes, and environmental fines and penalties etc.);
- National, state and local development bank's loans;
- Debt-for-nature swaps;
- Environmental funds (endowments, sinking and revolving funds);
- Multilateral aid and development agencies;
- International development bank's loans;
- Bilateral aid and development agencies.

Mostly private for non-profit sources

- Community self-support groups and other forms of social capital;
- Secular and faith based charities;
- Special fund-raising campaigns (e.g. save panda, friends of national park etc);
- Merchandising and good cause marketing;
- Lotteries;
- Social and environmental NGOs;
- Foundations.

Mostly private for –profit sources

- Community based enterprises, formal and informal;
- Private investment by local business;

- Commercial bank loans; - Direct investment by non-local investors (e.g. ecotourism); - Private public partnerships; - Private community partnership; - Venture capital; - Portfolio investors (green funds).
Mostly payments for environmental products - Markets for organic agriculture products; - Markets for sustainbly harvested non timber forest products; - Markets for certified forest products; - Markets for certified fishery products; - Resource extraction charges.
Mostly payments for environmental services - Markets for biodiversity conservation and bioprospecting; - Markets for carbon offsets; - Markets for watershed protection; - Markets for landscape beauty, including eco-tourism and tourism; - Markets for development rights and conservation easements; - Quasi-markets and non-market systems of payments for environmental services; - Use fees and entry fees; - Funds for protected areas associated with international treaties; - GEF payments for the global commons; - Earmarking for protected areas, part of one or more international taxes.
Mostly reducing the need for additional financing - Freeing up existing public resources (e.g., redirecting money from harmful public subsidies to protected area); - Encouraging the mobilization of private resources (e.g. securing tenure, promotion, regulation streamlining).

57. The relative strengths and weaknesses of some of these mechanisms are summarized in table 1.

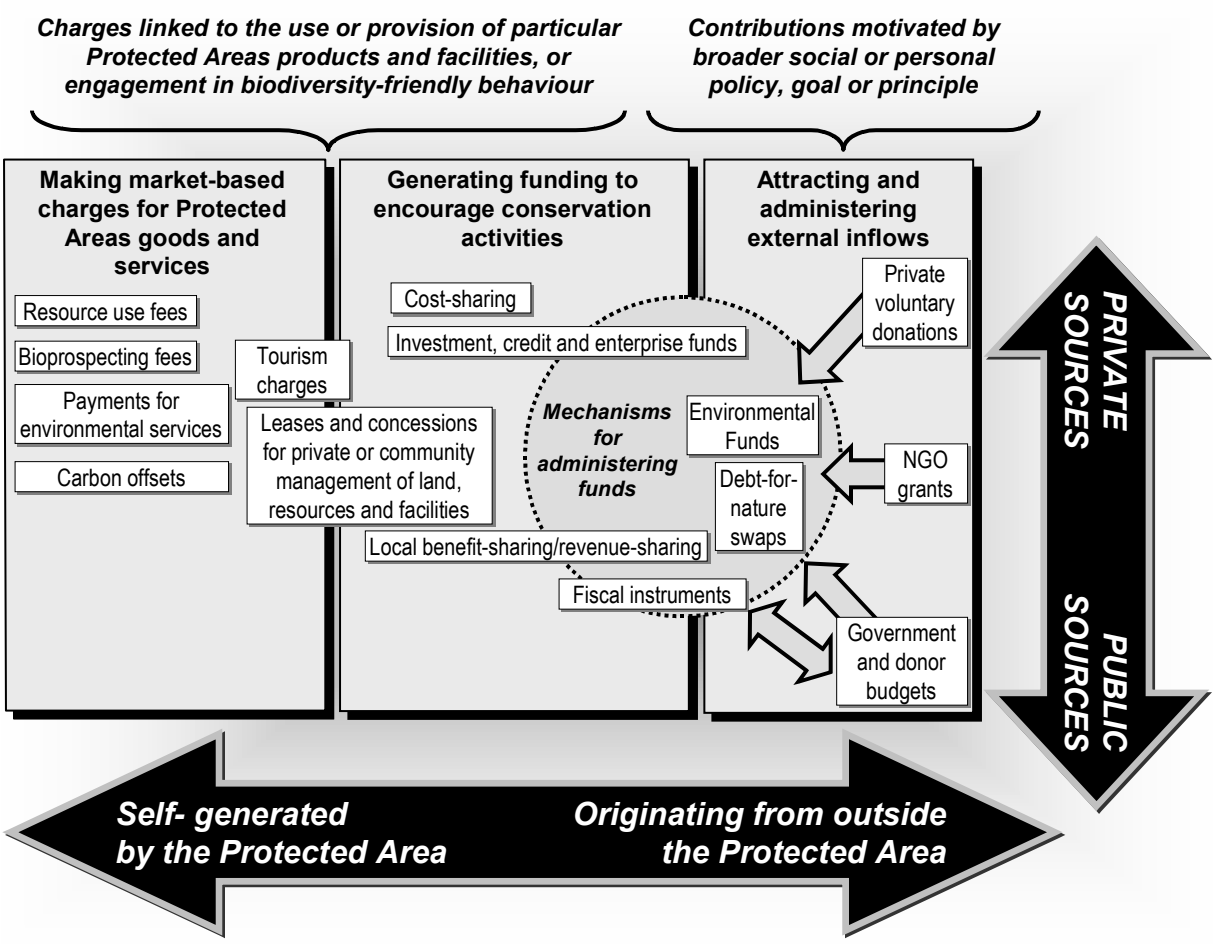
Table 1. Strategies for Financing Protected Areas: Advantages and Disadvantages (Source: Spergel 2001)

Strategy	Advantages	Disadvantages
***Government Funding*:** direct governmental budget allocations to support protected areas	Government funding may be more sustainable than private or international donors because the priorities of outside funders may shift, and frequently they do not provide long-term funding Increased government support can demonstrate that conservation is an important national priority rather than simply the concern of private organizations	Government funding may be vulnerable to shifts in national spending priorities and to across-the-board budget cuts in times of economic crisis Political patronage and political agendas may guide decisions that should be based on conservation criteria
***Grants*:** donations from individuals, foundations, the private sector and international donor agencies	There is a vast network of donors that are often interested in making a significant impact in an individual park or through a specific project	Donors often shift their priorities and frequently provide only short-term support Parks can find themselves managing projects for objectives determined by

Strategy	Advantages	Disadvantages
		donors, rather than for the objectives or best interests of the park
Debt-for-nature swaps: agreements whereby national debt is forgiven by banks or purchased by conservation organizations in exchange for the debtor country "repaying" the cancelled debt by spending local currency on conservation programmes	Swaps offer a way for conservation organizations and international donor agencies to leverage their funds and finance a much greater number of conservation activities in the debtor country. Swaps offer a way for developing country governments to reduce their international debt by using local currency to fund worthy projects inside the country, rather than sending scarce hard currency out of the country to repay creditors	Swaps may be extremely complex to execute and may require the involvement of technical experts from multiple government agencies The financial leverage achieved by a swap may be eroded by subsequent local currency devaluation or inflation. The problem can be mitigated if the debtor government links local currency payments to the US dollar or some other external standard
Conservation trust funds: money or other property that (a) can only be used for a specified purpose or purposes (in this case specified conservation purposes), (b) must be kept separate from other sources of money, and (c) is managed and controlled by an independent board of directors	Can provide sustained, long-term funding for protected areas Are a way of channeling large international grants into many small local grants, and extending the lifetime of the grant over a longer period Can be used to strengthen "civil society" by appointing NGO and private sector representatives to the board and giving them equal power as government representatives	May have high administrative costs, especially if the fund's capital is relatively small or if the fund provides substantial technical assistance to grantees in designing and implementing projects May generate low or unpredictable investment returns, especially in the short term, if they do not have a well-conceived investment strategy
User fees, taxes, and other charges earmarked for protected areas: fees such as entry fees to parks, recreational permit fees, surcharges on airports, cruise ships and hotel rooms, fees and royalties to extraction industries, taxes on pollution, and watershed conservation fees, among others	The various taxes and fees can generate large amounts of money from previously untapped sources The "user pays" principle and the "polluter pays" principle are widely recognized as fair ways of apportioning costs for protecting the environment	It may be politically difficult to charge fees for use of what was previously treated as a free public resource. The income from many kinds of user fees and earmarked revenues can unexpectedly decline. Tourist numbers may suddenly drop as a result of domestic or international, political or economic crises. Fees for natural resource extraction and payment for environmental services may decline if the resource dries up or if the resource price drops User fees are an effective conservation tool only if they are specifically earmarked for protected areas. Otherwise, governments may be tempted to spend the revenue from user fees and tourism taxes for other purposes

58. In a recent study, IUCN 3/ categorized protected area funding mechanisms on a spectrum from public to private sources, and between those, which rely on external inflows and self-generated revenues. A typology of protected area financing mechanisms is depicted below:

Figure 1: A typology of protected area funding mechanisms (Source, IUCN 2006)



59. These three categories include a range of financing mechanisms, which can be grouped according to how funds are primarily raised and used:

(a) Financing mechanisms, which are concerned with attracting and administering external flows, include government and donor budgets, NGO grants and private and voluntary donations, from both international and domestic sources.

(b) Cost-sharing and benefit-sharing, investment and enterprise funds, fiscal instruments and arrangements for private or community management of protected-area land, resources and facilities are primarily mechanisms for generating funding to encourage conservation activities among the groups who use or impact on protected areas.

(c) Resource use fees, tourism charges and payments for environmental services all make market-based charges for protected area goods and services.

3/ IUCN 2006 Emerton, L., Bishop,J. and Thomas, L. Sustainable Financing of Protected Areas: A global review of challenges and options. IUCN, Gland, Switzerland and Cambridge,UK..

60. IUCN described these mechanisms focusing on their current status, obstacles and opportunities for their use, future potential and challenges to be addressed, using case-studies. Conclusions of this study are summarized in tables 2, 3 and 4.

Table 2: Mechanisms for attracting and administering external inflows: status, potential and needs (Source IUCN 2006)

Mechanisms	**Status**	**Main potential**	**Needs and actions required**
Domestic government budgets and foreign assistance	Remain a core component of PA funding. Some evidence that overall amounts of funds declining. Major reorientation to poverty reduction and sustainable development goals. Alone, are note enough: need additional financing mechanisms	Existing flows can be maintained or increased. Important as source of direct budgetary support for PA agencies. New opportunities for PA funding through sustainable development and poverty reduction windows	Continuing focus on core commitments and obligations to fund PAs Reorientation of PA funding in line with sustainable development and poverty reduction goals Increasing awareness among development and conservation decision-makers of PA-development links
Private voluntary donations	An important, although rarely major, source of overall PA funding. Can be critical at the level of individual PAs, species or conservation goals. Increased interest in PAs from the corporate sector	Continuing support to PA funding, especially at micro-level. Potential for increasing corporate sponsorship and funding	Need to sustain and increase public interest in PA concerns Increasing interaction with private sector Development of new approaches and marketing of PA causes
Debt for nature swaps and environmental funds	A major source of finance for PAs through the 1980s and 1990s Have declined in popularity and are less common now	Can provide substantial and secure amounts of funding overall, and for individual PAs Important as source of direct budgetary support for PA agencies. New opportunities for PA funding through sustainable development and poverty reduction windows	Reorientation of PA funding in line with sustainable development and poverty reduction goals Convincing donors to release large amounts of funds and devolve decision-making to fund managers Convincing PA agencies to invest funds for the future

Table 3: Mechanisms for generating funding to encourage conservation activities: status, potential and needs (Source IUCN 2006)

Mechanisms	**Status**	**Main potential**	**Needs and actions required**
Fiscal instruments	Traditionally not applied to conservation goals or environmental sectors Increasing use for protected areas both to raise funds and to change consumer and producer behaviour	Source of budgetary revenues and funding transfer mechanism to producers and consumers. Substantial potential to apply to protected areas Opportunities to increase their use as funding and motivational tools	Factoring protected areas into broader fiscal systems Strengthening priority accorded to protected areas by economic planners Enhancing awareness among conservation decision-makers about potential to raise funds and change behaviour
Benefit-sharing and revenue-sharing	Now recognized as integral component of protected area management and funding Not usually accorded primary priority in use of protected area budgets	Major potential to offset local opportunity cost Growing need to balance rising local pressure on protected area lands and resources	Reinforcing importance of integrating local funding into protected area financing strategies Increasing availability of local funding. Tapping into development finance sources. Improving the form in which benefits and revenues are shared
Cost-sharing	Recent rise in use. Traditional focus on government as sole managers and funders of protected areas	Large potential to meet cash flow and finance gaps in individual protected areas, and to take burden off government budgets. Untapped potential to solicit voluntary and mandatory cost-sharing by private sector and NGOs	Encouraging protected area managers to devolve responsibility and funding monopoly. Making cost-sharing mandatory in some cases. Responding to willingness and ability of other groups to share in costs. Defining reciprocal rights and responsibilities. Developing supportive regulations and legislation
Investment, credit and enterprise funds	Becoming available to small to medium size organisations with a pro conservation charter although protected area management agencies would not normally	Potential lies mostly with community based organizations wishing to provide services to protected area visitors on a for profit basis.	Loan funds need to be repaid from profits and hence sound business principles must be followed.

Mechanisms	Status	Main potential	Needs and actions required
	have access to these funds	The application of business principles to capital projects within protected area agencies represents a step towards sustainable financing of the protected area.	

Table 4: Mechanisms for market – based charges for protected area goods and services: status, potential and needs (Source IUCN 2006)

Mechanisms	Status	Main potential	Needs and actions required
Tourist charges	Remain a core component of protected area funding. Demand for nature-based tourism growing	Opportunities to improve extent to which recover costs of providing facilities, and reflect visitor willingness to pay Potential to diversify tourist markets and services offered Can be used to manage demand between protected area sites	Improved calculation of prices and charges Investment required to develop facilities Additional expertise often required to market and operate facilities
Resource use fees	Remain a core component of protected area funding. Diversification of products and extractive activities which are carried out in protected areas	Prices still need to be improved in line with economic values Remaining potential to diversify markets and charges for protected area products Support a range of secondary or value-added industries	Better calculation of prices and charges Improvements in institutional capacity, and clarification of role of different agencies, in setting and collecting prices often required Needs to integrate ecological sustainability concerns into extractive use regimes
Payment for environmental services	Relatively new financing mechanism, whose use has grown considerably over recent years	Provide opportunity to generate revenues from non-extractive management regimes Can act as effective scheme for compensating landholders for biodiversity conservation	Development of supportive policy and legislative frameworks Require improved methodologies for collecting and analysing data to demonstrate biophysical linkages, set prices, monitor impacts

61. Thus, there is a wide range of mechanisms with considerable potential for raising protected area finances. There however remains the question of whether they will be sufficient enough to generate adequate and long-tern financing for implementing the programme of work? To a large extent, the majority of these approaches are yet to be institutionalized. There is a need to gather and disseminate information on lessons learnt, experiences, opportunities and constraints. Investments in building capacity (for using different strategies described) and organization of training workshops to implement conservation finance initiatives should therefore be a high priority for donors, Governments, and international conservation organizations.

62. To date, protected area financial strategies have mainly focused on the establishment of a variety of financial mechanisms, which in many cases have limited financial analysis and insufficient policy backup. However, there are many financing mechanisms that have been successful . Furthermore, the links of financial strategies to protected areas management plans are often weak. Although financial plans normally include income, expenditure and gap analyses, and financial projections and fundraising plans (targeting traditional international donors), they often fail to assess the performance of existing financial instruments. Additionally, conventional financial plans lack business-oriented approaches in which different financial instruments (site-based, national, regional and international) are combined. Consequently, with few exceptions, the great majority of protected areas are seriously under funded. Better design and business approaches to protected area financial management are required urgently.

Sustainable financing: A case-study of protected areas in Madagascar

Madagascar President Marc Ravalomanana announced his "Durban Vision" at the World Parks Congress to triple protected area coverage to increase protected areas from 1.7 million ha to 6.0 million ha. The process has involved setting up the regulatory framework and institutions, consolidation and scaling-up, and mainstreaming and sustainability, such as sustainable financing. A typology of financing instruments include: 1) special instruments such as trust funds, debts swaps; 2) tourism-related fees, concessions or taxes; 3) sector-based environmental fees; 4) ecological payments for environmental services; and 5) private sector investments. A feasibility analysis was conducted to determine priorities. A strategic framework looked at public funds and specific mechanisms such as trust funds, HPIC, and debt conversion. Potential fees from the tourism sector were assessed (e.g. park fees, concessions, diving, and cruises as were taxes from extractive industries such as mining, oil, fisheries, and bioprospecting). Private sector mobilization for grants or loans and environmental services from watersheds and carbon sequestration were also evaluated.

In September 2001, the Malagasy Minister of Environment set up a Trust Fund "to contribute to the funding of biodiversity and protected areas conservation in Madagascar" which includes 7 members from the National Park Service (ANGAP), Sustainable Financing Commission, banking, legal and private sectors, and, national and international NGOs. Funding was secured from Conservation International, WWF, BMZ/KfW (Germany), the Malagasy Government, World Bank, and Global Environment Facility. Contributions from the private sector are also being discussed. Based on the experience in Madagascar to mobilize public financing for the environment, the following was found: Full costing of the environmental strategy remains to be completed and extended to take into account the implementation of the "Durban Vision". The treatment of the environmental sector in the government's budget is not transparent and prevents effective reviews of public expenditure in the sector: 1) the relations between the budget and executing agencies of the environmental policy are not apparent; and 2) foreign-financed projects include large amounts of current expenditure that are recorded in investment under the current economic classification of expenditure. Sustainable financing of the environment and biodiversity conservation should be treated as a global issue of public finance and budgetary

policy, not an issue of tax policy. Lessons learned include the role of : 1) Leadership – President, ministry of environment, NGOs, and donors; 2) Environment sector, a multi-donor secretariat, and partnerships; 3) Formalizing the dialogue on sustainable financing, with mandate from the minister of environment; 4) Collaboration between the ministry of finance and environment; 5) Developing economic justifications to "sell"/explain the environment to public finance ministries (e.g. biodiversity conservation contributes to poverty alleviation); 6) Developing proper costing projections – protected areas and foundation, early on; 7) Building one success first, then another… success breeds success.
See: http://www.frameweb.org/ev.php?ID=12335_201&ID2=DO_TOPIC

Estimating management costs: A case-study of "Site de Conservation" in Madagascar
What is the cost of tripling the protected area system in Madagascar? Within a given country, the size of a protected area is the most important indicator of its cost (Balmford et al 2002, 2003). The model developed estimation of the appropriate area to cost/area regression and the expected sizes of the future Site de Conservation in Madagascar. Data was collected on: 1) the annual costs that the l'Association Nationale pour la Gestion des Aires Protégées (ANGAP) have budgeted for the next five years; 2) an analysis of ANGAP's 2005 budget by activity; 3) modification for off-site or fixed administrative costs. Administrative and site costs were divided into three categories: 1) those sites that will be managed or at least overseen nationally; 2) those that will be managed at the provincial or regional level, and 3) those that will be managed only at the local level. Results for both high cost and low cost terrestrial and marine protected areas were analyzed. The findings provide a range of costs with the higher range probable during start-up and early operating phases with decreases over time. Marginal costs for newer Site de Conservation may prove higher as larger areas are unlikely to be available. Marine protected areas, if all brought on line, will contribute significantly to costs. (The costs reported in the analysis do not include the existing ANGAP requirements – these are additional.) Significant increase in annual conservation financing requirements that Madagascar and the global community need to be financed. Final costs will be rationalized through the business planning process. See: http://www.frameweb.org/ev.php?ID=12337_201&ID2=DO_TOPIC

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4. MANAGEMENT EFFECTIVENESS

63. **Requirement in the Programme of Work: : Goal 4.2 - To evaluate and improve the effectiveness of protected areas management**

Target: By 2010, frameworks for monitoring, evaluating and reporting protected areas management effectiveness at sites, national and regional systems, and transboundary protected area levels adopted and implemented by Parties.

Suggested activities of the Parties

4.2.1 Develop and adopt, by 2006, appropriate methods, standards, criteria and indicators for evaluating the effectiveness of protected area management and governance, and set up a related database, taking into account the IUCN-WCPA Framework for evaluating management effectiveness, and other relevant methodologies, which should be adapted to local conditions.

4.2.2 Implement management effectiveness evaluations of at least 30 percent of each Party's protected areas by 2010 and of national protected area systems and, as appropriate, ecological networks.

4.2.3 Include information resulting from evaluation of protected areas management effectiveness in national reports under the Convention on Biological Diversity.

4.2.4 Implement key recommendations arising from site- and system-level management effectiveness evaluations, as an integral part of adaptive management strategies

The following account on management effectiveness is mostly taken from: (i) *Evaluating Effectiveness: a Framework for Assessing Management Effectiveness of Protected Areas* 2nd edition, IUCN WCPA and University of Queensland, Gland Switzerland and Brisbane, Australia, by Hockings, M, S Stolton, F Leverington, N Dudley and J Corrau (2006) and (ii) from the presentations of Jamison Ervin of TheNature Conservancy for the Caribbean workshops.

4.1 What is management-effectiveness evaluation?

64. The evaluation of **management** effectiveness is generally achieved by the **assessment** of series of criteria (represented by carefully selected **indicators**) against agreed objectives or **standards**. Management effectiveness evaluation is defined as the assessment of how well protected areas are being managed – primarily the extent to which management is protecting values and achieving goals and objectives. The term management effectiveness reflects three main 'themes' in protected area management:

- Design issues relating to both individual sites and protected area systems;
- Adequacy and appropriateness of management systems and processes;
- Delivery of protected area objectives including conservation of values.

65. IUCN- WCPA has developed a management effectiveness evaluation framework which provides a consistent basis for designing evaluation systems for protected areas. Components of the IUCN framework include design of systems and individual protected areas (context and planning), appropriateness of management systems and processes (inputs and processes), and delivery of protected area objectives (outputs and outcomes). These components are divided into six elements, elaborated below, each comprising a number of evaluation indicators to assess management effectiveness.

66. Assessment needs to be made in the **context** of the protected area, so first assessments need to gather data on issues relating to the areas values, threats and opportunities, stakeholders, and the management and political context. Management starts with **planning** of strategies needed to fulfil the vision, goals and objectives of protection and to reduce threats. To put these plans in place and meet management objectives, managers need **inputs** (resources) of staff, money and equipment. Management activities are implemented according to accepted **processes** (i.e. best practices); which produce **outputs** by completing activities outlined in work plans. The end result of management is the achievement of **outcomes**, i.e. reaching the goals and objectives set for the biological conservation, economic development, social sustainability or cultural heritage of the protected area.

Design and issues

Context: Assessment of importance, threats and policy/cultural environment

67. The context review, although not an analysis of management, helps managers put their decisions in context and helps prioritise action based on biological, cultural and political information. The context assessment can help managers answer the following questions:

- Why is the protected area important?
- What are the threats facing the protected area?
- Is the government supportive of the protected area?
- What is the role and effect of stakeholders on protected area management?

Planning: Assessment of protected area design and planning

68. The assessment of management planning draws from the findings of the context assessment, Planning involves understanding the direction and objectives of management and deciding on the strategies that are required to achieve these, within the context of the protected area's status and characteristics. The planning assessment can therefore help managers to answer three questions:

- Is the legal status and tenure of the protected area is clear?
- How do the protected area's characteristics (e.g. size and shape) influence management?
- Is there an adequate management planning process?

Appropriateness of management systems and processes

Inputs: Assessment of resources needed to carry out protected area management

69. Allocating funds and staff time and developing infrastructure to fulfil management needs should be linked to and, in large part, directed by planning decisions. Although protected area management plans rarely provide specific commitments of funds and staff, they establish the basis for short-term or annual operational planning in which decisions about allocation of resources (budgets) are made. An assessment of resources allows managers to identify shortfalls in staff, funds and equipment in relation to planned activities. Assessment considers the resources required for effective management, measures these against what is available and looks at the effectiveness of resource use. The assessment thus has to address two important questions:

- Has the protected area got the resources needed to meet its management objectives?
- Are resources used in the best way?

Processes: Assessment of the way in which management is conducted

70. The use of the best possible management practices is essential for effective protected area site or system management. Assessment can show if best practice is being applied in day-to-day management and if management practices can be or need to be improved. The process assessment asks:

- Are agreed policies and procedures for management in place?
- Are the best systems and standards of management being followed?
- How can the management practices be improved?

Delivery of protected area objectives

Outputs: Assessment of the implementation of management programmes, actions and services

71. The results of management activity can be considered in two ways – the outputs and outcomes. First, there are the direct outputs produced by management, which usually consist of a set of products or services (e.g. an area of controlled burn, number of invasive species eradicated, length of track maintained, numbers of guided walks conducted or numbers of anti-poaching patrols). The output assessment looks at what managers and their staff have been doing and whether the targets set in management plans or annual work programmes have been met. An output assessment therefore asks questions such as:

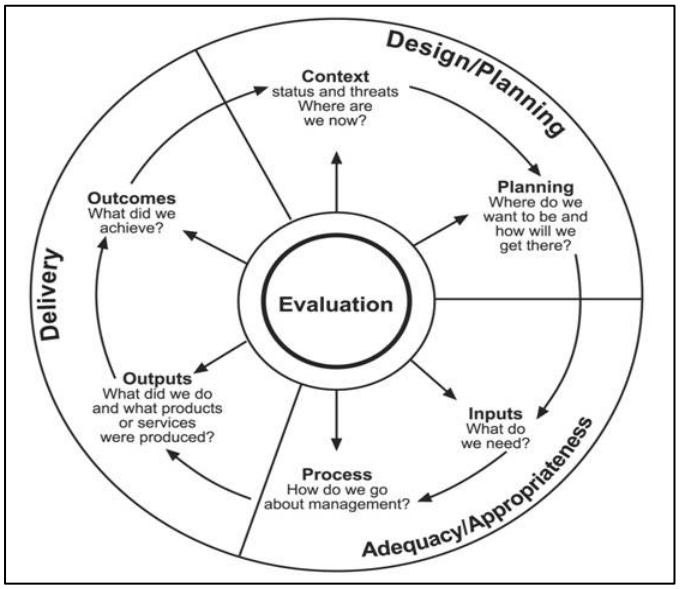
- Has the the number or level of products and services been delivered?
- Have planned actions, tasks and strategies been implemented?

Outcomes: Assessment of the extent to which objectives have been achieved

72. The outcome assessment considers impacts of management on the broad objectives set for the protected area. It looks beyond the implementation of immediate management activities (i.e. the outputs) to the longer term success of the protected area by attempting to answer the question:

- Has management resulted in the achievement of the objectives of, and desired outcomes for, the protected area?

73. Approaches to outcome evaluation ideally involve long-term monitoring of the condition of the biological and cultural resources of the system/site, socio-economic aspects of use and the impacts of the management on local communities. **In the final analysis, outcome evaluation is the true test of management effectiveness**. Even if other aspects of management are highly effective, a protected area will clearly not be effective if it loses its core values.

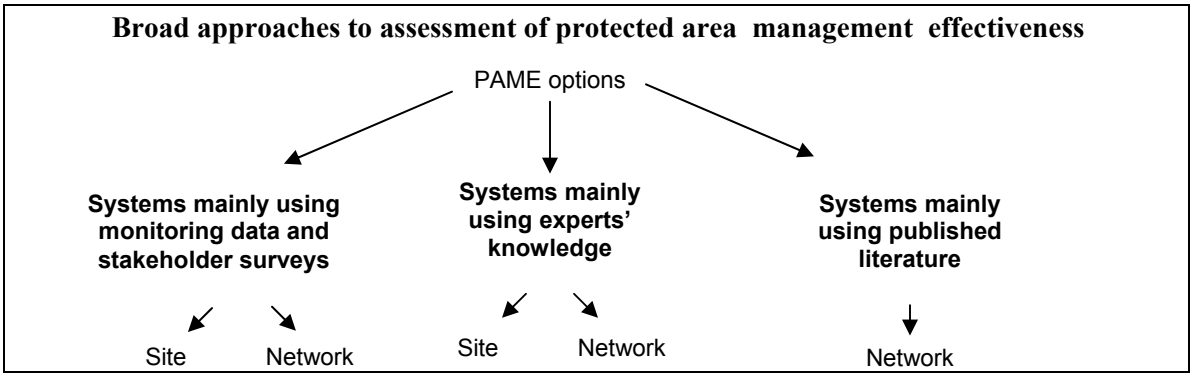


Summary of the IUCN-WCPA Framework for assessing management effectiveness of protected areas and protected area systems

	Design		Appropriateness / Adequacy		Delivery	
Element	**Context**	**Planning**	**Inputs**	**Process**	**Outputs**	**Outcomes**
Evaluation focus	Importance, threats and policy/cultural environment	Design and planning	Adequacy of resources needed to manage	How management is conducted	Implementation of management programmes and actions	Extent to which objectives have been achieved
Criteria that are assessed	- Values - Threats - Vulnerability - Stakeholders - National context	- Protected area legislation and policy - Protected area or system design - Management planning	- Resources available for management	- Suitability of management processes	- Results of management actions	- Effects of management in relation to objectives

4.2 Approaches

74. Since the development of WCPA framework in 2000, technical experience increased rapidly resulting in a range of assessment systems based upon the framework. There are now three basic approaches: (i) **in-depth, evidence based** assessments aimed at building monitoring systems and long-term understanding of management in an individual protected area, such as the Enhancing our Heritage system being developed for World Heritage sites; (ii) **system-wide peer-based** assessment developed specifically for use on a system-wide scale such as the WWF RAPPAM system and the systems developed in Finland, Catalonia (Spain) and New South Wales (Australia); (iii) **scorecard expert–based assessments** quicker site-level systems built around questionnaires or scoring, aimed at being applied in multiple sites, such as the World Bank/WWF tracking tool



Summary matrix comparing different features of three main PAME approaches

	Monitoring data and stakeholder interview	**Expert knowledge**	**Literature based**
Participation	Very high levels of interaction with all levels of protected area staff and stakeholders and partners	Moderate to low levels of interaction with field staff, stakeholders, and policy-level staff	Low levels of interaction with field staff; minimal engagement with policy-level staff only
Baseline for assessing performance	Baseline set by specific and measurable scores that are related to past and future performance indicators	Baseline set by consensus during workshop or pre-determined categories of performance	Baseline set by pre-determined categories of performance
Resources: financial and staff time	Involves a considerable investment of staff time and resources to develop system	Moderate to low investment needed depending on expenses involved in staff involvement in workshop or meeting	Very low, involving some core staff time and communication costs with PA policy staff
General objective of the assessment	Best for developing specific thresholds and benchmarks for monitoring all elements of individual site or system management	Best for identifying network wide threats, weaknesses, geographic and strategic priorities, and policy-level interventions ***or*** developing a snapshot of performance and tracking management effectiveness over time	Best for prioritising broad categories and geographies for investment at a programmatic level; best when used with other assessment types
Degree of confidence in results	High – generally results are tied to specific, objectives, measurable and repeatable indicators	Moderate – if results are broadly peer reviewed by protected area experts and staff to low if based on opinions of single respondent, with low levels of verification	Relatively low as results are based on discussions with protected area policy-level staff and literature reviews

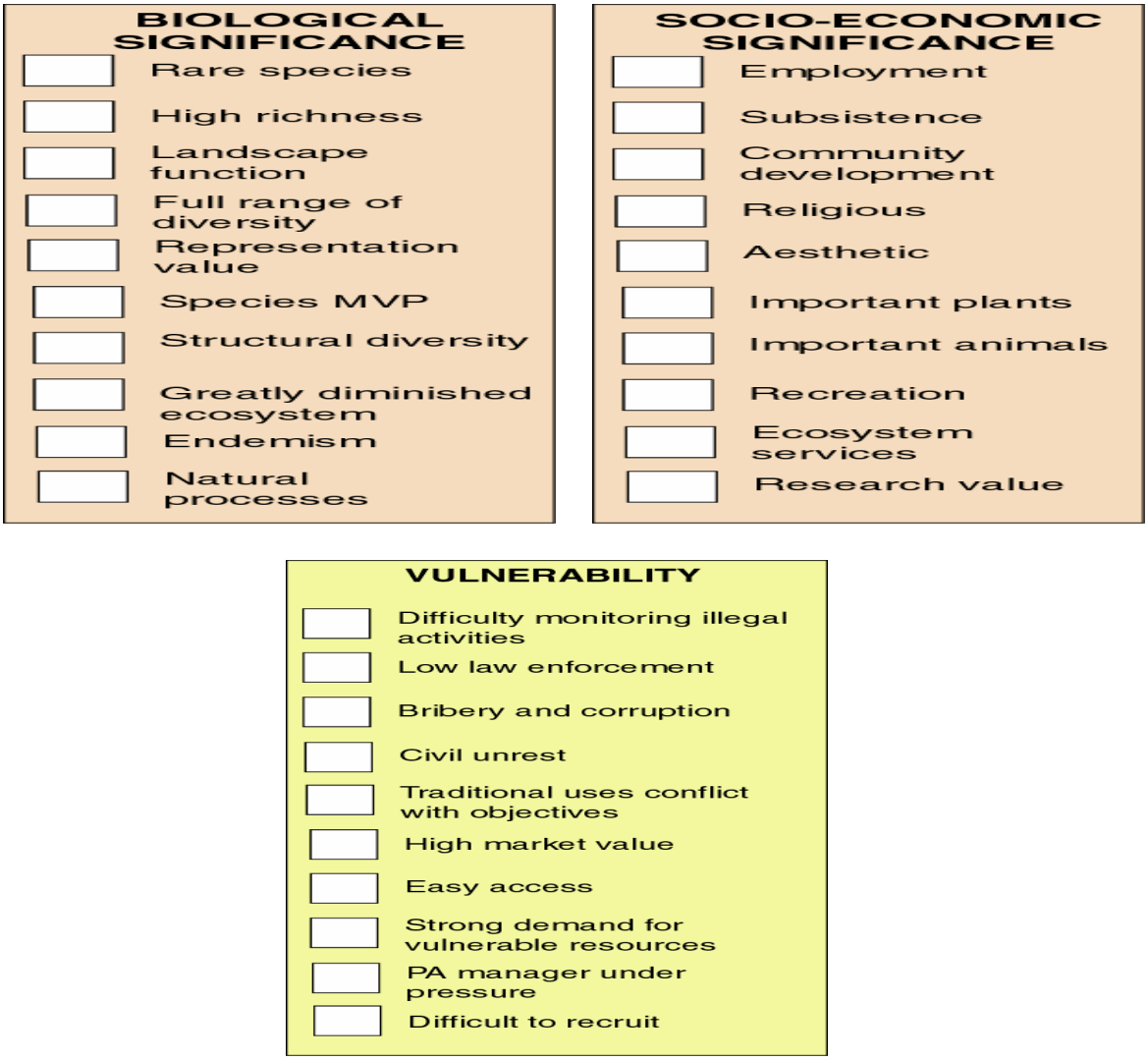
77. There are four major steps in assessing protected area management effectiveness: **(i) getting started; (ii) gathering data; (iii) analysing results; and (iv) integrating into capacity assessments.**

4.3. Getting started

75. Important considerations for getting started include (i) **who** – setting up an organizing committee consisting of key agency staff, NGOs, donors and local people, who have detailed knowledge about policies, field level conditions and interagency dynamics as well as organizational, communication, facilitation and analytical skills (ii) **Where** – the scope of assessment, either an entire system or an individual protected area. (iii) **how-** gathering information through workshops, direct interviews using questionnaires based on WCPA framework. For example WWF- RAPPM questionnaire contain more than 100 questions and relies on qualitative scoring by workshop participants.

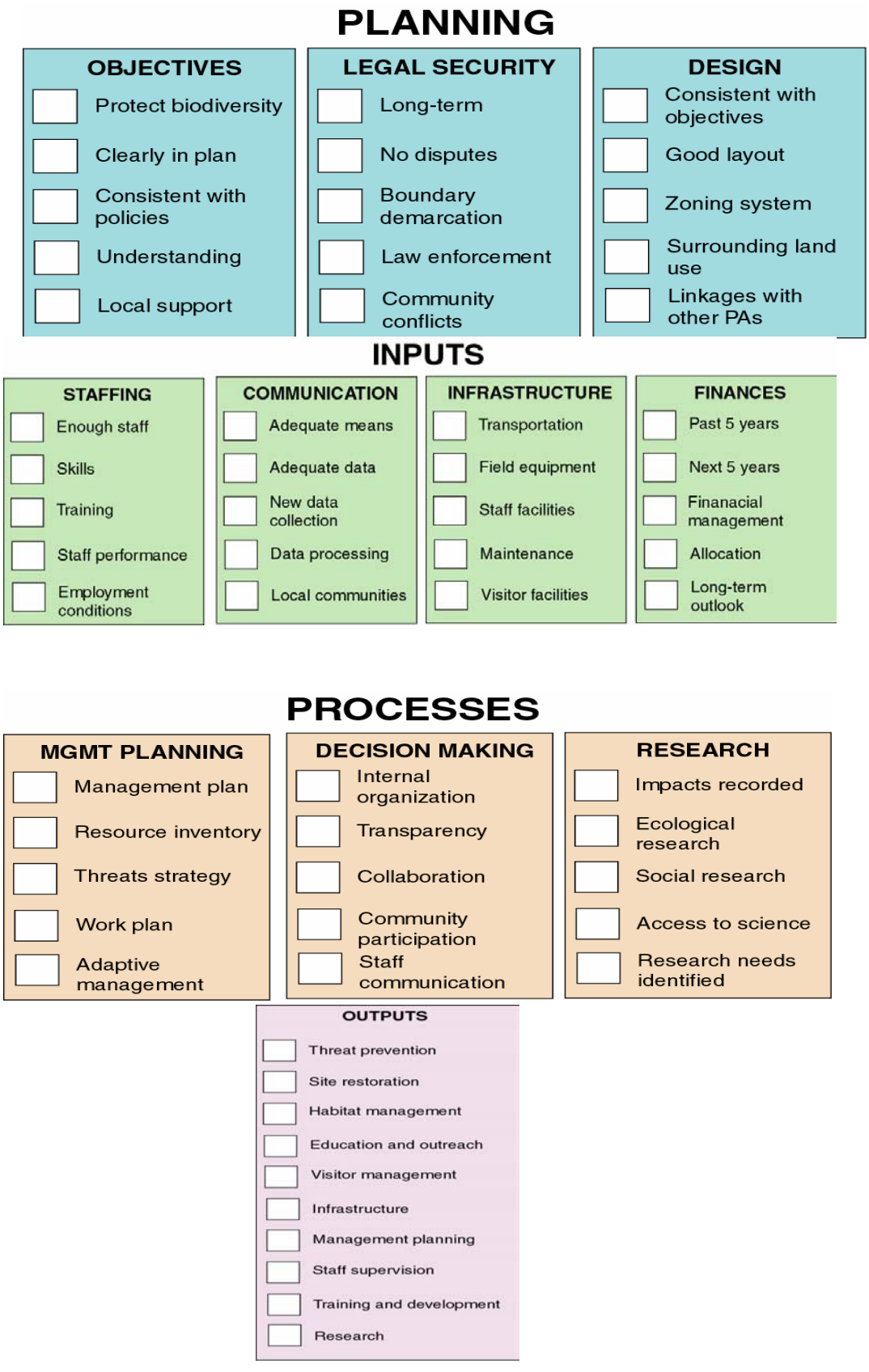
4.3. Gathering data

76. This includes four parameters of information collection: **(i) significance and vulnerability gathering-**

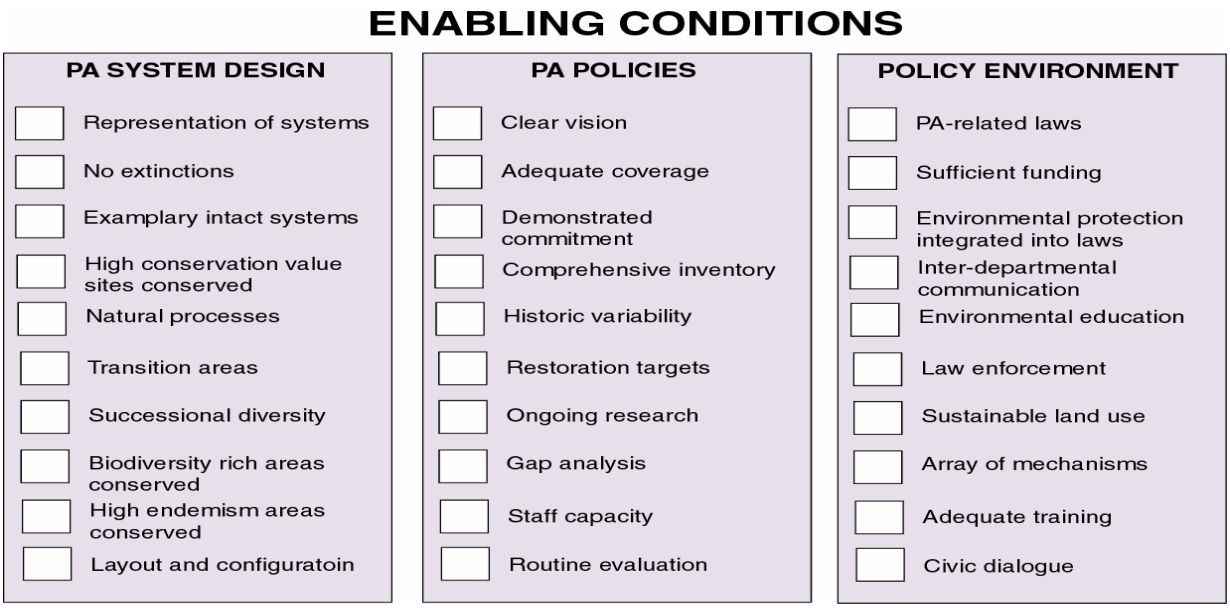


(ii) Threats and pressures include **:** Any human activity that impairs biodiversity; Applies to **existing** and **future** threats; scored by extent, severity and permanence (1-64); and can incorporate multiple data sources;

(iii) Management elements

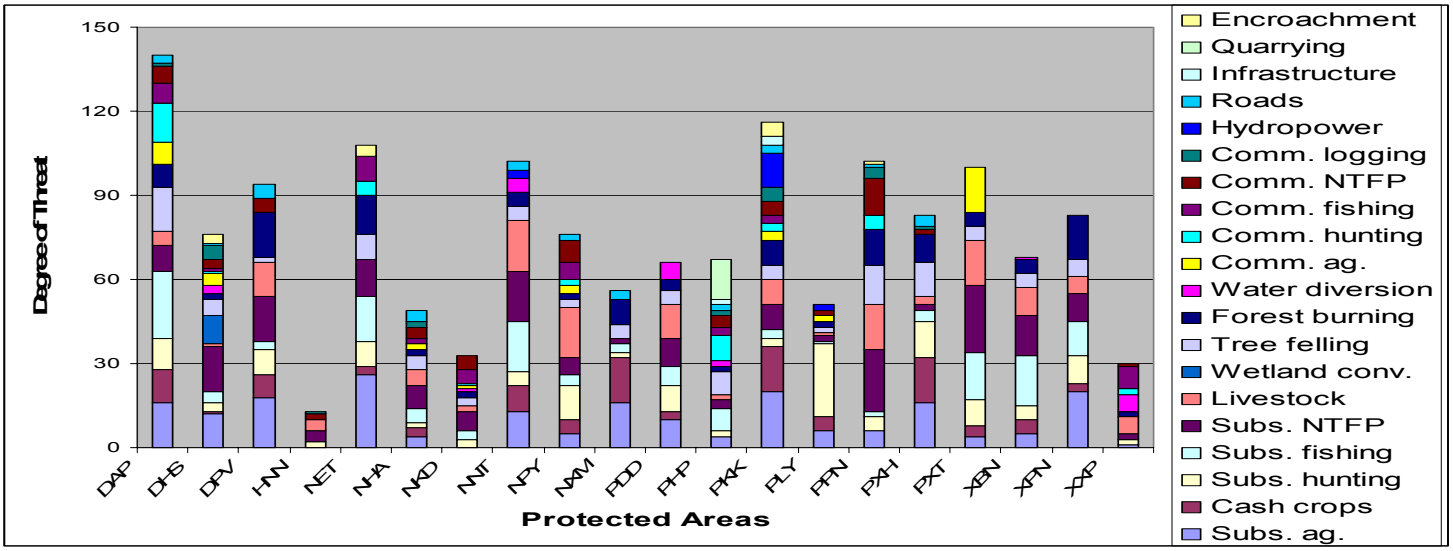


(iv) System – wide enabling environment



4.4 Analysing data

77. This includes: (i) management elements (ii) threats and pressures, and (iii) cross – cutting analyses. Management elements in turn consist of: (i) identifying broad trends, (ii) identifying specific weaknesses, (iii) identifying themes. Threats and pressures includes (i) analyzing single threat, (ii) comparing threats, (iii) comparing threats across protected areas, and (iv) comparing vulnerability. Cross-cutting analysis includes (i) understanding threat and significance; and (ii) understanding the relationship between effectiveness, threat and significance.

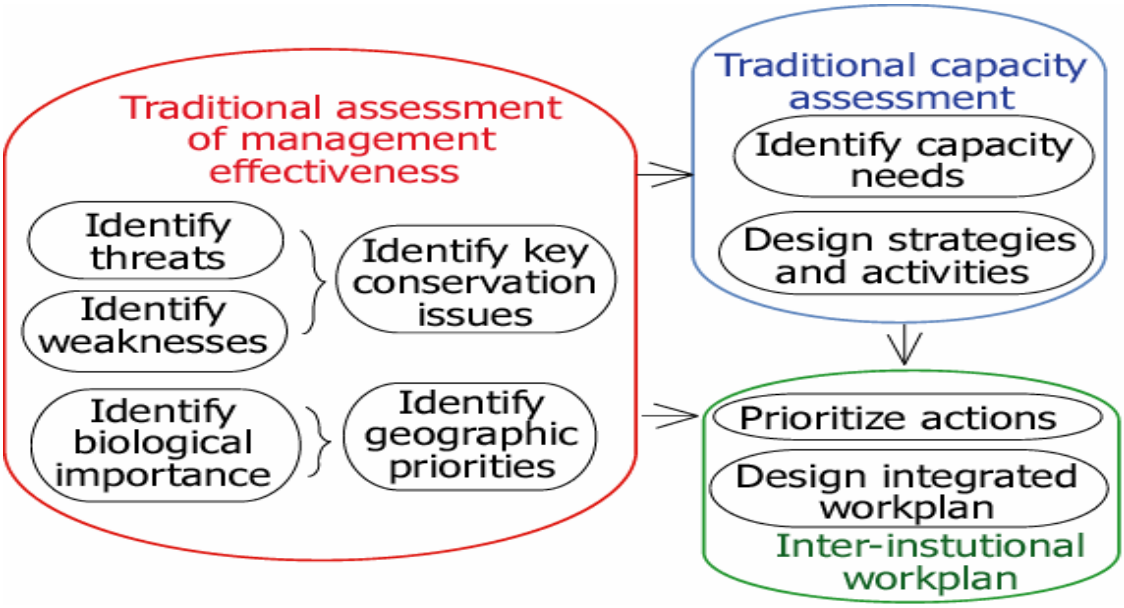


4.5 Integrating into capacity assessments

78. Once the assessment is complete it is probably worth setting aside some time for managers and their staff to sit down together and draw up an action plan for addressing any points that have arisen from the assessment, in particular making their own evaluation of any recommendations and, if they agree with them, working out a plan for their implementation. Some assessment systems will include a clear list of suggested actions in response to findings. Table below gives examples of how some assessments have been used.

Implementing management effectiveness recommendations in three countries

Site level: Bwindi Impenetrable Forest, Uganda	**Country level: India**
Following the initial assessment using the Enhancing our Heritage system the following changes were made: ✓ an increase in staffing levels and individual staff changes ✓ further training of staff particularly in computer use and data storage and analysis ✓ a plan for acquisition of more equipment, specifically vehicles and radio communication ✓ a plan for infrastructure development ✓ a plan for acquisition of more land through purchase from a neighbouring community, to contain the gorillas that have often strayed, causing damage to crops ✓ a plan to work with communities in ecotourism efforts in this land area ✓ renewed efforts on research and monitoring particularly of gorilla health and the impacts of tourism on the gorillas.[i]	Many of the recommendations following the Indian Institute of Public Administration (IIPA) survey of protected areas were accepted and adopted by government, including: ✓ simplification of legal procedures ✓ allocation of additional funds to protected areas ✓ improved staff training. WWF India also successfully filed a case in the Supreme Court, directing the Union and the respective state governments to complete the legal procedures required to set up national parks and to rid sanctuaries of unwanted pressures



4.6. Tools and resources

RAPPAM

Ervin, J. (2003). *WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology*. WWF, Gland, Switzerland.

The WWF Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) methodology provides a country-wide assessment of the effectiveness of protected area management, threats, vulnerabilities and degradation. The RAPPAM methodology is already available in the following languages: English, French, Spanish, Portuguese, Russian, Mongolian, Bulgarian, Georgian, Bahasa Indonesia, Khmer,. For a download of the English version, please visit
www.panda.org/about_wwf/what_we_do/forests/our_solutions/protection/rappam/index.cfm

World Bank/WWF Tracking Tool

Stolton, S., Hockings, M., Dudley, N., MacKinnon, K. and Whitten, T. (2003). *Reporting Progress in*
Protected Areas: A Site-Level Management Effectiveness Tracking Tool. World Bank/WWF Alliance for Forest Conservation and Sustainable Use.

Commonly referred to as the Tracking Tool, this rapid assessment is being used in all World Bank/WWF Alliance protected area project sites to track changes in effectiveness of management. The system has also been adopted by the Global Environment Facility as the basis for tracking changes in management effectiveness in all GEF protected area project sites. A version of the Tracking Tool has been developed for Marine Protected Areas by the World Bank (see listing under Marine Protected Areas. The Tracking Tool is available in the following languages: Bahasa Indonesia, Chinese, English, French, Khmer, Lao, Mongolian, Portuguese, Romanian, Russian, Spanish and Vietnamese. For a download of the English version, please refer to
www.panda.org/about_wwf/what_we_do/forests/our_solutions/protection/rappam/tracking_tool/index.cfm

WWF/CATIE methodology

Cifuentes, M. and Izurieta Valery, A.A. (1999). *Evaluation of Protected Area Management Effectiveness:*
Analysis of Procedures and Outline for a Manual.

The WWF/CATIE evaluation methodology was developed as a structured, sequential and simple-to-use evaluation methodology, based on a scoring system which was developed to address the special needs of protected areas in Latin America.. Together with the PROARCA-CAPAS methodology, the WWF-CATIE system has been widely applied across Central America. Available in English and Spanish versions.
www.iucn.org/themes/WCPA/pubs/mgteffectpdfs/PARKSfin_esp.pdf
www.iucn.org/themes/WCPA/pubs/mgteffectpdfs/Art_Eng.pdfCont.

PROARCA-CAPAS scorecard

Courrau, J. (1999). *Strategy for monitoring and management of protected areas in Central America*.

USA, PROARCA-CAPAS Program, The Nature Conservancy.

The PROARCA/CAPAS system is based on the 'scoring model' to evaluate protected area management developed by TNC in the early 1990's. The PROARCA/CAPAS methodology includes assessment of 43 indicators in five fields; natural and cultural resources, social, administrative, political/legal, and economic/ financial. Available online at: www.iucn.org/themes/wcpa/pubs/mgteffectpdfs/c.america-eng.pdf

National Parks and Conservation Association State of the Parks
The National Parks Conservation Association's State of the Parks program aims to provide accurate and timely information on natural and cultural resource conditions and stewardship capacity for selected national parks in the USA. Available online at: www.npca.org/across_the_nation/park_pulse/

The Nature Conservancy –Conservation Action Planning
Low, G. (2003). *Landscape-scale Conservation: A Practitioner's Guide.* The Nature Conservancy, USA.
TNC has developed an integrated process for planning, implementing and measuring conservation success for its conservation projects. This process is called the "Conservation Action Planning (CAP)" process.
The CAP Toolkit and supporting material is available at:

http://conserveonline.org/workspaces/cap/CAP_Toolkit.zip/file_view

World Heritage Areas Enhancing our Heritage: monitoring and managing for success in natural World Heritage sites.
Hockings, M., Stolton, S., Courrau, J.,Dudley, N. and Parrish, J. (2004).*The World Heritage Management Effectiveness Workbook: How tobuild monitoring, assessment andreporting systems to improve the management effectiveness of naturalWorld Heritage sites. Revised Edition.* University of Queensland, Australia.

Evaluation methodology developed for detailed site level assessment. The Workbook provides guidelines and assessment tools for each element of the WCPA Framework. These tools have been designed to allow specific needs and circumstances of the site to be taken into account and to provide a means for integration of existing monitoring data into the evaluation system. While designed specifically to meet the needs of natural World Heritage sites, the methodology is applicable to any protected area.
Available online at: www.enhancingheritage.net

Marine Protected Areas IUCN/NOAA/WWF Guidebook Pomeroy, R.S., Parks, J.E. and Watson, L.M. (2004). *How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness.* IUCN, Gland,
Switzerland and Cambridge, UK.
The guidebook provides a step-by-step process for planning and evaluating the management effectiveness of MPAs. It lists 42 MPA-specific indicators that MPA managers can choose to use for evaluating their site. The book draws on the work of the MPA Management Effectiveness Initiative, shaped by IUCN's World Commission on Protected Areas (WCPA) - Marine and World Wild Fund for Nature (WWF).
Available online at: www.effectivempa.noaa.gov/guidebook/guidebook.htmlCont.

Western Indian Ocean Guidebook Wells, S. and Mangubhai, S. (2004).*Assessing Management Effectiveness of Marine Protected*
Areas: A Workbook for the Western Indian Ocean. IUCN Eastern AfricanRegional Programme, Nairobi, Kenya.
Available online at:
www.wiomsa.org/data/content/DOCUMENTS/20051122125118 31IUCN%20BOOK%20part%201.pdf

World Bank MPA Scorecard Staub, F. and Hatziolos, M.E. (2003).*Score Card to Assess Progress inAchieving Management ffectiveness Goals for Marine Protected Areas.*The World Bank, Washington, DC,USA.

This marine version of the World Bank/WWF Alliance Tracking Tool was prepared by the World Bank for use in Marine Protected Areas. It is available for download in English, French and Spanish versions from:
www.icriforum.org/mpa/MPAeffectiveness.html

Foundations of Success Foundations of Success (FOS) is a not-for-profit organization committed to working with practitioners to learn how to do conservation better through the process of adaptive management. The FOS website provides information and documentation on adaptive management and evaluation including the results of a comprehensive review of approaches to monitoring and evaluation in a range of fields including conservation. Website: http://fosonline.org/

Conservation Measures Partnership The Conservation Measures Partnership (CMP) is a partnership of conservation NGOs that seek better ways to design, manage and measure the impacts of their conservation actions. Two products from the
CMP relevant to evaluation of management effectiveness are a Taxonomy of Direct Threats and Conservation Actions and a set of Open Standards for the Practice of Conservation. Both products are available from the CMP website at: www.conservationmeasures.org/CMP/

Selected Evaluation Studies Global studies WWF report on management of forest protected areas. Dudley, N., Belukurov, A., Borodin,O., Higgins-Zogib, L., Hockings, M.,Lacerda, L. and Stolton, S. (2004). *Are protected areas working: Ananalysis of forest protected areas by WWF*. WWF, Gland, Switzerland.
Analysis and report on the results of application of the World Bank/WWF Alliance Tracking Tool in over 200 forest protected areas in 37 countries.
http://assets.panda.org/downloads/areprotectedareasworking.pdf

Management effectiveness evaluation of Finland's protected areas Gilligan, B., Dudley, N., Fernandez de Tejada, A. and Toivonen, H. (2005). *Management Effectiveness*
Evaluation of Finland's Protected Areas. Nature Protection Publications of Metsähallitus. Series A 147.
Study used an external team of evaluators who visited many of the protected areas and completed an assessment based around the elements in the IUCN-WCPA Framework combined with a RAPPAM-based assessment completed by Agency staff. The report is available in electronic format at www.metsa.fi/mee.

Evaluation of management effectiveness of protected areas in Catalonia Mallarach, J.M. and Varga, J.V. (Eds) (2004). *EI PEIN deu anys després: balanç I perspectives.* Diversitas: 50, Universitat de Girona, Girona. The entire methodology, including the description of all 85 indicators, and a 40 page summary of the findings can be found at the web site of Institució Catalana d'Història Natural at
www.iec.es/institucio/societats/ICHistoriaNatural/Avaluacioespais.htm

Parks Watch Parks Watch is a watchdog and monitoring organization that works through partnerships with in-country NGOs and individuals to conduct on the- ground evaluations of national parks and other protected areas. Results from a series of evaluation studies of protected areas in Latin America are available online on the ParksWatch website at: www.parkswatch.org/main.php

NSW State of the Parks 2004 Department of Environment and Conservation (NSW). (2005). *State of the Parks 2004.* Department of Environment and Conservation, Sydney, Australia.
http://www.epa.nsw.gov.au/sop04/index.htm

Marine protected areas in Western Indian Ocean Wells, S.M. (2004). *Assessment of management effectiveness in selected marine protected areas in the Western Indian Ocean.* IUCN Eastern Africa Regional Programme, Nairobi, Kenya.
A Workbook for assessing management effectiveness in MPAs in the WIOhas been developed, based on the workbook and methodology developed for World Heritage sites and using the WCPA/METF Framework. This report provides the results of testing the Workbook at eight pilot sites in Kenya, Tanzania and the Seychelles. Available for download from:
www.icran.org/pdf/ICRAN_IUCN_ME_study_Eastern_Africa.pdf

Tasmanian Wilderness World Heritage Area. Parks and Wildlife Service. (2004).*State of the Tasmanian Wilderness World Heritage Area – an evaluation of management effectiveness*. Report No. 1, Department of Tourism Parks Heritage and the Arts, Hobart, Tasmania.
This report is the result of a long-term process of monitoring and evaluation established for the Tasmanian Wilderness World Heritage Area using an outcomes-based evaluation approach integrated into the management cycle for the site. The report is available on CD or can be downloaded from: www.parks.tas.gov.au

Enhancing our Heritage site reports Reports from project sites (Ecuador: Sangay National Park; Honduras: Río Plátano Biosphere Reserve; India: Kaziranga National Park; India: Keoladeo National Park; Nepal: Royal Chitwan National Park; Seychelles: Aldabra Atoll; South Africa: Greater St Lucia Wetland Park; Uganda: Bwindi Impenetrable National Park; United Republic of Tanzania: Serengeti National Park; Venezuela: Canaima National Park) included in the Enhancing our Heritage project are available from:
www.enhancingheritage.net

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[i] Leverington, Fioma and Marc Hockings (2004); Evaluating the effectiveness of protected area management: The challenge of change, in *Securing Protected Areas in the Face of Global Change: Issues and Strategies*, edited by Charles Victor Barber, Kenton R Miller and Melissa Boness, IUCN, Gland, Switzerland and Cambridge, UK